

# 2021-2022 UNIVERSITY CATALOG



**TARLETON**  
**STATE UNIVERSITY**  
Member of The Texas A&M University System

# Tarleton State University

*The 2021-2022 catalog can be viewed by navigating the links to the right.*

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# Tarleton State University: An Overview

Mr. John Sharp, Chancellor  
The Texas A&M University System  
A&M System Building, Suite 2043  
200 Technology Way  
College Station, Texas 77845-3424  
(979) 458-6000  
(979) 458-6044

## The Tarleton Heritage

Since its creation, Tarleton State University, a public coeducational institution, has provided a broad-based education. Established by a \$100,000 bequest from John Tarleton, an Erath County pioneer, John Tarleton College opened in 1899 as a private preparatory school and college for the youth of the surrounding rural region. During the next decade, students could earn a baccalaureate degree. In 1908, declining enrollment and inadequate funding caused college officials to reorganize the institution to a two-year degree program. This revised curriculum emphasized a liberal arts education, while retaining the two-year preparatory division. Again in 1916, Tarleton experienced financial difficulties; consequently, the Texas Legislature in 1917 approved the college as a branch of Texas Agricultural and Mechanical College, which would later become The Texas A&M University System. John Tarleton Agricultural College, as renamed by the Legislature, retained the two-year degree as well as the preparatory program and specialized curricula in agriculture, home economics, and military science.

To meet the needs of a changing constituency, Tarleton has adjusted and enriched its curriculum since the 1920s. Accredited as a junior college by the Southern Association of Colleges and Schools in 1926, Tarleton gradually redeveloped a liberal arts education. Then in 1949, the Legislature changed the name of the school to Tarleton State College, and in 1953 the preparatory division was discontinued, reflecting the increased access to public schools throughout the state. By a 1959 act of the Texas Legislature, Tarleton once again became a four-year degree-granting institution, with the first class graduating in 1963. Accredited as a senior college in 1966, Tarleton initiated many new programs, including graduate courses in 1970. Because Tarleton offered a broad liberal arts education within undergraduate and graduate degrees, the Texas Legislature recognized the institution as a university in 1973, and changed the name officially to Tarleton State University. In 2003, a doctoral degree in Educational Leadership was initiated.

Over the past century, Tarleton has grown from a small private college into a thriving state university with over 12,000+ students. In 1999, Tarleton established the first university system center in Texas, providing public, upper-level academic programs for the citizens of central Texas. This entity was called the Tarleton University System Center – Central Texas and it was located in Killeen. On September 1, 2009, the system center became an independent university – Texas A&M University – Central Texas.

Degree programs are offered on the main campus in Stephenville, in Fort Worth at the new Fort Worth Building 1 located off the Chisholm Trail Parkway, at the Terrell School of Medical Laboratory Sciences in the Medical District, and at the Tarrant County College Trinity River Campus downtown. In addition, degree programs are offered in Waco at the McLennan Community College University Center, in Midlothian at the Navarro College - Midlothian Campus, at the RELSIS Academic Alliance in Bryan, and through our Global Campus Online. Additional sites include the Dora Lee Langdon Cultural and Educational Center in Granbury, and the W. K. Gordon Center for Industrial History of Texas, Museum and Gallery in Thurber. These locations have enabled Tarleton to meet diverse educational demands across the state. Throughout its first one hundred years, Tarleton has never lost the commitment to excellence that was the vision of its founder, John Tarleton.

### Mission Statement

Tarleton State University provides an academically challenging education where learning is grounded in real-world experiences and effective teaching, research, scholarship and service. As a member of The Texas A&M University System, Tarleton is rich in history and tradition while being committed to student success and diversity. Tarleton strives to develop moral and ethical thinkers, scholars and leaders who demonstrate civility and integrity, while contributing meaningfully and responsibly to a global society.

### Vision:

**Tarleton will be the premier student-focused university in Texas and beyond. We will transform generations by inspiring discovery, leadership and service through exceptional teaching and research in vibrant learning communities.**

### Core Values:

- Integrity
- Leadership
- Tradition
- Civility
- Excellence
- Service

### Strategic Goals

### Academic Innovation

- Create and deliver an innovative and relevant program mix
- Use innovative instructional delivery and learning environments to enhance the academic experience and promote student success
- Create and deploy targeted academic support programs to promote student success
- Enhance the academic profile of Tarleton

### Student Transformation

- Assure that students achieve their peak performance in all courses
- Engage students academically, socially, physically and mentally to enhance the Tarleton experience
- Prepare students for a global and multicultural world by developing strong habits of mind, body and spirit

### Distinctive Engagement

- Increase the university's commitment to outreach, partnerships and community engagement
- Engage faculty, staff, students, alumni and external stakeholders by communicating strategically and effectively across multiple platforms
- Enhance the reputation of the university through distinctive academic and co-curricular programs



### Exemplary Service

- Develop a culture of exemplary service across campus
- Develop and support efficient and effective service systems to ensure long term success
- Implement a notable campus-wide sustainability initiative

### Enrollment and Faculty

Over 11,600 students attend Tarleton State University. Students from approximately 220 Texas counties, 49 states, and 19 foreign countries comprise the student body. More than 350 full-time faculty members are devoted to academic excellence and the personal development of each student. The student-faculty ratio is 19:1.

### The Campus

One of the most striking features of Tarleton State University is the spacious 170-acre campus located in the heart of Stephenville, a city of 19,320 people only 65 miles southwest of Fort Worth. Featuring malls, open space, and beautifully-landscaped grounds, the campus is dominated by majestic oak and pecan trees, which create a warm atmosphere for living and learning. The architectural integrity of aged red brick buildings is maintained campus wide. Tarleton is proud of its spacious classrooms, well-equipped laboratories, and extensive library collections. Other facilities include a multimedia foreign language laboratory, modern Fine Arts Center, and updated agricultural facilities.

An ongoing construction and modernization program ensures that Tarleton keeps abreast of new developments. The Barry B. Thompson Student Center, a 90,000-square-foot facility, is the hub for campus activity and is an integral part of the University’s educational environment. The Center offers a food court, bookstore, post office, conference and meeting facilities, study areas, and commuter lounge. Other recently completed buildings include a number of new residence halls. Tarleton’s science building features a planetarium plus state-of-the-art laboratory and classroom space for students to engage in study and research. The newest buildings on campus are the university dining hall, nursing building, dairy complex, and the sports recreational facility featuring an indoor walking track, climbing wall, and state of the art exercise equipment.

### The Texas A&M University System

Academic institutions under the direction of the Board of Regents of The Texas A&M University System include:

- Texas A&M University
- Prairie View A&M University
- Tarleton State University
- Texas A&M University - Commerce
- Texas A&M University - Kingsville
- Texas A&M University - Corpus Christi
- Texas A&M International University
- Texas A&M University - Texarkana
- Texas A&M University - Central Texas
- Texas A&M University - San Antonio
- West Texas A&M University

Other agencies and programs in The Texas A&M University System are:

- Texas A&M Health Science Center
- Texas AgriLife Research
- Texas AgriLife Extension Service
- Texas Engineering Experiment Station
- Texas Engineering Extension Service
- Texas Forest Service
- Texas Transportation Institute
- Texas Veterinary Medical Diagnostic Laboratory

### Board of Regents

Name	Location
Mr. Charles W. Schwartz (Chairman)	Houston
Ms. Elaine Mendoza (Vice Chairman)	San Antonio
Mr. Phil Adams	Bryan/College Station
Mr. Robert L. "Bob" Albritton	Fort Worth
Mr. Anthony G. Buzbee	Houston
Mr. Morris E. Foster	Belton
Mr. Tim Leach	Midland
Mr. William "Bill" Mahomes, Jr.	Dallas
Mr. Cliff Thomas	Victoria
Mr. Stephen F. Shuchart (Student Regent)	Houston

## Administration and General Information

President	Dr. James Hurley
Provost and Executive Vice President of Academic Affairs	Dr. Karen Murray
Vice President of Institutional Advancement	Dr. Gabriel Cagwin
Vice President for Student Affairs	Dr. Kelli Styron
Vice President for Finance and Administration	Ms. Lori Beaty
Vice President for Enrollment Management	Dr. Javier Garza

	Phone	T-Box
Academic Advising Center	(254) 968-9746	T-0955
Academic Affairs	9103	T-0010

## Admissions:

Undergraduate 1-800-687-8236	9125	T-0030
Graduate 1-800-687-4723	9104	T-0350
Athletics	9178	T-0080
Barry B. Thompson Student Center	9256	T-0690
Business Services	9107	T-0120
Campus Bookstore	9007	T-0850
Campus Tours	9845	T-0610
College of Graduate Studies	9104	T-0350
Disability Resources and Testing	9400	T-0780
Financial Aid	9070	T-0310
Honors College	1926	T-0545

## Information:

During regular office hours	9000	
At other times	9265	
Judicial Affairs	9080	T-0670
Library	9937	T-0450
Military Veterans' Services	1805	T-0960
Office of Diversity, Inclusion, and International Programs	9488	T-0490
President's Office	9100	T-0001
Recreational Sports	9912	T-0420
Registrar	9121	T-0620
Residential Life	9083	T-0280
Scholarship Office	9922	T-0760
Student Affairs	9081	T-0680
Student Development and Mentoring	9480	T-0340
Texan Card	1880	T-0910
Transcripts	9121	T-0620
Tutoring and Learning Center	9009	T-0345
Undergraduate Recruitment/Welcome Center	9845	T-0610
University Police	9002	T-0560

Requests for information should be directed to the offices listed above, and all correspondence should include T-Box number. The University's mailing address for all inquiries is:

Tarleton State University  
T-(Box number)  
Stephenville, TX 76402

For phone numbers, area code and first three digits are 254 and 968, respectively.

## Accreditation

Southern Association of Colleges and Schools Commission on Colleges  
1866 Southern Lane  
Decatur, Georgia 30033-4097  
(404) 679-4500  
(404) 679-4558

Tarleton State University is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award the associate, baccalaureate, masters, and doctorate degrees. Contact the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of Tarleton State University.

## Principle of equal opportunity

It is the policy of Tarleton State University to recruit, hire, train, and promote persons, as well as to make available any other programs and activities, including those for students, without regard to race, color, religion, age, sex (except in rare occasions where gender is a bona fide occupational qualification), national origin, disability, or veteran status. Tarleton makes every effort to assure that no otherwise qualified person with a disability is, on the basis of a disability, subjected to discrimination either as related to student involvement or employment in any of the University's programs or activities. Inquiries regarding compliance may be directed to the Equal Opportunity Coordinator (254) 968-9128, the Director of Student Disability Services (254) 968-9400, or the Coordinator of Disability Services (254) 968-9103.

## Equal Educational Policy

In compliance with Title VI of the Civil Rights Act of 1964 and Title IX of the Education Amendments of 1972, complete equality exists in the offering of all benefits to students without regard to sex, race, color, or national origin. These benefits include such matters as housing, financial assistance, recruitment, and any type of personnel service.

## Privacy of Information

Under the Family Educational Rights and Privacy Act of 1974, the following data are designated as directory information and may be made public unless the student desires to withhold it: student's name, student type, mailing address, official email address, major field of study, military service status, classification, participation in officially recognized activities and sports, dates of University attendance, degrees and academic honors received, and the most recent previous education agency or institution attended. Any undergraduate or graduate student wishing to withhold all of this information should, within 10 days after the first class day, complete the appropriate form, available at the Registrar's Office. For more information about FERPA, please visit [www.tarleton.edu/registrar/](http://www.tarleton.edu/registrar/).

## Clery Act

Each year, Tarleton prepares a report to comply with the Clery Act and HEA Safety and Security statistical requirements. The report includes information regarding University rules, reported campus crime statistics, fire statistics, crime awareness and prevention, important contact information, and graduation rates. The most recent report is available by accessing the appropriate link at the bottom of the Tarleton website at [www.tarleton.edu](http://www.tarleton.edu) (<http://www.tarleton.edu>). A printed copy of the report may be obtained by contacting the Division of Enrollment and Information Management at (254) 968-9762.

## Academic Affairs

### Academic Honesty

Tarleton State University expects its students to maintain high standards of personal and scholarly conduct. Students guilty of academic dishonesty are subject to disciplinary action. Academic dishonesty includes, but is not limited to, cheating on an examination or other academic work, plagiarism, collusion, and the abuse of resource materials. The faculty member is responsible for initiating action for each case of academic dishonesty that occurs in his/her class.

### Class Attendance

Class attendance is an important factor in student academic success. Each student should accept the responsibility of regular class attendance. Student absences for participation in university-sponsored events or those included under Title IX guidelines are excused absences, and students should be allowed to make up assignments and/or examinations. Students are responsible for contacting the instructor in advance to provide written explanation for their absences from the faculty or staff members who are responsible for the activity.

For all other attendance-related concerns, the university considers student absences a matter between the individual student and faculty member. The faculty member has the responsibility and authority to determine whether a student may make assignments and/or examinations resulting from absences. Students may request makeup consideration for valid and verifiable reasons such as illness, death in the immediate family, or legal proceedings.

Students who wish to appeal the faculty member's decision concerning class absences may appeal through the academic appeals procedure.

### Restricted Activities Period

A restricted activities period is enforced each long semester, beginning prior to the start of final examinations and continuing through the last day of final examinations. During the restricted activities period, no examinations may be administered other than finals, no major assignments may be due, and no student activities may be held.

### Scholastic Honors

#### Dean's List Student Recognition

At the end of each fall and spring semester, students in good standing who have completed at least 12 credit hours through Tarleton State University and who have a GPA of 3.50 or higher on all credit through Tarleton State University for that semester shall be designated for Dean's List honor.

#### Honors Classes and Honors Degrees

Tarleton offers honors classes in most general education subjects, including English, History, Political Science, Chemistry, Biology, Psychology, Economics, Philosophy, Mathematics and Speech. Honors classes offered in a particular semester are announced in the published course schedule and publicized via flyers and other campus publications.

Honors courses offer intellectually challenging material, innovative approaches to the subject, increased opportunities for honing critical thinking and writing skills, and the opportunity to interact closely with similarly motivated students and with outstanding faculty. Honors courses often have smaller limits on class size. To register for an honors class a student must be a current member of the Honor's College.

Official designation for honors classes will appear on the student's permanent transcript. Any student who completes 15 or more hours of such classes with a minimum 3.0 GPA in honors classes as well as overall will receive recognition as an Honors Degree Program graduate.

### Academic Appeals

Student academic appeals are handled according to the following guidelines:

1. Each department shall develop its own process for dealing with student grievances of an academic nature. Such policy should be in writing in the departmental office and available to students.
2. A student who wishes to appeal a decision of a faculty member or staff member of a department should ask for a review by that person within 60 days of the originating event unless the departmental procedures specifically allow additional time. The person is expected to give the student a response within 30 days. If the person is unavailable, if a response is not made within 30 days, or if the student is unsatisfied with the response, then the student should inform the department head of the appeal. For an appeal of a course grade, the originating event shall be considered to be the posting of the grade to the university record.
3. A student wishing to appeal a decision to the department head must do so within 120 days of the originating event unless the departmental procedures specifically give more time. The department head will review as specified by the departmental grievance procedures.
4. A student who is unsatisfied with the outcome of the departmental grievance process may appeal to the dean of the college within 30 days of the notification of the departmental decision. The dean will review the appeal and render a decision. The dean may require that the appeal be in writing.
5. A student unsatisfied with the decision of the dean may appeal in writing to the Provost within 30 days of notification of the decision of the college dean. The Provost (or designee) may decide that no further review is justified, may render a decision upon review, or may appoint a five-member committee to consider the appeal. The committee will consist of a faculty member from outside the involved department as chair, two other faculty members, and two student members. The committee will submit findings to the Provost (or designee), who shall render the final judgment.

### Warning, Probation, and Suspension

The following applies to all students unless more restrictive rules are included as part of special admission conditions or unless more restrictive rules have been approved for a program, department, or college.

The purpose of academic warning, probation and suspension is to make the student aware of the University's concern that satisfactory progress is not being made in the course of study. Early notification of this concern maximizes the student's opportunity to make appropriate adjustments that will result in remaining in good standing. A 2.0 total institution GPA is the lowest acceptable academic standard, as this level mirrors the minimum GPA requirement for graduation. The total institution GPA used in this policy is defined as the best attempt on all courses taken at Tarleton State University; grades on transfer work are excluded. A student with a 2.0 or better total institution GPA is considered to be in good academic standing.

Warning: Each student is responsible for knowing his or her academic status and the regulations that apply. Students who do not abide by the regulations governing their particular status may be required to reduce their academic loads or withdraw from the University without special consideration.

## Warning, Probation, and Suspension Rules

1. If a student's total institution GPA drops below 1.00 at the end of any long semester (fall or spring), the student will be suspended.
2. If a student who has been in good standing has a total institution GPA between 1.00 and 1.99 at the end of any long semester, the student will be placed on academic warning.
3. A student who has been on academic warning during a long semester is subject to the following:
  - a. At the end of the semester, if the total institution GPA is 2.00 or above, the student is returned to good standing.
  - b. At the end of the semester, if the total institution GPA is between 1.00 and 1.99, the GPA for the semester will be used to determine the student's status.
    - i. If the GPA for the semester is less than 2.00, the student will be suspended.
    - ii. If the GPA for the semester is 2.00 or higher, the student will be placed on probation.
  - c. At the end of the semester, if the total institution GPA is below 1.00, the student will be suspended.
4. A student on probation who has less than a 2.00 total institution GPA at the end of the next long semester will be suspended. A student on probation who has a 2.00 or better total institution GPA at the end of the next long semester will be removed from probation and returned to good standing.
5. A student who transfers from Tarleton while on academic warning or probation and then returns (having met transfer requirements) has the same academic standing the first long semester back at Tarleton as though there had been no transfer.
6. A student who is suspended from Tarleton and does not attend another institution during the term of the suspension or thereafter may return to Tarleton after the term of the suspension and will be on academic warning the first long semester back at Tarleton. Any student who does not attend a fall or spring semester must reapply to the university.
7. A student who is suspended from Tarleton and attends another institution during the term of suspension or thereafter must meet Tarleton's transfer admission requirements in order to be readmitted. The student will be on academic warning the first long semester back at Tarleton. Any student who does not attend a fall or spring semester must reapply to the university.
8. Any student, whether in good standing, on academic warning, or on probation, will be suspended at the end of any long semester if his or her total institution GPA is below 1.00.

**\*\*NOTE: If a student is suspended from Tarleton State University, sits out a long semester (spring/fall), the student must reapply at [www.applytexas.org](http://www.applytexas.org) ([https://www.applytexas.org/adappc/gen/c\\_start.WBX](https://www.applytexas.org/adappc/gen/c_start.WBX)) to regain admission into the university.\*\***

## Length of Suspension

The first suspension is for one long semester. The second is for one calendar year, and the third is indefinite. Three calendar years after imposition of third suspension, the student may apply for readmission; this application will be evaluated by the appropriate dean, but readmission is not guaranteed. Students who do not attend for one or more long semesters must reapply to the university for admission.

## Summer School

A student on academic warning or probation may attend summer school at Tarleton (transfer requirements having been met, if applicable).

Students placed on first suspension at the end of a spring semester may request their dean's approval to attend summer school. A student attending summer school while on first suspension, who has a cumulative GPA of 2.00 at the end of the last summer session attended, will be returned to good standing.

## Forgiveness Options

An undergraduate student enrolled at Tarleton may choose to exercise one, but not both, of the following forgiveness options:

**OPTION I:** Grades for any one semester of Tarleton work taken more than 5 years before a student's current enrollment at Tarleton may be deleted for computation of total institution GPA if the student files a request with the Provost and Vice President for Academic Affairs. This option may be exercised one time only.

**OPTION II:** After a student has attempted ninety or more hours at Tarleton, grades for one semester of Tarleton work may be deleted for computation of total institution GPA if the student files a request with the Provost and Vice President for Academic Affairs. This option may be exercised one time only.

When a student has exercised one of these forgiveness options, grades for the semester selected by the student will be excluded when computing the total institution grade point average. Under either option, **all courses and grades will continue to appear on the student's transcript and to be counted toward restrictions in total number of withdrawals, fees for repeated courses, fees resulting from excess hours beyond the degree, etc.** In applying the option, *all* grades from the chosen semester are deleted from the GPA, not just low or failing grades. Also, no classes taken in the semester being forgiven will be counted on the student's degree plan. A student seeking to exercise either option must be enrolled at Tarleton at the time he/she requests the forgiveness option.

## Academic Credit

Tarleton has policies and procedures in place for determining the amount and level of credit awarded for courses and programs, regardless of format or mode of delivery, that conform to commonly accepted practices in higher education. Tarleton uses a course credit as a measure of academic accomplishment that a student receives for completion of a course, calculated in units of semester credit hours (SCH), which is defined in accordance with rules established by the U.S. Department of Education (34 CFR 668.8(k) and (l) ([https://www.ecfr.gov/cgi-bin/text-idx/?SID=b6e0859696e9a6978867fabe93319a00&mc=true&node=pt34.3.668&rgn=div5#se34.3.668\\_18](https://www.ecfr.gov/cgi-bin/text-idx/?SID=b6e0859696e9a6978867fabe93319a00&mc=true&node=pt34.3.668&rgn=div5#se34.3.668_18))). The semester credit hour value of a course is determined by the number of contact hours spent in course work per week. Typically, a three semester credit hour course meets for three contact hours (three 50-minute sessions or two 75-minute sessions) per week for a 15 week semester, plus a week for final examinations. In total, the three semester credit hour course meets for 45-48 contact hours, depending on whether a final exam is delivered. Tarleton further adheres to Texas state policy regarding the awarding of credit for coursework. The Texas Administrative Code (19 TAC §4.6 ([https://texreg.sos.state.tx.us/public/readtac\\$ext.TacPage?sl=R&app=9&p\\_dir=&p\\_rloc=&p\\_tloc=&p\\_ploc=&pg=1&p\\_tac=&ti=19&pt=1&ch=4&rl=6](https://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=19&pt=1&ch=4&rl=6))) requires 45 contact hours in each 3 hour course delivered in 15 weeks of instruction, with a week for final examinations. The State of Texas certifies that the 45 hour/15 week standard conforms to commonly accepted practice in higher education. Practica, internships, labs, online/hybrid and other non-standard courses are assigned credit hours based on learning objectives rather than on the standard contact hour requirements. In such cases, courses are reviewed and approved through a formal institutional faculty review process (University Curriculum Committee and Academic Council for undergraduate credit; and Graduate Council and Academic Council for graduate credit) that evaluates the course and determines that the course has learning outcomes comparable to a traditional lecture-based course.

## Requirements for an Associate Degree

### General Requirements

1. A GPA of 2.00 or better is required for all work counted toward a degree.
2. A GPA of 2.00 or better is required for all work in the major field of study and counted toward a degree.
3. All transfer students must have an overall GPA of 2.00 or better in all courses taken at Tarleton in their major field of study and counted toward a degree as well as an overall GPA of 2.00 or better in all courses taken at Tarleton and counted toward a degree.

## Program Requirements

A total of 60 credit hours consisting of 23 credit hours of prerequisites, and 37 credit hours of technical program courses. Prerequisite courses may be taken at the university or any one of the thirteen consortium community colleges. The sophomore courses comprising the technical program will be taken in Fort Worth at the Southwest Metroplex Center off-campus instructional site and affiliated clinical hospital sites.

## Requirements for a Baccalaureate Degree

### General Requirements

1. A GPA of 2.00 or better is required for all work counted toward a degree.
2. A GPA of 2.00 or better is required for all work in the major field of study and counted toward a degree.
3. All transfer students must have an overall GPA of 2.00 or better in all courses taken at Tarleton in their major field of study and counted toward a degree as well as an overall GPA of 2.00 or better in all courses taken at Tarleton and counted toward a degree.

### Residence Requirements

Residence is satisfied only by official enrollment in and completion of course work applied toward the degree requirements.

1. A minimum of 30 semester hours of work counted toward the degree must be completed with Tarleton. The work completed at Tarleton and counted toward the degree must include at least 30 advanced hours (3000 or 4000 level) and 12 of these advanced hours must be in the major subject.
2. A maximum of 68 semester hours of academic credit will be accepted for degree credit from a two-year institution.

### Writing Proficiency Requirement

All students are required to satisfy the Writing Proficiency Requirement as a condition for the baccalaureate degree. To satisfy this requirement, students must have credit for four writing intensive (WI) courses. Two of these four courses must be upper level WI courses within the major or designed for the degree plan. The remaining WI requirement should be met through successful completion of freshman composition courses within the general education curriculum. For additional information regarding the WI program, please refer to: <https://www.tarleton.edu/wip/index.html> (<https://www.tarleton.edu/wip/>).

### General Education Requirements

All degree programs leading to the baccalaureate degree include the following University General Education Requirements <sup>1, 2</sup>:

<b>American History</b>		<b>6</b>
HIST 1301	United States History I	
HIST 1302	United States History II	
<b>Component Area Option and Communications</b>		<b>9</b>
ENGL 1301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II <sup>3</sup>	
Select one of the following:		
COMM 1311	Introduction to Speech Communication	
COMM 1315	Public Speaking	
COMM 2302	Business and Professional Speaking	
<b>Creative Arts</b>		<b>3</b>
Select one of the following:		
ARTS 1301	Art Appreciation	
ARTS 1303	Art History I	
ARTS 1304	Art History II	
ARTS 3331	Art History of America	
DRAM 1310	Introduction to Theatre	
DRAM 2361	History of the Theatre I	
DRAM 4304 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Dramatic Theory & Criticism	
FINA 1360	The Art of Film	
HUMA 1315	Fine Arts Appreciation	
MUSI 1306	Music Appreciation	
MUSI 1310	Popular Music in America	
MUSI 1311	Music Theory I	
MUSI 3325	Jazz History	
<b>Government and Political Science</b>		<b>6</b>
GOVT 2305	Federal Government (Federal Constitution and Topics)	
GOVT 2306	Texas Government (Texas Constitution and Topics)	
<b>Language, Philosophy and Culture</b>		<b>3</b>
Select one of the following:		
ENGL 2320	Forms of Literature	
ENGL 2340	Literature and Film	
ENGL 2350	Backgrounds of Western Literature	
HIST 2321	World Civilizations I	
HIST 2322	World Civilizations II	
KINE 2315	History and Philosophy of Sport, Recreation, and Exercise	
PHIL 1301	Introduction to Philosophy	
<b>Life and Physical Sciences (6 Hours + 2 Hours in Institutional Option) <sup>4</sup></b>		<b>8</b>

Select from the following:

BIOL 1406	Biology for Science Majors
BIOL 1407	Biology for Science Majors II
BIOL 2401	Anatomy and Physiology I
BIOL 2402	Anatomy & Physiology II
CHEM 1302	Essential Elements of Chemistry
CHEM 1407	Fundamentals of Chemistry
CHEM 1411	College Chemistry I
CHEM 1412	College Chemistry II
EASC 2310	Earth Systems Science
GEOG 1451	Pre-GIS: GPS, VGI and Cartography
GEOL 1403	Physical Geology
GEOL 1404	Historical Geology
GEOL 1407	Introduction to Environmental Science
GEOL 1408	Natural Disasters
PHYS 1302	Essential Elements of Physics
PHYS 1401	College Physics I
PHYS 1402	College Physics II
PHYS 1403	Stars and Galaxies
PHYS 1410	Great Ideas of Physics
PHYS 1411	Introductory Astronomy I
PHYS 2425	University Physics I
PHYS 2426	University Physics II

**Mathematics<sup>3</sup>** 3

Select one of the following:

MATH 1314	College Algebra <sup>3</sup>
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)
MATH 1332	Contemporary Mathematics I
MATH 1342	Elementary Statistical Methods
MATH 2412	Precalculus Math
MATH 2413	Calculus I

**Social & Behavioral Sciences** 3

Select one of the following:

AGEC 2317	Introductory Agricultural Economics
ANTH 2302	Introduction to Archeology
ANTH 2351	Cultural Anthropology
CRIJ 1301	Introduction to Criminal Justice
ECON 1301	Introduction To Economics
ECON 2301	Principles of Macroeconomics
ENGR 2303	Engineering Economy
or ENGT 2303	Engineering Economy
GEOG 1303	World Regional Geography
GEOG 1320	Introduction to Human Geography
GEOG 2301	The Geography of Texas
PHIL 2303	Introduction to Logic
PHIL 3301	Ethics in the Professions
PSYC 2301	General Psychology
SOCI 1301	Introductory Sociology
SOCI 1306	Social Problems
SOCI 2303	Race and Ethnic Relations

**Component Area Option** 1

First Year Seminar<sup>4</sup>

Total Hours 42

- <sup>1</sup> General Education Requirements are subject to review and change by the Texas Higher Education Coordinating Board.
- <sup>2</sup> Some degree programs specify the courses that satisfy these requirements. A student should consult with an academic advisor in selecting general education requirement courses.
- <sup>3</sup> Students must enroll in these courses as outlined in the PLACEMENT, CONTINUING ENROLLMENT, AND COMPLETION RULES for Freshman-Level Mathematics and English Courses.
- <sup>4</sup> For additional information contact your departmental advisor or the advising center.

## Student Success-ADA

Tarleton State University is committed to complying with the Americans with Disabilities Act ([www.ada.gov](http://www.ada.gov) (<http://catalog.tarleton.edu/academicaffairs/www.ada.gov>)) and other applicable laws. If you are a student with a disability seeking an accommodation, please contact Disability Resources and Testing at 254.968.9400 or visit <https://www.tarleton.edu/drt> (<https://www.tarleton.edu/drt>).

## Calendars and Final Examination Schedules

### Academic Calendar Fall 2021- Spring 2022

(Any calendar is subject to change when it is determined to be in the best interest of the University to do so)

The RELIS off-campus instructional site follows a different academic calendar. The calendar can be accessed on the RELIS page.

**\*Calendar subject to change as state, system, and local guidelines evolve in relation to COVID. Any updates will be posted at <https://www.tarleton.edu/coronavirus/>\***

Event	Fall 2021	Spring 2022
<b>REGISTRATION</b>		
Priority Registration*, Graduate, Doctoral, Post-Baccalaureate	March 15	October 25
Seniors	March 17	October 27
Juniors	March 19	October 29
Sophomores	March 22	November 1
Freshman	March 24	November 3
<b>TUITION AND FEE PAYMENT DEADLINE</b>	August 12	January 6
<b>CLASSES BEGIN</b>		
16 week & 1st 8 week Classes Begin	August 19	January 13
Late Registration and Add/Drop	August 19-25	January 13-21
2nd 8 week Classes Begin	October 8	March 17
2nd 8 week Late Registration and Add/Drop	October 8-9	March 17-18
3 week "Winter Mini"		December 13
<b>DROP WITH NO RECORD (CENSUS)</b>		
16 week	September 3	February 2
1st 8 week	August 26	January 25
2nd 8 week	October 15	March 24
3 week "Winter Mini"		December 14
<b>WITHDRAWAL "W"/"Q" DROP DEADLINE</b>		
16 week	October 27	March 28
1st 8 week	September 24	February 18
2nd 8 week	November 5	April 17
3 week "Winter Mini"		January 3
<b>MIDTERM GRADES DUE</b>		
16 week	October 11	March 21
1st 8 week	September 20	February 14
2nd 8 week	November 4	April 18
<b>FINAL EXAMS BEGIN</b>		
16 week	December 2	May 5
1st 8 week	October 7	March 21
2nd 8 week	November 30	May 11
3 week "Winter Mini"		January 7
<b>FINAL GRADES</b>		
1st 8 week grades due	October 8 by 5 pm	March 21 by 5 pm
Graduating student grades	December 9 by 12 pm Noon	May 12 by 12 pm Noon
All remaining grades due	December 13 by 12 pm Noon	May 16 by 12 pm Noon
<b>GRADUATION AND RELATED REQUIREMENTS</b>		
Graduation Application Deadlines	June 15 - September 15	October 15 - January 15
Commencement Weekend	December 10 - 12	May 13 -15
<b>HOLIDAY AND VACATION DAYS (NO CLASSES)</b>		
Labor Day	September 6	
No Classes	November 24	
Thanksgiving	November 25-26	
Winter Break	December 24-January 3	
Martin Luther King Day		January 17
Spring Break		March 7 - 11
No Classes		April 15 - 16
No Classes		April 18

\*Honors, Veterans, NCAA Athletes, Marching Band, Texan Reps, Diplomats, Corps of Cadets

**Fall Semester 2021 - Final Examination Schedule - Stephenville**

Exam Date	8:00am - 10:00am	10:30am - 12:30pm	1:00pm - 3:00pm	3:30pm - 5:30pm	6:30pm - 8:30pm
<b>Tue Nov 30</b>			<b>Last Class Day</b>		
<b>Wed Dec 1</b>			<b>Reading Day</b>		
<b>Thur Dec 2</b>	TR 9:25 am and T 9:25 am	MWF 11:00 am, MW 11:00 am and M 11:00 am	TR 12:15 pm and T 12:15pm	All Freshman English, EDUC 4315 and 4330	R 5:15pm or later; TR 4:30 pm, and TR 6:15pm
<b>Fri Dec 3</b>	TR 3:05 pm and T 3:05 pm	TR 10:50 am and T 10:50 am	Other MWF, MW, WF, MF, M, W and F times not listed on exam schedule	All other times not listed on exam schedule	W 5:00 pm or later and MW 7:30 pm
<b>Mon Dec 6</b>	MWF 9:00am, MW 9:00am, and M 9:00am	MWF 2:00 pm, MW 2:00 pm and M 2:00 pm	MWF 10:00 am, MW 10:00 am, and M 10:00 am	Chemistry 1411/1412, MATH 0304, MATH 1342	M 5:00 pm or later and MW 6:00pm

<b>Tue Dec 7</b>	TR 8:00 am and T 8:00 am	MWF 12:00 pm, MW 12:00 pm and M 12:00 pm	TR 1:40 pm and T 1:40 pm	All Math 1314 and 0303	T 5:15pm or later and TR 7:45pm
<b>Wed Dec 8</b>	MWF 8:00 am, MW 8:00 am, and M 8:00 am	MWF 1:00 pm, MW 1:00 pm and M 1:00 pm			

**Fall Semester 2021 – Final Examination Schedule – Fort Worth**

Exam Date	8:00am - 10:00am	10:30am - 12:30pm	1:00pm - 3:00pm	3:30pm - 5:30pm	6:30pm - 8:30pm
<b>Tue Nov 30</b>	<b>Last Class Day</b>				
<b>Wed Dec 1</b>	<b>Reading Day</b>				
<b>Thur Dec 2</b>	R 8:00-10:50 am TR 9:30-10:50 am	M 11:00-1:30 pm MW 11:00-12:20 pm	T 2:00-4:30 pm TR 2:00-3:20 pm	EDU 4315 and 4330	R 6:30-9:00 pm TR 6:30-7:50 pm
<b>Fri Dec 3</b>	R 2:00-4:30 pm TR 3:30-4:50 pm	T 11:00-1:30 pm TR 11:00-12:20 pm	Other MWF, MW, WF, MF, M, W and F times not listed on exam schedule	All other times not listed on exam schedule	W 6:30-9:00 pm MW 6:30-7:50 pm
<b>Mon Dec 6</b>	M 8:00-10:50 am MW 8:00-9:20 am	M 2:00-4:30 pm MW 2:00-3:20 pm	W 11:00-1:30 pm MW 12:30-1:50 pm	MW 5:00-6:20 pm	M 6:30-9:00 pm
<b>Tue Dec 7</b>	T 8:00-10:50 am TR 8:00-9:20 am	R 11:00-1:30 pm TR 12:30-1:50 pm	All other times not listed on exam schedule	TR 5:00-6:20 pm	T 6:30-9:00 pm
<b>Wed Dec 8</b>	W 8:00-10:50 am MW 9:30-10:50 am	W 2:00-4:30 pm MW 3:30-4:50 pm			

Final Examinations are to be given only on scheduled examination days as printed on the Final Examination Schedule. At locations other than Stephenville, Fort Worth and online courses, the final examination will be given at a time designated by the instructor.

Any student with three or more final examinations on the same day may request of his/her instructors to take one of the final examinations on another day during the Final Examination Schedule.

**Spring Semester 2022 – Final Examination Schedule – Stephenville**

Exam Date	8:00am - 10:00am	10:30am - 12:30pm	1:00pm - 3:00pm	3:30pm - 5:30pm	6:30pm - 8:30pm
<b>Tue May 3</b>	<b>Last Class Day</b>				
<b>Wed May 4</b>	<b>Reading Day</b>				
<b>Thur May 5</b>	TR 9:25 am and T 9:25 am	MWF 11:00 am, MW 11:00 am and M 11:00 am	TR 12:15 pm and T 12:15pm	All Freshman English, EDUC 4315 and 4330	R 5:15pm or later; TR 4:30 pm, and TR 6:15pm
<b>Fri May 6</b>	TR 3:05 pm and T 3:05 pm	TR 10:50 am and T 10:50 am	Other MWF, MW, WF, MF, M, W and F times not listed on exam schedule	All other times not listed on exam schedule	W 5:00 pm or later and MW 7:30 pm
<b>Mon May 9</b>	MWF 9:00am, MW 9:00am, and M 9:00am	MWF 2:00 pm, MW 2:00 pm and M 2:00 pm	MWF 10:00 am, MW 10:00 am, and M 10:00 am	Chemistry 1411/1412, MATH 0304, MATH 1342	M 5:00 pm or later and MW 6:00pm
<b>Tue May 10</b>	TR 8:00 am and T 8:00 am	MWF 12:00 pm, MW 12:00 pm and M 12:00 pm	TR 1:40 pm and T 1:40 pm	All Math 1314 and 0303	T 5:15pm or later and TR 7:45pm
<b>Wed May 11</b>	MWF 8:00 am, MW 8:00 am, and M 8:00 am	MWF 1:00 pm, MW 1:00 pm and M 1:00 pm			

**Spring Semester 2022 – Final Examination Schedule – Fort Worth**

Exam Date	8:00am - 10:00am	10:30am - 12:30pm	1:00pm - 3:00pm	3:30pm - 5:30pm	6:30pm - 8:30pm
<b>Tue May 3</b>	<b>Last Class Day</b>				
<b>Wed May 4</b>	<b>Reading Day</b>				
<b>Thur May 5</b>	R 8:00-10:50 am TR 9:30-10:50 am	M 11:00-1:30 pm MW 11:00-12:20 pm	T 2:00-4:30 pm TR 2:00-3:20 pm	EDU 4315 and 4330	R 6:30-9:00 pm TR 6:30-7:50 pm
<b>Fri May 6</b>	R 2:00-4:30 pm TR 3:30-4:50 pm	T 11:00-1:30 pm TR 11:00-12:20 pm	Other MWF, MW, WF, MF, M, W and F times not listed on exam schedule	All other times not listed on exam schedule	W 6:30-9:00 pm MW 6:30-7:50 pm
<b>Mon May 9</b>	M 8:00-10:50 am MW 8:00-9:20 am	M 2:00-4:30 pm MW 2:00-3:20 pm	W 11:00-1:30 pm MW 12:30-1:50 pm	MW 5:00-6:20 pm	M 6:30-9:00 pm
<b>Tue May 10</b>	T 8:00-10:50 am TR 8:00-9:20 am	R 11:00-1:30 pm TR 12:30-1:50 pm	All other times not listed on exam schedule	TR 5:00-6:20 pm	T 6:30-9:00 pm
<b>Wed May 11</b>	W 8:00-10:50 am MW 9:30-10:50 am	W 2:00-4:30 pm MW 3:30-4:50 pm			

Final Examinations are to be given only on scheduled examination days as printed on the Final Examination Schedule. At locations other than Stephenville, Fort Worth and online courses, the final examination will be given at a time designated by the instructor.

Any student with three or more final examinations on the same day may request of his/her instructors to take one of the final examinations on another day during the Final Examination Schedule.

**Academic Calendar Summer 2022**

(Any calendar is subject to change when it is determined to be in the best interest of the University to do so)

Event	Date
	Summer 2022
<b>REGISTRATION</b>	
Priority Registration*, Graduate, Doctoral, Post-Baccalaureate	March 7
Seniors	March 9
Juniors	March 11
Sophmores	March 14
Freshman	March 16
<b>TUITION AND PAYMENT DEADLINE</b>	May 10



**CLASSES BEGIN**

12 week, 1st 8 week, 1st 6 week, 1st 4 week	May 17
12 week and 1st 8 week Late Registration and Add/Drop	May 17-20
1st 6 week Late Registration and Add/Drop	May 18
1st 4 week Late Registration and Add/Drop	May 18
2nd 8 week	June 13
2nd 6 week	June 29
2nd 4 week	June 15
3rd 4 week	July 7

**DROP WITH NO RECORD (CENSUS)**

12 week	May 27
1st 8 week	May 24
1st 6 week	May 24
1st 4 week	May 20
2nd 8 week	June 20
2nd 6 week	July 1
2nd 4 week	June 16
3rd 4 week	July 12

**WITHDRAWAL "W"/"Q" DROP DEADLINE**

12 week	July 8
1st 8 week	June 17
1st 6 week	June 17
1st 4 week	June 3
2nd 8 week	July 15
2nd 6 week	July 15
2nd 4 week	July 1
3rd 4 week	July 22

**FINAL EXAMS BEGIN**

12 week	August 10
1st 8 week	July 12
1st 6 week	June 28
1st 4 week	June 14
2nd 8 week	August 10
2nd 6 week	August 10
2nd 4 week	July 6
3rd 4 week	August 1

**FINAL GRADES**

Graduating student grades	August 11 by 12 pm
All remaining grades due	August 15 by 12 pm

**GRADUATION AND RELATED REQUIREMENTS**

Graduation Application Deadlines	February 15 - May 15
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**Commencement Weekend**

August 12 - 14

**SUMMER HOLIDAY (NO CLASSES)**

Memorial Day	May 30
Independence Day	July 4

\*Honors, Veterans, NCAA Athletes, Marching Band, Texan Reps, Diplomats, Corps of Cadets

**2021-2022 Event Calendar**

(Dates pertain to the semester in which they appear below)

<b>Deadlines and General Dates</b>	<b>Fall</b>	<b>Spring</b>	<b>Summer</b>
	2021	2022	2022
Undergraduate Admission Application Deadline for Freshman	August 1	December 1	June 1
Undergraduate Admission Application Deadline for Transfer/Readmit	October 1	March 1	July 1
Undergraduate Admission Application Deadline for International Freshman and Transfer Students	June 15	November 1	March 15
Scholarship Application Priority Deadline administered by the University Scholarship Committee	February 15	December 1	
Last Day to apply to the Teacher Education Program	October 15	February 15	July 1
Last Day to apply for Clinical Teaching	September 30	February 3	
Restricted Activities Begin	November 30 - December 9	May 3 - 12	
Service and Maintenance of electronic systems	December 26-30	May 14-15	August 13-15
<b>University Events</b>			
Service and Leadership Day; classes dismissed between 7 am and 5 pm		March TBA	

Official University Ring Ceremony	TBA		
Family Weekend	TBA		
Homecoming	TBA		
<b>College of Graduate Studies</b>			
Deadline for submissions of the defended, final, committee-approved theses/dissertations to ProQuest and signed Thesis/Dissertation Format checklist to the College of Graduate Studies	November 1	April 1	July 1
Comprehensive Assessment results due to College of Graduate Studies	November 15	April 15	July 15
<b>Residential Living and Learning</b>			
Housing Application opens for incoming new and transfer students	September 1	October 1	April 1
Residence Halls close at 10 am for term (exceptions for graduating seniors)	December 12	May 12	August 12
<b>Commencement</b>			
Graduation Ceremonies	December 10 - 12	May 13 - 15	August 12 - 14
<b>New Student Programs</b>			
Honors Orientation (Invitation Only)	March 15		
Honors Orientation (Invitation Only)	March 16		
Honors Orientation (Invitation Only)	March 24		
Honors Orientation (Invitation Only)	April 2		
Honors Orientation (Invitation Only)	April 6		
Honors Orientation (Invitation Only)	April 27		
Texan Orientation	May 22		
Honors Orientation (Invitation Only)	May 26		
Texan Orientation	May 29		
Texan Orientation	June 10		
Texan Orientation	June 11		
Texan Orientation	June 18		
Texan Orientation	June 19		
Duck Camp 1	June 6 - 8 (Tentative)		
Texan Orientation	July 15		
Texan Orientation	July 16		
Duck Camp 2	August 4 - 6		
Duck Camp 3	August 8 - 10		
Duck Camp 4	August 10 - 12		
New Student Move-In	August 14 - 15		
Transition Week	August 14 - 18		
Freshman Convocation and Candle Lighting Ceremony	August 18		

## Admissions

Cindy Hess  
 Director of Undergraduate Admissions  
 Tarleton Center  
 Box T-0030  
 Stephenville, Texas 76402  
 (800) 687-8236 or (254) 968-9125  
 (254) 968-9951  
 uadm@tarleton.edu  
 www.tarleton.edu/admissions (<http://www.tarleton.edu/admissions/>)

Admission to The Texas A&M University System and any of its sponsored programs is open to qualified individuals, regardless of race, color, religion, sex, national origin, or educationally unrelated disabilities.

### Materials Needed for Application

- The State of Texas Common Application for Public Universities, available at the following locations:
  - Online - ApplyTexas (<http://www.applytexas.org>) - Application is submitted electronically and will arrive to Tarleton within two business days. Please allow three to five business days for processing. Processing may be longer during peak seasons.
  - Print Application – College for All Texans (<http://www.collegeforalltexas.com/apps/publications/>).
- \$50 *non-refundable* application fee
- Official transcripts from all high school/colleges previously attended
- Official scores from the Scholastic Aptitude Test (SAT I) or the American College Test (ACT). The writing component can be submitted but it is not required. Scores must be included on an official high school transcript on the label from the testing agency or sent directly from the testing agency. The old SAT total consists of Critical Reading (Verbal) and Mathematics total. The new SAT consists of the Evidence Based Reading and Writing and Math total. Test scores must be no more than six years old at the time of admission.
- Residency section of the application which is used to determine Texas residency for tuition purposes. Texas residency is determined in accordance with state law. Please see the Determination of Residence for Tuition Purposes area in the Expenses (<http://catalog.tarleton.edu/undergrad/expenses/>) section of this catalog.

Each item above must be received before an application can be evaluated. Other documents may be requested if clarification is needed based on answers to ApplyTexas questions, transcript contents or residency determination. Please review sections below regarding specific requirements for items listed above.

## Application Deadlines

Materials should be on file well in advance of registration to allow time for processing. Documents are processed in the order they are received. Students are encouraged to apply on or before the following dates:

### First-time Freshmen

Semester	Priority Deadline	Enforced Deadline
Fall	March 1	June 1
Spring	December 1	December 1
Summer	March 1	June 1

### Transfer/Other

Semester	Priority Deadline	Enforced Deadline
Summer 2018	May 1	July 9
Fall 2018	June 1	October 19
Spring 2019	December 1	March 14
Summer 2019	May 1	July 8

### International (all application types)

Semester	Priority Deadline	Enforced Deadline
Spring	November 1	November 1
Summer	March 15	March 15
Fall	June 15	June 15

**If a student applies for one semester and does not attend, he/she must complete a new application and pay the application fee.** If a student would like to change their semester of entry, he/she must review the Change of Semester Policy (<https://www.tarleton.edu/admissions/change-of-entry.html>). Official documents received for a previous term may be added to the new file. If a student has completed coursework since applying with Tarleton, he/she must provide final official transcript(s). Materials submitted by applicants who do not enroll at Tarleton are destroyed after one calendar year.

## Application Fee

Students applying for admission to Tarleton are required to pay a non-refundable application processing fee of \$50. Credit card payments can be made at the time of electronic submission of the ApplyTexas application or online ([https://epay.tarleton.edu/C20203\\_ustores/web/product\\_detail.jsp?PRODUCTID=196](https://epay.tarleton.edu/C20203_ustores/web/product_detail.jsp?PRODUCTID=196)). Tarleton accepts fee waivers (<https://www.tarleton.edu/admissions/fee-waiver.html>) if students meet qualifications. Checks or money orders should be made payable to Tarleton State University and can be mailed to Tarleton State University, Box T-0030, Stephenville, TX 76402.

## Official High School Transcripts

A freshman applicant who **has not graduated from high school** at the time of application must submit an official transcript indicating grades, projected high school program, projected graduation date and class rank.

A freshman applicant who **has graduated from high school** at the time of application and transfer applicants with less than 30 semester hours of college credit must submit an official high school transcript that includes date of graduation. The transcript should also include **class rank** and designation of high school program. If the high school does not rank, the student must provide a letter from school stating such and include the student's grade point average (GPA) and GPA scale.

Class rank should be calculated at the end of the 11th grade, middle of the 12th grade, or high school graduation, whichever is most recent when the application is submitted.

**If an applicant is accepted with a transcript at the end of the 11th grade (6th semester) or middle of 12th grade (7th semester), he/she must submit an official final high school transcript upon graduation. The transcript must show final class rank, graduation date (not certification of completion date), and a seal displaying the high school program the student completed. Students submitting a final high transcript with a certificate of completion will have their admissions decision revoked and/or have financial aid revoked. Students admitted for a Summer and Fall term must submit a final high school transcript prior to the Spring registration term at Tarleton. A registration and transcript hold will be placed on the students record and will be removed once the transcript is received.**

To be considered official, the high school transcript must bear an original signature of a school official and an original school seal. Transcripts may be sent by the high school counselor through TRex and Parchment. **Scanned/mailed or faxed copies are not official.** Transcripts in a language other than English must be accompanied by an official English translation.

Foreign transcripts must be evaluated by a NACES' approved foreign credentials evaluation service and must show the course by course evaluation, including GPA and rank when applicable. The service must send the evaluation directly to Tarleton State University, Box T-0030, Stephenville, TX 76402 or by email to [uadm@tarleton.edu](mailto:uadm@tarleton.edu).

## Official SAT or ACT test scores

Effective Spring 2020 forward: Official SAT and ACT test scores must be sent directly from the testing agency. Tarleton will not accept test scores from the high school.

Tarleton's SAT code is 6817, [www.collegeboard.org](http://www.collegeboard.org)

Tarleton's ACT code is 4204, [www.act.org](http://www.act.org)

## Official College Transcripts

An official transcript is required from every post-secondary institution attended, even if the applicant did not earn course credit, did not receive a course grade or if the course is not transferable. Coursework from college(s) posted on the transcript of another college will not satisfy this requirement.

For readmission to Tarleton, only those transcripts from institutions attended since the last enrollment at Tarleton State University are required; however, transcripts from all institutions on file will be reviewed for readmission purposes.

**Faxed copies are not official.** Electronic transcripts are considered official transcripts and can be sent through SPEEDE/EDI, eSCRIP-SAFE, Parchment and National Clearinghouse. If an email address is required for the request, please use [transfer@tarleton.edu](mailto:transfer@tarleton.edu). Check with sending/receiving institutions for availability. Electronic transcripts take 24 to 48 hours to be received from sending institution.

If your transcript cannot be released from your previous school(s) due to transcript holds, you must have those holds cleared and provide an official transcript once your obligations have been satisfied.

Foreign transcripts must be evaluated by a foreign credentials evaluation service (<https://www.naces.org/members/>). The service must send the evaluation directly to Tarleton State University, Box T-0030, Stephenville, TX 76402 or by email to [transfer@tarleton.edu](mailto:transfer@tarleton.edu).

## First-time Freshmen Admission Requirements

Students with no college credit since graduating from high school or entering Tarleton from a Texas public high school accredited by the Texas Education Agency, a Texas non-public school accredited by the Texas Private School Accreditation Commission or an accredited out-of-state high school are considered first-time freshmen at the time of application. To be granted **Regular Admission** a first-time freshman must meet the State of Texas Uniform Admission Policy\*.

### Regular Admission

To be granted regular admission status, first-time freshmen must provide SAT and/or ACT scores, and either rank in the top 10% of the high school graduating class or meet one of the combinations of high school quarter rank and entrance scores listed below:

Percentile in Class	Test Score Requirement
75-99% (1st quarter)	No minimum but must provide SAT or ACT scores
50-74% (2nd quarter)	Old SAT** = 800 or New SAT** = 880 or ACT = 16
25-49% (3rd quarter)	Individual Review***

\* See State of Texas Uniform Admission Policy (UAP) below.

\*\* Old SAT total consists of Critical Reading (Verbal) + Mathematics only. New SAT total consists of Evidence Based Reading and Writing + Math. The writing component can be submitted but it is not required.

\*\*\* Applicants not meeting requirements for guaranteed admission may be reviewed on an individual basis.

### State of Texas Uniform Admission Policy (UAP)

The Texas Education Code 51.801-51.809 typically requires that students meet one of the following readiness standards in order to be admitted to a Texas Four-Year Public Institution under the top 10% rule.

1. Successfully complete the distinguished level of achievement under the Foundation, Recommended, or Advanced High School Program from a Texas public high school; or
2. Successfully complete a curriculum from a high school in Texas other than a public high school that is equivalent in content and rigor to the distinguished level of achievement under the Foundation, the Recommended, or Advanced High School Program; or
3. Satisfy the College Readiness Benchmarks on the ACT or SAT assessment. The old SAT requirement is a minimum of 1500 out of 2400 (Critical Reading, Math, and Writing) The ACT requirement is minimums scores of 18 in English and 21 in Reading and 22 in Math, and 24 in Science.

### Early Notification of Admission

Students seeking early notification of admission must submit all required application materials by November 30. Upon graduation, a final high school transcript must be submitted. See **Official High School Transcripts** above.

### Completion of Sixth Semester of High School

Students who are in the top ten percent of their class or who meet the rank and SAT/ACT requirements shown above will be admitted after completion of their junior year (6th semester). An official high school transcript showing grades through the junior year, projected date of graduation, rank, and SAT or ACT score must be submitted before a decision will be made regarding admission. Upon graduation, a final high school transcript must be submitted. See **Official High School Transcripts** above.

### Completion of Seventh Semester of High School

Students submitting an official seventh semester transcript and SAT/ACT scores who meet regular admission requirements will be given early notification. Upon graduation, a final high school transcript must be submitted. See **Official High School Transcripts** above. Students not meeting regular admission requirements with their 6th semester transcript will be asked to provide a 7th semester transcript with an updated rank and grade point average (GPA).

### High School Equivalency Diploma (GED, HiSET, TASC)

High School Equivalency Diploma scores (GED, HiSET, TASC) will be considered equivalent to a high school diploma, provided the average score meets the following:

- GED, before January 2014 - 55 average scores and no subscore less than 50
- GED, January 2014 and after - 170 average scores and no subscore less than 160
- HiSET - 15 score on each exam section, 4 Essay score
- TASC - 560 Math, 580 Reading, 560 and 6 on Essay

An official copy of the GED scores must be submitted. Applicants must submit official SAT or ACT scores with a minimum score of 950 on the Old SAT (critical reading + math) or 1030 on the New SAT or a 20 on the ACT. Students must also meet the Texas Uniform Admission Policy (UAP).

### Home-Schooled or Non-Accredited High School Graduates

Admission will be determined based on a home school applicant's test scores by placing the applicant at the average high school graduating class rank of undergraduate applicants to the institution who have equivalent standardized testing scores as the home school applicant. Student must also meet the Uniform Admission Policy. Home schooled students must provide proof of curriculum completed from an agency or teacher. Home school transcripts should be notarized.

For an early admissions decision a transcript can be submitted after the student's junior year or midway through their senior year. Students must also meet the Texas Uniform Admissions Policy (UAP). Upon graduation, a final high school transcript must be submitted. See **Official High School Transcripts** above.

### Advised Admission

The advised admission program requires applicants to be near the requirements for regular admission to be considered. Requirements are evaluated each year. Applicants for any advised admission program must be within a few months of high school graduation. Students who are eligible for an advised admission program will be contacted by the Office of Admissions and asked to sign an agreement before being allowed to enroll at Tarleton. The agreement may specify course and grade requirements, may restrict the number of hours to be taken, and may be more restrictive than certain university rules such as the Warning/Probation/Suspension policy. Students should review all agreement conditions carefully before signing as students who fail to meet conditions in the agreement may not be allowed to re-enroll at Tarleton until they succeed academically at another institution and meet Tarleton's transfer requirements. The number of students granted advised admission may be limited by the Division of Enrollment Management at Tarleton without prior notice.

## International Baccalaureate Diploma Program

Beginning freshman applicants to Tarleton State University who have completed or who will complete the International Baccalaureate Diploma (IBD) Program from their high school should indicate that on the application. Those who complete the IBD and meet State of Texas requirements will be granted credit for a minimum of 24 semester hours. Students should ensure the Director of Undergraduate Admissions is aware of the IBD Program and may request from the Director the type and amount of credit Tarleton State University is willing to grant, based on the IBD transcript.

Tarleton State University grants credit for IB higher level exams with a score of 5 or higher and for some standard level exams with specified scores of 5 or higher. A list of credit equivalents and required scores is in **Academic Information** for certain higher level and standard level exam. Student may inquire about equivalent credit for higher level exams not listed if the score is 5 or higher. State law requires that students who present evidence of completion of the IB diploma may be granted credit for exam scores of at least 4. This can result in the awarding of up to 24 credit hours.

## Limited Admission for Outstanding High School Students

Tarleton State University will consider limited admission for outstanding high school students after they have met and/or have submitted the following:

1. completed their junior year of high school
2. ranked in the top quarter of their graduating class
3. have scores of at least 1100 on the Old SAT, 1170 on the New SAT or 110 on the PSAT, or 24 on the ACT or PACT
4. provide a letter of recommendation from their high school principal or counselor addressing student's maturity and academic capabilities
5. provide a letter of consent from a parent or legal guardian
6. successfully complete all sections of a TSI assessment or have obtained a TSI exemption prior to course registration

All documentation will be reviewed by Academic Affairs and may require a face-to-face meeting. Contact Undergraduate Admissions with any questions.

## Individual Approval Admissions

Students who are denied admission to Tarleton State University may ask to be considered for individual approval. If the case has sufficient merit, it will be referred to the Academic Standards Committee or the committee chair acting on behalf of the committee. Appeals will be considered in cases of extenuating circumstances. An appeal will not be considered for applicants who are ineligible to return to a previous institution.

Appeal requests should be submitted to the Office of Undergraduate Admissions no later than two weeks before the first class day for that semester. Exceptions to this deadline must be approved by the Division of Enrollment Management, Provost and Vice President for Academic Affairs or the provost's designee. The forms to be used when requesting consideration for individual approval may be obtained from the Undergraduate Admissions Office.

Tarleton State University students may earn course credit by demonstrated achievement on standardized tests. Students should check with the Office of Undergraduate Admissions for subject areas in which Tarleton State University awards credit. Credit awarded for A/P and CLEP scores on transcripts from public universities or colleges in Texas will be accepted. Students may receive credit for courses and scores in effect at the time they enter Tarleton State University. A superior student may earn credit by examination in the following ways:

1. Depending on subject, scores ranging from a minimum 50 to 66 for the Subject Examination of the College Level Examination Program (CLEP), Credit is not available for the General Examinations;
2. A minimum score of 3 on the College Entrance Examination Board (CEEB) Advanced Placement Examination;
3. If CLEP tests are not available in a desired testing area, local departmentally prepared examinations may be petitioned. To be eligible for local testing, a student must have
  - a. a minimum score of 1000 on the SAT or 21 on the ACT and
  - b. completed at least two units with no grade below a B in the area of testing during high school; or have special permission from the department head;
4. Depending on subject, scores ranging from a minimum 494 to 678 for the CEEB Achievement Test;
5. A score of 33 on the Reading section of the SAT or 28 on the English section of the ACT.

## Non-Standard Baccalaureate Level Credit

Tarleton State University accepts non-standard credit toward a baccalaureate degree from approved sources to a m. Non-standard sources of credit include Advanced Placement (AP), College-Level Exam Preparation (CLEP), International Baccalaureate Organization (IBO), SAT and ACT, departmental credit exams, American Council on Education (ACE) and others. Departmental credit exam information about approved courses is available through the Registrar's Office.

Non-standard baccalaureate level credit is not included in enrollment for a given semester.

Technical courses and work experience may only count toward certain specialized degree programs. That is not the same as non-standard credit and the conditions for acceptance and maximum applicable hours are covered by the particular degree requirements. Technical courses and work experience may not be counted toward traditional BA, BS, BBA, and similar undergraduate degrees.

Tarleton State University students may earn course credit by demonstrated achievement on standardized tests. Students should check with the Office of Undergraduate Admissions for subject areas in which Tarleton State University awards credit. Credit awarded for A/P and CLEP scores on transcripts from public universities or colleges in Texas will be accepted. Students may receive credit for courses and scores in effect at the time they enter Tarleton State University. A student may earn credit by examination in the following ways:

1. Depending on subject, scores ranging from a minimum 50 to 66 for the Subject Examination of the College Level Examination Program (CLEP), Credit is not available for the General Examinations;
2. A minimum score of 3 on the College Entrance Examination Board (CEEB) Advanced Placement Examination;
3. If CLEP tests are not available in a desired testing area, local departmentally prepared examinations may be petitioned. To be eligible for local testing, a student must have
  - a. a minimum score of 1000 on the SAT or 21 on the ACT and
  - b. completed at least two units with no grade below a B in the area of testing during high school; or have special permission from the department head;
4. Depending on subject, scores ranging from a minimum 494 to 678 for the CEEB Achievement Test;
5. A score of 33 on the Reading section of the SAT or 28 on the English section of the ACT.

## CLEP Credit

Courses Available	Code for Posting	Type of Examination	Name of Test	Score Required	Hours Awarded
ACCT 2301: Princ of Accounting I - Financial	CL09	CLP Examination	Principles of Accounting I - Financial	50	3
BIOL 1406: General Biology	CL01	CLP Examination	General Biology	50	4
CHEM 1411: General Chemistry I	CL02	CLP Examination	General Chemistry	50	4

BCIS 1305: Business Computer App.	CL03	CLP Examination	Information Systems & Computer Applications	50	3
ECON 2301: Princ of Economics	CL04	CLP Examination	Macroeconomics	50	3
ECON 2302: Princ of Economics	CL05	CLP Examination	Principles of Microeconomics	50	3
FREN 1411 & 1412: Beginning French	CL23	CLP Examination	College French	57	8
FREN 1411, 1412, 2311 & 2312: Beginning & Inter. French	CL24	CLP Examination	College French	66	14
BLAW 4332: Business Law	CL08	CLP Examination	Intro Business Law	50	3
GERM 1411 & 1412: Beginning German	CL25	CLP Examination	German Language	57	8
GERM 1411, 1412, 2311 & 2312: Beginning & Inter. German	CL26	CLP Examination	College German	66	14
GOVT 2305: American Govt	CL10	CLP Examination	American Govt	50	3
HIST 2321: Worl History	CL11	CLP Examination	Western Civilization I	50	3
HIST 2322: World History	CL12	CLP Examination	Western Civilization II	50	3
HIST 1301: History of US I	CL13	CLP Examination	U.S. History I	50	3
HIST 1302: History of the US II	CL14	CLP Examination	U.S. History II	50	3
MATH 1314: College Algebra	CL16	CLP Examination	College Algebra	50	3
MATH 2412: PreCalculus	CL29	CLP Examination	Precalculus	50	4
MATH 2413: Calculus I	CL18	CLP Examination	Calculus	50	4
MGMT 2301: Principles of Management	CL19	CLP Examination	Principles of Management	50	3
MKTG 2314: Marketing	CL20	CLP Examination	Principles of Marketing	50	3
PSYC 2301: General Psychology	CL21	CLP Examination	Introductory Psychology	50	3
SOCI 1301: Intro to Sociology	CL22	CLP Examination	Introductory Sociology	50	3
SPAN 1411 & 1412: Beginning Spanish	CL27	CLP Examination	College Spanish	57	8
SPAN 1411, 1412, 2311 & 2312: Beginning and Inter. Spanish	CL28	CLP Examination	College Spanish	66	14

### AP Credit

Courses Available	Code for Posting	Type of Examination	Name of Test	Score Required	Hours Awarded
ARTS 1303: Art History I	AP01	Advanced Placement	History of Art	3	3
BIOL 1406: General Biology	AP02	Advanced Placement	Biology	3	4
CHEM 1411: General Chemistry I	AP27	Advanced Placement	Chemistry	3	4
CHEM 1411 & 1412: General Chemistry I & II	AP35	Advanced Placement	Chemistry	4 or 5	8
BCIS 1305: Business Computer App.	AP04	Advanced Placement	Computer Science A or AB	3	3
BCIS 1305: Business Computer App.	AP28	Advanced Placement	Computer Science A	3	3
ECON 2301: Princ of Economics	AP31	Advanced Placement	Macroeconomics	3	3
ECON 2302: Princ of Economics	AP30	Advanced Placement	Microeconomics	3	3
ENGL 1301: Composition I	AP05	Advanced Placement	Language & Composition	3	3
ENGL 2320: Intro to Literature	AP06	Advanced Placement	Literature & Composition	3	3
FREN 1411 Beginning French	AP07	Advanced Placement	French Language & Culture	2	4
FREN 1411 & 1412 Beginning French	AP20	Advanced Placement	French Language & Culture	3	8
FREN 1411, 1412, & 2311 Beginning & Inter. French	AP21	Advanced Placement	French Language & Culture	4	11
FREN 1411, 1412, 2311, & 2312 Beginning & Inter. French	AP22	Advanced Placement	French Language & Culture	5	14

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GEOL 1407: Intro to Environmental Science	AP26	Advanced Placement	Environmental Science	3	4
GERM 1411 Beginning German	AP09	Advanced Placement	German Language& Culture	2	4
GERM 1411 & 1412 Beginning German	AP23	Advanced Placement	German Language& Culture	3	8
GERM 1411, 1412 & 2311 Beginning & Inter. German	AP24	Advanced Placement	German Language& Culture	4	11
GERM 1411, 1412, 2311 & 2312 Beginning & Inter. German	AP25	Advanced Placement	German Language& Culture	5	14
GOVT 2305: American Govt	AP10	Advanced Placement	Government & Politics: US	3	3
HIST 2321: World History	AP36	Advanced Placement	World History	3	3
HIST 2321 & 2322: World History	AP37	Advanced Placement	World History	4 or 5	6
HIST 2321 & 2322: World History	AP11	Advanced Placement	European History	3	6
HIST 1301 & 1302: History of the US	AP12	Advanced Placement	American/US History	3	6
MATH 2413: Calculus I	AP13	Advanced Placement	Calculus AB	4 -5	4
MATH 2413: Calculus I	AP38	Advanced Placement	Calculus BC	3 and AB Sub-score 4	4
MATH 2413, MATH 2414 Calculus I & II	AP33	Advanced Placement	Calculus BC	4-5	8
MATH 1342: Statistics	AP34	Advanced Placement	Statistics	3	3
MUSC 1311: Music Theory	AP32	Advanced Placement	Music Theory	3	3
PHYS 2425: Principles of Physics	AP15	Advanced Placement	Physics C: Mechanics	3	4
SPAN 1411 Spanish	AP16	Advanced Placement	Spanish Language & Culture	2	4
SPAN 1411 & 1412 Beginning Spanish	AP17	Advanced Placement	Spanish Language & Culture	3	8
SPAN 1411, 1412 & 2311 Beginning & Inter. Spanish	AP18	Advanced Placement	Spanish Language & Culture	4	11
SPAN 1411, 1412, 2311 & 2312 Beginning & Inter. Spanish	AP19	Advanced Placement	Spanish Language & Culture	5	14

### ACT/SAT Credit

Courses Available	Code for Posting	Type of Examination	Name of Test	Score Required	Hours Awarded
BIOL 1406: General Biology		SAT II Subject Examination	Biology	580	4
CHEM 1411: General Chemistry I		SAT II Subject Examination	Chemistry	600	4
ENGL 1301: Composition		SAT Reading	SAT I Reasoning Examination	33	3
ENGL 1301: Composition I		ACT English	ACT Examination	28	3
ENGL 2320: British Literature		SAT II Subject Examination		600	3
FREN 1411 & 1412: Beginning French		SAT II Subject Examination	French Language	570	8
GERM 1411 & 1412: Beginning German		SAT II Subject Examination	German (Reading Only)	540	8
HIST 2321 & 2322: World History		SAT II Subject Examination	World History	560	6
HIST 1301 & 1302: History of the US		SAT II Subject Examination	American History & Social Studies	540	6
PHYS 1401 & 1402: General Physics		SAT II Subject Examination	Physics	630	8
SPAN 1411 & 1412: Spanish		SAT II Subject Examination	Spanish (Reading Only)	540	8

Students taking departmental local examinations are charged a \$5.00 per credit hour examination and recording fee for the credit to become a part of their academic records. Advanced placement in a subject area may be granted by the department head concerned. Permitting advanced placement does not necessarily mean approval for credit by examination. All acceptable credit earned by examination will be posted to the student's permanent record if the student is enrolled at Tarleton State University through the official census date. Students should consult the Office of Undergraduate Admissions for specific information. The credit will be recorded with a grade of P (Pass) and the hours awarded. There will be no grade points assigned for this credit, the hours will not count toward residency required for graduation and it will not be used in the computation for any grade point ratio.

#### International Baccalaureate Organization Credit

Students who complete the IBO diploma with certain minimum scores are guaranteed acceptance of at least 24 hours of credit. This may exceed the hours regularly granted based on individual exam results. It is recommended that any student in the IBO program who anticipates applying to Tarleton see the Admissions section of this catalog and contact the Office of Undergraduate Admissions for details.

Tarleton State University grants credit for IB higher level exams with a score of 5 or higher and for some standard level exams with specified scores of a 5 or higher. A list of credit equivalents and required scores is listed below for certain higher level and standard level exams. Students may inquire about the equivalent credit for higher level exams not listed if the score is a 5 or higher. State law requires that students who present evidence of completion of the IB diploma may be granted credit for exam scores of at least 4. This can result in the awarding of at least 24 hours of credit.

### IBO Higher Exam

Course	Grade	Course Credit	Credit Hours
Biology	5, 6, 7	BIOL 1406, 1407	8
Business & Org.	5, 6, 7	FINC 3301, MGMT 3301	6
Chemistry	5, 6, 7	CHEM 1411, 1402	8
Economics	5, 6, 7	ECON 2301, 2302	6
English	5, 6, 7	ENGL 1301, 1302	6
French	5	FREN 1411, 1412	8
French	6, 7	FREN 1411, 1412, 2311, 2312	14
Geography	5, 6, 7	GEOG 1303	3
German	5	GERM 1411, 1412	8
German	6, 7	GERM 1411, 1412, 2311, 2312	14
History, U.S.	5, 6, 7	HIST 1301, 1302	6
Music	5, 6, 7	MUSI 1311, 1312	5
Philosophy	5, 6, 7	PHIL 1301	3
Physics	5, 6, 7	PHYS 1401, 1402	8
Psychology	5, 6, 7	PSYC 2301	3
Spanish	5	SPAN 1411, 1412	8
Spanish	6, 7	SPAN 1411, 1412, 2311, 2312	14
Theatre Arts	5, 6, 7	DRAM 1310	3

### IBO Standard Exam

Course	Grade	Course Credit	Credit Hours
Art	5, 6, 7	ARTS 1301	3
Biology	6, 7	BIOL 1406, 1407	8
Chemistry	6, 7	CHEM 1411, 1412	8
Computer Science	6, 7	BCIS 1305	3
Economics	6, 7	ECON 2301, 2302	6
French	5	FREN 1411, 1412	8
French	6, 7	FREN 1411, 1412, 2311, 2312	14
German	5	GERM 1411, 1412	8
German	6, 7	GERM 1411, 1412, 2311, 2312	14
Math Stud.	6	MATH 1314, 1316	6
Math Stud.	7	MATH 1316, 2413	7
Music	7	MUSI 1311, 1312	6
Philosophy	6, 7	PHIL 1301	3
Physics	6, 7	PHYS 1401, 1402	8
Psychology	6, 7	PSYC 2301	3
Spanish	5	SPAN 1411, 1412	8
Spanish	6, 7	SPAN 1411, 1412, 2311, 2312	14
Theatre Arts	5, 6, 7	DRAM 1310	3

### American Council on Education (ACE)

Tarleton State University will accept all undergraduate academic coursework recommended by the American Council on Education (ACE). Students are required to submit an official transcript from the educational company along with an official ACE evaluation. Based on ACE recommendations, the courses will be articulated as lower or upper level. Courses designated as vocational will not be articulated. When possible, courses will match a course offered by Tarleton State University. If not possible, the course will be designated as not matching a course and the student will seek departmental approval for specific degree fulfillment.

### Military Credit

The Office of Transfer Services, operating as part of Undergraduate Admissions at Tarleton State University, currently evaluates and articulates military credit with the following methods:

- Evaluation of Joint Services transcripts and Community College of the Air Force transcripts during the admissions process.
  - Credit awarded based on ACE recommendations and nature of course (i.e. electrical maintenance versus personnel supervision).
  - Where possible, ACE recommended credits transfer as direct matches to Tarleton courses
- Students with technical credit based on military experience are encouraged to explore our BSAS and BAAS degree options.

### Texas Success Initiative (TSI)

The Texas Education Code statute 51.3062, Success Initiative, effective September 1, 2003, requires the university to assess the academic skills of each entering undergraduate student to determine the student's readiness to enroll in freshman-level academic coursework. The fee for the completion of the assessment instrument will be paid by the student. The university will not use the assessment or the results of the assessment as a condition of admission to the institution.

Unless exempt (see below), the Texas Higher Education Coordinating Board requires that, prior to enrollment, each student must be assessed in three skill areas (reading, writing, and mathematics) using the TSI Assessment.

Additionally, unless exempt (see below), each student is subject to the provisions of Tarleton's Texas Success Initiative (TSI) Plan. A copy of the TSI Plan is available from Student Success Office (Thompson Student Center, Room 15; Voice: 254-968-9480).



Further details will be outlined on the TSI website (<http://www.tarleton.edu/admissions/TSI.html>).

## TSI Exemptions

The following students shall be either fully exempt, partially exempt, or temporarily exempt/waived from the requirements of the TSI\*:

Full Exemption: The following students are exempt from the requirements of the TSI

1. For a period of five (5) years from the date of testing, a student who is tested and performs at or above the following standards on a single administration of the test:
  - ACT: composite score of 23 with a minimum of 19 on both the English and Mathematics tests.
  - Old SAT: a combined Critical Reading and Mathematics score of 1070 with a minimum of 500 on both the critical reading and the mathematics tests.
  - New SAT: Evidence Based Reading/Writing of 480 and Math of 530
2. For a period of five (5) years from the date of testing, a student who is tested and performs at or above the following standards:
  - Eleventh grade exit-level TAKS with a minimum scale score of 2200 on the Math section and a minimum scale score of 2200 on the English/Language Arts (ELA) section with a Writing subsection score of at least 3.
  - STAAR end of course (EOC) a minimum score on Algebra II of a 4000 and a minimum score of 2000 on English III (Reading) and a minimum score of 2000 on English III (Writing).
3. A student who has graduated with an associate or baccalaureate degree from a Texas public institution of higher education.
4. A student who has graduated with a baccalaureate degree from a regionally accredited private, independent, or out-of-state institution of higher education and who has satisfactorily completed appropriate college-level coursework as determined by the University.
5. A student who transfers to Tarleton from a regionally accredited private, independent, or out-of-state institution of higher education and who has satisfactorily completed college-level coursework in:
  - mathematics
  - writing
  - reading as indicated in Section 8 of the TSI Plan
6. A student who has previously attended any Texas public institution of higher education and met TSI readiness standards by that institution in:
  - mathematics
  - writing
  - reading
7. A student who on or after August 1, 1990, was honorably discharged, retired, or released from active duty as a member of the armed forces of the United States or the Texas National Guard or service as a member of a reserve component of the armed forces of the United States.
8. A student who, prior to January 1, 2004, had satisfied (as indicated by the Tarleton Developmental Education Plan and/or the Board's THEA policy manual) all THEA obligations.
9. Partial Exemption (see below).

The following students are exempt from one or more of the requirement of the TSI:

### Exempt from the Mathematics requirements of the TSI:

1. For a period of five (5) years from the date of testing, a student who is tested and performs at or above the following standards on a single administration of the test:
  - ACT: composite score of 23 with a minimum of 19 on Mathematics test.
  - Old SAT: a combined Critical Reading and Mathematics score of 1070 with a minimum of 500 on mathematics test.
  - New SAT: Math of 530
2. For a period of five (5) years from the date of testing, a student who is tested and performs at or above the following standard:
  - Eleventh grade exit-level TAKS with a minimum scale score of 2200 on the math section.
  - STAAR end of course (EOC) a minimum score of 4000 on Algebra II.
3. A student who transfers to Tarleton from a regionally accredited private, independent, or out-of-state institution of higher education and who has satisfactorily completed college-level coursework in mathematics, as indicated in Section 8 of the TSI Plan.
4. Student who has previously attended any Texas public institution of higher education and met TSI readiness standards by that institution in mathematics.

### Exempt from the Writing requirements of the TSI:

1. For a period of five (5) years from the date of testing, a student who is tested and performs at or above the following standards on a single administration of the test:
  - ACT: composite score of 23 with a minimum of 19 on English test.
  - Old SAT: a combined Critical Reading and Mathematics score of 1070 with a minimum of 500 on the critical reading test.
  - New SAT: Evidence Based Reading/Writing of 480
2. For a period of five (5) years from the date of testing, a student who is tested and performs at or above the following standards:
  - Eleventh grade exit-level TAKS with a minimum scale score of 2200 on the English/Language Arts (ELA) section with a writing subsection score of at least 3.
  - STAAR end of course (EOC) a minimum score of 2000 on English III (g).
3. A student who transfers to Tarleton from a regionally accredited private, independent, or out-of-state institution of higher education and who has satisfactorily completed college-level coursework in writing, as indicated in Section 8 of the TSI Plan.
4. Student who has previously attended any Texas public institution of higher education and met TSI readiness standards by that institution in writing.

### Exempt from the Reading requirements of the TSI:

1. For a period of five (5) years from the date of testing, a student who is tested and performs at or above the following standards on a single administration of the test:
  - ACT: composite score of 23 with a minimum of 19 on English test;
  - Old SAT: a combined Critical Reading and Mathematics score of 1070 with a minimum of 500 on the critical reading test.
  - New SAT: Evidence Based Reading/Writing of 480
2. For a period of five (5) years from the date of testing, a student who is tested and performs at or above the following standard:
  - Eleventh grade exit-level TAKS with a minimum scale score of 2200 on the English/Language Arts (ELA) section with a writing subsection score of at least 3.
  - STAAR end of course (EOC) a minimum score of 2000 on English III (Reading).

3. A student who transfers to Tarleton from a regionally accredited private, independent, or out-of-state institution of higher education and who has satisfactorily completed college-level coursework in reading, as indicated in Section 8 of the TSI Plan.
4. Student who has previously attended any Texas public institution of higher education and met TSI readiness standards by that institution in reading.

### Temporary Exemption/Waiver. The following students may request a temporary exempt from the requirements of the TSI:

- On an annual basis, a student who is serving on active duty as a member of:
    - the armed forces of the United States; or
    - the Texas National Guard.
  - On an annual basis, a student who is a member of a reserve component of the armed forces of the United States (excludes reserves of Texas National Guard) and has been serving for at least three years preceding enrollment.
  - Each semester, a student who has been admitted as a non-degree seeking student.
  - Under exceptional circumstances, the AVP for Student Success and Multicultural Initiatives may permit a student to enroll in lower-level academic coursework without assessment but must require that the student be assessed no later than the end of the first semester of enrollment in freshman-level academic coursework and may require concurrent, appropriate developmental education.
- \* Some of the TSI exemptions for enrollment in Tarleton State University are not accepted by the Teacher Education Council for admission to the Teacher Education Program. Please contact the Certification Office at (254) 968-9815 for more information.

TSI assessment results and/or proof of exemption must be submitted to the Student Assessment Coordinator's office before a student will be allowed to register for classes. To verify that your assessment results and/or proof of exemption have been received by Tarleton, contact the Student Assessment Coordinator at (254) 968-9269, (800) 687-8236, or uadm@tarleton.edu.

## Immunizations

### Bacterial Meningitis (requirement for all new students)

Pursuant to Texas legislation, all entering (new) students under the age of 22 at an institution of higher education must show evidence of receipt of an initial bacterial meningitis vaccination dose or booster during the five-year period preceding and at least 10 days prior to the first day of the first semester in which the student initially enrolls at an institution. This information shall be maintained in accordance with Family Education Rights and Privacy Act Regulations and with Health Insurance Portability and Accountability Act. Students will submit their proof of vaccination through their myGateway account and be required to pay a \$10 processing fee to Magnus Health, the company that reviews the records. Further Bacterial Meningitis Info (<http://www.tarleton.edu/admissions/bacterial-meningitis.html>) can be reviewed on our website.

Please refer to <http://www.tarleton.edu/admissions/bacterial-meningitis.html> for instructions on submitting documentation.

### Requirements (for students enrolling in health-related courses)

For students enrolling in health-related courses (Nursing, Medical Laboratory Science, Medical Laboratory Technician, etc.), please contact those specific departments for immunization requirements.

Recommendations (for all students)

Measles - All students enrolling in institutions of higher education should have two doses of the measles vaccine prior to the start of classes.

Tetanus/Diphtheria - Tetanus vaccines are effective for about 10 years and need to be boosted at that interval; they should be given in combination with the diphtheria vaccine.

## Social Security Number Disclosure

Section 7(b) of the Privacy Act of 1974 (5 U.S.C. 552a) requires that when any federal, state, or local government agency requests an individual to disclose his/her social security account number (SSAN), that individual must also be advised whether that disclosure is mandatory or voluntary, by what statutory or other authority the number is solicited, and what uses will be made of it.

Accordingly, applicants for admission are advised that disclosure of a student's SSAN is strongly recommended for admission as a student at Tarleton State University, in view of the practical administrative difficulties that would be encountered in maintaining adequate student records without continued use of the SSAN. It is used to verify the identity of the student, and as a student account number (identifier) to record necessary data accurately. As an identifier, the SSAN is used for such activities as determining and recording eligibility for admission as a student; reporting initial physical examinations; determining and recording assessments and payments of student fees and charges; determining and recording eligibility for student financial assistance including loans, scholarships, grants, allowances, and official student travel and per diem; recording student grades and related academic data; determining and recording eligibility for participation in Reserve Officers Training Corps programs and in athletic, rodeo, and similar events; registering private vehicles and issuing parking permits; issuing student identification cards; recording issue and return of library books and other materials; registering for placement services, including resume preparation and furnishing information to prospective employers; and other such related requirements that might arise. Tarleton State University has for several years consistently requested disclosure of the SSAN on student application forms and other necessary student forms and documents used pursuant to statutes passed by the State of Texas and United States and regulations adopted by agencies of the State of Texas and United States, and by the Board of Regents of The Texas A&M University System.

If a student chooses not to disclose the SSAN, he/she may request a random number to be assigned to the student's records while attending Tarleton State University. The student should contact the Office of Undergraduate Admissions for more details.

## Conduct Disclosure Questions

The following conduct questions are included in the admissions application for undergraduate and graduate student in accordance with System Regulation 11.99.02, *Conduct Requirements for Admissions Applications and Transcripts*:

1. Have you ever been convicted of a crime or crimes, excluding juvenile adjudications, involving acts of violence or sexual misconduct including, but not limited to: criminal homicide (murder or non-negligent manslaughter); sexual assault (rape, fondling, incest, or statutory rape); robbery; aggravated assault; simple assault; arson; destruction/damage/vandalism of property; domestic violence; dating violence; or stalking?
2. Are you currently under investigation or subject to pending conduct charges from any post-secondary institution for conduct involving acts of violence or sexual misconduct including, but not limited to: criminal homicide (murder or non-negligent manslaughter); sexual assault (rape, fondling, incest, or statutory rape); robbery; aggravated assault; simple assault; arson; destruction/damage/vandalism of property; domestic violence; dating violence; or stalking?
3. Have you ever had any substantiated conduct findings against you at any post-secondary institution for conduct involving acts of violence or sexual misconduct including, but not limited to: criminal homicide (murder or non-negligent manslaughter); sexual assault (rape, fondling, incest, or statutory rape); robbery; aggravated assault; simple assault; arson; destruction/damage/vandalism of property; domestic violence; dating violence; or stalking?
4. Have you ever been suspended or expelled from any post-secondary institution for conduct involving acts of violence or sexual misconduct including, but not limited to: criminal homicide (murder or non-negligent manslaughter); sexual assault (rape, fondling, incest, or statutory rape); robbery; aggravated assault; simple assault; arson; destruction/damage/vandalism of property; domestic violence; dating violence; or stalking?

Any affirmative answer will require a student to complete a Conduct Disclosure Form which is then reviewed by the Conduct Review Committee to determine eligibility to continue the process for admission to the university.

## International Students

Admission of international students to the undergraduate program at Tarleton is based upon graduation from a secondary school system equivalent to at least 12 grades (lyceum, senior middle school, high school, preparatory school, or other equivalent). Applicants must provide official transcripts and evaluations of all academic work. Foreign transcripts must be evaluated by a NACES<sup>®</sup> approved foreign credentials evaluation service and must show the course by course evaluation, including GPA and rank when applicable. The service must send the evaluation directly to Tarleton State University, Box T-0030, Stephenville, TX 76402 or by email to uadm (uadm@Tarleton.edu)@Tarleton.edu (transfer@Tarleton.edu).

Fall and Spring admission are available for Undergraduate International applicants. Because of the more limited availability of face-to-face courses in the summer session, international student applications will generally not be accepted except for those majoring in Medical Laboratory Science (where face-to-face summer course availability is assured). Students other than MLS majors may request approval from their departmental advisor if summer courses are available for the required 12 hours (9 must be face-to-face) for undergraduate students, 9 hours (6 must be face-to-face) for graduate students, as required by Student Exchange and Visitor Program (SEVP). It is not recommended that international students begin classes during summer as they will struggle to find course offerings and might struggle academically due to the course demands during shorter terms.

The quality of the applicant's prior secondary or collegiate-level work is judged from the scores attained. International applicants must submit SAT or ACT scores to be considered for admission. International applicants may be admitted if they have a score of 950 or above on the Old SAT or a 1030 or above on the New SAT or 20 or above on the ACT.

Students may demonstrate required English proficiency (<https://www.tarleton.edu/admissions/transfer/international.html>) by providing satisfactory TOEFL, IELTS, iTEP or TOEFL ITP Plus for China scores. The Test of English as a Foreign Language (TOEFL), administered by the Educational Testing Service, is required with a minimum score of 69 on the Internet-based test or a minimum score of 520 on the paper-based test. The International English Language Testing System (IELTS) minimum score is a 6. The TOEFL ITP Plus for China minimum score is 460. The iTEP minimum scores is 3.5-3.9. Completion of six semester hours of regular first-year college English composition at an accredited college in the United States with a grade of C or better in each course will satisfy English proficiency requirement. Students may inquire about acceptable scores on iTEP. Additional English proficiency (<https://www.tarleton.edu/admissions/transfer/international.html>) qualifications may also be accepted upon review. English proficiency scores cannot be more than 2 years old as of the first day of term you are entering.

To obtain a visa from the American Embassy located in the applicant's country, a prospective student must have documented evidence of financial solvency. A sponsor is obligated to endorse all expenditures for the applicant during the entire course of study. Note that a copy of all financial statement documentation must be submitted to the Office of Undergraduate Admissions - Immigration to [immigration@tarleton.edu](mailto:immigration@tarleton.edu). After a review and determination that financial requirements are met, the Office of Undergraduate Admissions - Immigration will provide the student with an I-20 for F-1 visa consideration (or DS 2019 for J visa consideration). Check with the American Embassy for further details.

International applicants must submit two passport-style color photos taken within six months of application, a \$50 non-refundable application fee at the point of application and a \$100 (US) processing fee on the tuition bill. Payment must be made by bank cashier's check payable to Tarleton State University or by credit card on the electronic application. Tarleton State University requires that all international students have medical insurance with coverage in the United States. Fees for medical insurance (<https://www.tarleton.edu/international/health-insurance/health-insurance.html>) will be charged with tuition at the time of registration after full admission.

The Department of Admissions performs authentication of student admissions materials and required identification and immigration documentation. A primary Restricted Party Screening (RPS) is performed by the Department of Admissions for all foreign nationals seeking admission to the university with a secondary screening by Compliance and Strategic Initiatives (CSI), as needed. CSI will seek guidance from the empowered official (EO) and/or System Research and Security Office (RSO) as needed for resolution of concerns and for decision-making regarding admission approval. Foreign persons will not be admitted to the university until they have been cleared through the export control screening process.

All supporting documents must be sent to the Office of Undergraduate Admissions - Immigration at Box T-0030, Stephenville, Texas 76402. Application decisions cannot be processed until all materials are received. The I-20 will be issued only after a formal admission letter has been issued by Tarleton State University. The I-20 will be mailed by First Class Mail through the United States Postal Service. It is the responsibility of the student to pay for any expedited shipment. Contact [immigration@tarleton.edu](mailto:immigration@tarleton.edu) for instructions. All undergraduate students are required to meet Texas Success Initiative (TSI) assessment before registering for classes. For more details about admission of international students, consult International Programs, [immigration@tarleton.edu](mailto:immigration@tarleton.edu) or call 254-968-9632.

## Transfer Student Requirements

At the time of application, students who have attempted college level credit at a regionally accredited institution after high school graduation are considered transfer students. Students taking course credit in the summer immediately after high school graduation will be considered first-time freshmen until they complete a fall or spring semester of higher education. Applicants must be eligible to enroll at all colleges and universities previously attended (i.e. not on suspension) and submit final official transcripts from each college or university attended. If a student's transcript reflects Academic Suspension, the student must request documentation from that institution with a statement that they are eligible to return to that institution. For students who have previously attended Tarleton State University, transfer work and Tarleton work will be combined to determine a cumulative GPA. Developmental, non-college credit, vocational or technical coursework is not used in determining the GPA needed to be eligible for transfer admission.

Transfer Equivalency Guides, Texas Common Course Numbering System Equivalency Guides, Common Core Equivalency Guides are available for students transferring to Tarleton State University from a junior or community college. Please check with the Coordinator of Transfer Services at 1-800-687-8236 or review the information on the Admissions website (<https://www.tarleton.edu/admissions/>).

For more information on transfer student requirements, please refer to Transfer Services (<https://www.tarleton.edu/admissions/transfer/>).

## Transfer Student Qualifications

The following minimum standards must be met upon receipt of all admission documents and official transcripts from every institution a student has attended, which includes Tarleton hours and GPA:

1. Students with 30 or more semester hours of transferable academic college credit and a cumulative GPA of 2.0 or higher will be admitted.
2. Students with 12 to 29 semester hours of transferable academic college credit and a cumulative GPA of 2.8 or higher will be admitted. A cumulative GPA of 2.00 - 2.79 is acceptable, provided they also meet one of the regular admission standards for first-time freshman applicants (<https://www.tarleton.edu/admissions/undergrads/>).
3. Students with 11 or fewer semester hours of transferable academic college level credit and a cumulative GPA of 2.00 or higher who meet one of the regular admission standards for first-time freshman applicants\* (<https://www.tarleton.edu/admissions/undergrads/>) will be admitted.

Students attending the Fort Worth, Midlothian, Waco, Online or RELLIS-Bryan campus must meet these additional requirements:

1. Complete a minimum of 30 hours of transferable academic college credit with an overall 2.0 GPA
2. Pass all sections of the Texas Success Initiative (TSI) (<https://www.tarleton.edu/admissions/TSI.html>) or provide exemptions

\* Please see the Admission Requirements for First-Time Freshman area in this section of the catalog.

## Core Curriculum Transfer

Core curriculum courses students complete at another Texas public institution as approved by the Texas Higher Education Coordinating Board will transfer to Tarleton State University and satisfy the same core curriculum if noted on the official transcript.

## Transfer Articulation Policies

Credits earned at another regionally accredited institution are accepted as recorded on the official transcript. However, because of differences in institutional degree requirements and course content, some credits transferred may not apply toward satisfying degree requirements at Tarleton.

If a course is completed at a Texas public community college and repeated at another Texas public community college, both courses will appear on the transcript and the best effort will be included in the GPA. If a course is repeated in any other combination (i.e. completed at a community college and repeated at a university), both courses will appear on the transcript and the grades will average in the GPA. Please contact Transfer Services at 254-968-9353 for more information.

Effective Spring 2004, all grades including F's, for all academic credit courses will be articulated to the Tarleton transcript. The minimum grade accepted for credit is a D, however, some degrees require specific minimum grades. Please refer to the Academic Advising Guide for your degree for more information. Remedial/developmental courses will not be entered and will not be used in the admissions decision. Only those transferred hours that have been transcribed will be used to determine admissions eligibility.

Courses which are vocational or technical in nature are not automatically accepted by Tarleton State University. These courses must be approved by the appropriate academic departments and resubmitted for articulation to Transfer Services. Vocational or technical courses not being utilized in an Applied Science degree or not covered under an articulation agreement with a sending institution must be evaluated and meet requirements for academic credit. Students with a significant number of hours in a technical field and who wish to use those hours toward a Tarleton degree should consider the Bachelor of Applied Arts and Sciences, Bachelor of Science in Applied Science, Bachelor of Applied Technology, or similar degree programs. Such students are expected to meet current admissions requirements and may wish to contact Academic Advising Services or departmental advisors for degree requirements.

Credit completed at a non-regionally accredited institution may be reviewed for articulation at the student's request. Credit must be considered academic and the instructor is required to hold a minimum of 18 graduate credits in the course discipline. The student will be required to submit the following information:

- Documentation from the institution stating the instructor of the course as well as their curriculum vitae/educational background.
- Contact information of who provided the above documentation.
- Any additional documentation requested by Transfer Services.

Documentation may be delivered via the following methods::

- Emailed to [transfer@tarleton.edu](mailto:transfer@tarleton.edu)
- Mailed to Transfer Services Box T-0030 Stephenville TX 76402
- Delivered in person to the Tarleton Center on the Stephenville Campus

## Texas Common Course Numbering System (TCCNS)

A common numbering system has been devised by area colleges and universities to identify those courses that are similar in nature and considered to be equal in transfer. The purpose of the system is to assist students who are transferring between participating institutions. Visit Texas Common Course Numbering System (<http://www.tccns.org/>) for a more extensive list and to compare other institutions to Tarleton.

If Tarleton does not accept lower-division academic course credit earned by a student at another public institution of higher education in Texas, Tarleton will give written notice to the student and the other institution that the transfer of the course credit is denied. The two institutions and the student shall attempt to resolve any dispute over the transfer of the course credit in accordance with Texas Higher Education Coordinating Board guidelines. If the dispute is not resolved to the satisfaction of the <https://www.naces.org/members> (<https://www.naces.org/members/>udent and the institution at which the credit was earned, the student may file a Transfer Dispute Resolution form (CB-TDR) with Tarleton. It must be submitted within 15 days of the date the student received written notification of the denial of credit. Tarleton will forward a copy of the CB-TDR to the Commissioner of Higher Education who will resolve the dispute if necessary. In this instance, the Commissioner will give written notice to the student and institutions involved.

If you have questions regarding transferability of courses, please contact the Office of Transfer Services at 254-968-9353, via email ([uadm@tarleton.edu](mailto:uadm@tarleton.edu)), or by visiting Transfer Services (<http://www.tarleton.edu/admissions/transfer/>).

## Post-Baccalaureate Admission

A student who has a bachelor's degree from an accredited U.S. institution and who is in good standing at all schools previously attended but who is not seeking a master's degree or professional certification may apply as a post-baccalaureate student by using the transfer application at ApplyTexas ([https://www.applytexas.org/adappc/gen/c\\_start.WBX](https://www.applytexas.org/adappc/gen/c_start.WBX)). A post-baccalaureate student may work on a second bachelor's degree or teaching certification or take courses of interest. A domestic applicant must submit an official transcript from the degree awarding institution to be admitted. If the student is seeking a degree and would like to use completed coursework from other institutions, official transcripts will need to be submitted. International students must submit transcripts from all institutions attended and provide evaluations from a NACES' approved foreign credentials evaluation service.

## Readmission

Students who have previously attended Tarleton and are returning after one or more long semester absence may apply for readmission. Applicants must submit an application for readmission, pay a \$50 application fee, and be clear of any registration holds by Tarleton offices (Police, Business Office, Financial Aid, Housing, Student Life, etc).

1. Students who have not enrolled at any other college or university since last attending Tarleton and are free of suspension will be admitted.
2. Students who have enrolled at any other college or university since last attending Tarleton who meet transfer requirements and are free of suspension may be admitted. (See **Transfer Requirements** section).
3. Students who have been absent for one or more long semesters must reapply to Tarleton for admission. This includes students who have been suspended for one or more semesters.

## Transient Student

A transient student must be returning to their home institution immediately following attendance at Tarleton State University. A transient application ([https://www.applytexas.org/adappc/gen/c\\_start.WBX](https://www.applytexas.org/adappc/gen/c_start.WBX)), \$50 application fee and an official transcript or email from the current institution stating the student will be returning. If a student chooses to continue enrollment at Tarleton State University after one semester, the student must submit a new transfer application and official transcripts from all schools previously attended before the student will be allowed to register for any subsequent semester.

## Academic Fresh Start

If you are a Texas resident and apply for admission (or readmission) to Texas public colleges or universities and enroll as an undergraduate, you may be able to begin a new course of study with a clear academic record.

If you have credits for college courses taken ten or more years prior to the planned enrollment date, those credits (and grades) can be ignored for enrollment purposes under the "Academic Fresh Start" Law.

Please remember: This is an all or nothing option. You cannot pick and choose which courses to ignore and which courses to count. If you choose the "Academic Fresh Start" option, you will not receive any credit for any course you took at least ten years ago.

This means that courses taken previously:

- Cannot be used to fulfill new prerequisite requirements;
- Cannot be counted toward your new degree; and
- Will not be counted in your new GPA calculations

Choosing the "Academic Fresh Start" option requires the completion of the usual admissions process. This includes providing information and transcripts from all colleges or universities previously attended.

Contact the Office of Transfer Services at (254) 968-9353 or Email us ([transfer@tarleton.edu](mailto:transfer@tarleton.edu)) for further information.

## Holds on Registration and Release of Records

Any student who has failed to meet admission or academic requirements, or who has a financial obligation to the university, has a HOLD placed on his or her record. Until the hold is removed, such students are not allowed to register, obtain transcripts, graduate, or receive other services from the university. All new students will have a registration hold on their record until they are advised by Academic Advising Services (<http://www.tarleton.edu/advising/>) or their departmental advisor. Other holds include Bacterial Meningitis Vaccination, Orientation and/or TSI. For further explanation of all university holds please visit Student Hold Information (<https://www.tarleton.edu/registrar/registration/hold-info.html>).

## Housing Application

Housing requirements apply to certain students enrolled at Tarleton State University. Please refer to Residential Living & Learning in the Student Life section of this catalog for details.

## Residency Information for Tuition Purposes

Determination of residence for tuition purposes can be found in the Expenses (<http://catalog.tarleton.edu/undergrad/expenses/>) section of the catalog. It is the student's responsibility to seek information about reclassification requirements if they were entered as a non-resident for tuition purposes upon application to the university.

# Registrar

## Privacy of Information/FERPA

Under the Family Educational Rights and Privacy Act of 1974, the following data are designated as directory information and may be made public unless the student desires to withhold it: student's name, student type, mailing address, official email address, major field of study, military service status, classification, participation in officially recognized activities and sports, dates of University attendance, degrees and academic honors received, and the most recent previous education agency or institution attended. Any undergraduate or graduate student wishing to withhold all of this information should, within 10 days after the first class day, complete the appropriate form, available at the Registrar's Office. For more information about FERPA, please visit [www.tarleton.edu/registrar](http://www.tarleton.edu/registrar) (<http://www.tarleton.edu/registrar/>).

## Student Classifications

In progress courses do not count toward a student's classification. Student classifications are only updated once a semester during the end of term processing.

Type	Hours
Freshman	less than 30 semester hours
Sophomore	30-59 semester hours
Junior	60-89 semester hours
Senior	90 or more semester hours
Post-baccalaureate	Holds baccalaureate degree but is not admitted for graduate study
Graduate	Holds baccalaureate degree and is pursuing a graduate degree

## Student Course Load

### Undergraduate\*\*

Semester Credit Hours	Fall/Spring	Summer
Maximum Load	19	15
Full-time	12	7*

\* Students receiving financial aid/scholarship(s) should refer to the Financial Aid (<https://www.tarleton.edu/finaid/>) website for additional information regarding aid during the full-time summer term.

\*\* Enrollment status for the summer semester is determined by the total number of credit hours the student is registered for the entire summer term.

Special requests to take loads exceeding the stated maximums require approval of the appropriate academic dean. Requests to exceed by 3 or more hours require the additional approval of Academic Affairs.

## Grading System

At mid-semester, preliminary grades will be assigned to freshman and sophomore students in 1000- and 2000-level courses and made available to the student. Final grades in all courses will be available on myGateway at the end of each semester.

The student's term grade in any subject shall be designated as one of the following letters:

Grade	Description
A	Excellent, 4 grade points per semester hour
B	Good, 3 grade points per semester hour
C	Fair, 2 grade points per semester hour
D	Passing; 1 grade point per semester hour
F	Failing

F0	Failing, Non Attendance
FX	Failing, Stopped Attending
I	In-progress (used for non-completed thesis course work)
K	Incomplete (under exceptional circumstances, see below)
Q	Withdrawal from course, no grade designated
W	Withdrawal from university, no grade designated
WF	Withdrawal failing from university (included in GPA)
P(1)	Pass
S(1)	Satisfactory
U	Unsatisfactory
NG	No credit

<sup>1</sup> Signifies credit with neutral grade point value.

**The lowest passing grade is D.** Students should keep in mind the fact that some universities and colleges do not accept a D in transfer. A D is not considered passing for developmental courses.

**In most instances, if a course is repeated at this institution, only the best grade in the course is counted in computing the GPA.**

**The grade K shall be recorded for a student only in case of extraordinary circumstances.** This entry is used only in such cases after the instructor and his/her department head have concurred that the incomplete entry is justified. A grade of K must be made up by the last day course grades are due to the Registrar's Office during the next long semester and in all cases before registering for the next sequential course. Should this grade not be reported to the Registrar's Office within the prescribed time limit, it automatically becomes an F.

A student who drops a course on or before the census date receives no grade, and the course will not be listed on that student's permanent record.

## Audit Policy

A student may enroll to audit one or more courses under the following conditions:

1. Application to audit a course must be made through the Registrar's Office. Approval of audit requests is at the discretion of the Registrar's Office and a record of audit enrollment is kept in the Registrar's Office. The request form can be found at <http://www.tarleton.edu/registrar/studentforms.html>.
2. Written consent from the instructor and department head is required prior to attendance in class.
3. No audit enrollee is to be permitted to sit in class more than one period.
4. Space and any required instructional equipment must be available. Evaluation of audit requests may be postponed until the end of registration if there are questions about availability.
5. The extent of the student's participation in the activities of the class is at the discretion of the instructor and is to be designated prior to enrollment.
6. No student may audit a course offered on an individual instruction basis.
7. To receive university credit from a previously audited class, the student must retake the class and pay the appropriate fees.
8. An audit fee is required for each course at the time the request is submitted. In addition to the audit fee, audit students must pay any fee stipulated for the course. Fees associated with an audit request are not refunded unless Tarleton State University denies the audit request.

## Concurrent Enrollment at Other Institutions

Students with individual hardship situations which may be improved by their having concurrent enrollment at another college or university may request permission for concurrent enrollment through regular academic channels (academic advisor, department head, and dean). If permission is granted, such credit hours earned may be applied toward degree requirements at Tarleton State University, however, courses completed without such approval generally may not apply toward degree requirements at Tarleton State University. Written permission from the student's dean is required prior to concurrent enrollment in extension course work or in any resident courses from other institutions. Approval to take correspondence courses from other institutions must be granted by the Registrar's Office, academic department head, and dean. Course load limits are not waived for students seeking concurrent enrollment.

## Drop and Withdrawal Policies

### Dropping Classes

A student desiring to drop a course should follow this procedure:

1. Secure a Course Drop Request Form and instructions from [www.tarleton.edu/registrar](http://www.tarleton.edu/registrar) (<http://www.tarleton.edu/registrar/>);
2. Proceed to an academic advisor and obtain his/her signature;
3. Return the Course Drop Request Form along with any other necessary approval as indicated on the form to the Registrar's Office.

The effective date of dropping a course is the date the form is returned to the Registrar's Office.

**Note: The student should attend the class until this procedure is completed to avoid penalty for absences. Students will not be allowed to drop developmental courses, except for extraordinary situations. Students will not be allowed to drop: First Year Seminar (1100); ENGL 1301 Composition I, ENGL 1302 Composition II; or MATH 1314 College Algebra, MATH 1332 Contemporary Mathematics I until after mid-semester, except with special permission (see [www.tarleton.edu/registrar/specialpermissioncourses.html](http://www.tarleton.edu/registrar/specialpermissioncourses.html)). The last day for dropping courses is identified in the University Calendar .**

### Withdrawal from The University

An application for withdrawal from the University must be initiated in the Office of the Registrar.

1. Refer to the census chart below to determine the last day for dropping courses and the last day to withdraw from the University.
2. A student who withdraws on or before the last day to drop courses will receive a grade of W in all courses.
3. A student who withdraws after the last day to drop courses will receive a grade of WF in all courses. The student may appeal to the instructor of each class for a change of grade from WF to W if he/she was passing at the time of withdrawal.
4. A student who fails to withdraw officially will receive a grade of F in all courses in progress.
5. In circumstances where in-person withdrawal is not feasible, the student should call or write the Office of the Registrar and request an "Official Withdrawal Request Form."
6. In cases where the student is unable to contact the Registrar's office him/herself because of medical reasons or other emergency situations, a spouse or family member can contact the Registrar's office on behalf of the student to get instructions on what needs to be done in order to assist the student in withdrawing
7. The refund policy established by the State of Texas is listed under "Refunds" in this catalog. All refunds are subject to this policy.

## Census Chart

Length of Class in Weeks	Official Census Date	Last Date to Drop with a "Q" or Withdraw with a "W"
3 weeks	Second class day	Friday of second week
4 or 5 weeks	Fourth class day	Friday of third week
6, 7, or 8 weeks	Sixth class day	Friday of fifth week
9, 10, or 11 weeks	Seventh class day	Friday of sixth week
12, 13, or 14 weeks	Ninth class day	Friday of eighth week
15 weeks or more	Twelfth class day	Friday of tenth week

## Limits on Dropped Courses

Under the requirements of Senate Bill 1231, 80th Legislature, an undergraduate student at Tarleton who enrolled in higher education for the first time in Fall 2007 and thereafter is permitted a total of 6 dropped courses, including any courses dropped at another Texas public institution of higher education. Specifics of the law are available in the Texas Higher Education Coordinating Board Regulations, Chapter 4, Section 4.10 (a). Requests for a drop to be considered an acceptable exception will be reviewed under the guidelines given in the regulations and coordinated through the Registrar. Note, if a student withdraws from the University, the courses enrolled in that semester do not count in the 6 drop limit.

A student who wishes to drop a course in excess of 6 should visit <http://www.tarleton.edu/registrar/limitForDrops.html> and contact the Registrar's Office for appeal procedures. The student may wish to read the circumstances justifying an exception listed in the Texas Higher Education Coordinating Board Regulations before filing the request. Requests are not restricted to these categories but the student is asked to refer to a listed category if it is believed to apply. A student who is not satisfied with the decision of the Registrar may file a written request for an administrative review by the AVP for Enrollment Management. This administrative review will be limited to verification that the student has had the opportunity to present appropriate documentation and that the provided materials and statements were considered in making the decision.

An undergraduate student at Tarleton who first enrolled in higher education prior to Fall 2007 and who initially entered Tarleton for the first time in Fall 1998 or after is covered by a similar University rule which counts only drops at Tarleton toward the maximum of 6 and which includes withdrawals from the University in the count. Specific information is available in the catalog in force at the time of the student's initial enrollment at Tarleton.

## Fee Increases from Legislative Mandates

There are legislative mandates related to increased fees for repeating courses and excessive hours to achieve an undergraduate degree for students paying in-state tuition rates. The increase to in-state tuition rates for each of the three categories is \$100 per credit hour. The first category applies to students repeating the same course for the third time or more since Fall 2002. The second category applies to students enrolled for the first time in Fall 1999 and thereafter who are paying in-state tuition rates, who accumulate excess hours beyond that required for an undergraduate degree. The fee increase starts at 45 hours beyond the undergraduate degree for students beginning in Fall 1999 or after but before Fall 2006 and starts at 30 hours beyond the undergraduate degree for students beginning in Fall 2006 and after. Students who have not selected a major are considered, by state law, to have a degree requirement of 120 hours. Details about each of these situations are available by visiting <http://www.tarleton.edu/registrar/timelygraduation/index.html> (<http://www.tarleton.edu/registrar/timelygraduation/>).

Any student who is being charged additional tuition rates under either category may file an appeal. The appeal is per semester so a student who wishes to appeal must file an appeal for every semester affected by the repeated course rule and/or the excess hours beyond a degree rule. The appeal form and procedures may be obtained by contacting the Registrar's Office or by visiting <http://www.tarleton.edu/registrar/timelygraduation/index.html> (<http://www.tarleton.edu/registrar/timelygraduation/>).

New undergraduate students enrolling in an institution of higher education in Fall 1999 or afterward are subject to the conditions of Senate Bill 345 passed in the 76th Legislative session. The law states that a resident undergraduate student whose attempted hours exceeds, by at least 45 semester credit hours, the number of hours required for completion of the degree program may be charged tuition at a higher rate. The higher rate will not exceed the rate charged to non-resident undergraduate students. A resident student is one who pays the in-state rate for tuition purposes.

As of Fall 2006, new undergraduate students whose attempted hours exceeds, by at least 30 hours of the hours required for the completion of the degree program, may be charged tuition at a higher rate. Texas Education Code § 54.014 provides a limit on the number of hours an undergraduate Texas resident may attempt while paying in-state tuition rates. This Legislation impacts new undergraduate students enrolling in an institution of higher education in Fall 1999 or thereafter. Students who exceed the limit of attempted hours could be charged tuition not to exceed that of out-of-state tuition rates. Tarleton State University adopted a fee of \$100 per credit hour for students who exceed attempted hours under the Undergraduate Funding Limit Rule.

New Undergraduate students who started Fall 1999 through Summer 2006 and attempt 45 or more semester credit hours beyond the hours required to complete their degree will be charged an additional \$100 per credit hour for these excess hours.

New Undergraduate students who started Fall 2006 and thereafter and attempt 30 hours or more semester credit hours beyond the hours required to complete their degree will be charged an additional \$100 per credit hour for these excess hours.

Students who have not selected a major are considered, by state law, to have a degree requirement of 120 hours.

## Warning, Probation and Suspension

The following applies to all students unless more restrictive rules are included as part of special admission conditions or unless more restrictive rules have been approved for a program, department, or college.

The purpose of academic warning, probation and suspension is to make the student aware of the University's concern that satisfactory progress is not being made in his or her course of study. Early notification of this concern maximizes the student's opportunity to make appropriate adjustments that will result in remaining in good standing. A 2.0 total institution GPA is the lowest acceptable academic standard because this level mirrors the minimum GPA requirement for graduation. The total institution GPA used in this policy is defined as the best attempt on all courses taken at Tarleton State University; grades on transfer work are excluded. A student with a 2.0 or better total institution GPA is considered to be in good academic standing.

Warning: Each student is responsible for knowing his or her academic status and the regulations that apply. Students who do not abide by the regulations governing their particular status may be required to reduce their academic loads or withdraw from the University without special consideration.

## Warning, Probation and Suspension Rules

1. If a student's total institution GPA drops below 1.00 at the end of any long semester (fall or spring), the student will be suspended.
2. If a student who has been in good standing has a total institution GPA between 1.00 and 1.99 at the end of any long semester, the student will be placed on academic warning.
3. A student who has been on academic warning during a long semester is subject to the following:
  - a. At the end of the semester, if the total institution GPA is 2.00 or above, the student is returned to good standing.
  - b. At the end of the semester, if the total institution GPA is between 1.00 and 1.99, the GPA for the semester will be used to determine the student's status.

- i. If the GPA for the semester is less than 2.00, the student will be suspended.
- ii. If the GPA for the semester is 2.00 or higher, the student will be placed on probation.
- c. At the end of the semester, if the total institution GPA is below 1.00, the student will be suspended.
4. A student on probation who has less than a 2.00 total institution GPA at the end of the next long semester will be suspended. A student on probation who has a 2.00 or better total institution GPA at the end of the next long semester will be removed from probation and returned to good standing.
5. A student who transfers from Tarleton while on academic warning or probation and then returns (having met transfer requirements) has the same academic standing the first long semester back at Tarleton as though there had been no transfer.
6. A student who is suspended from Tarleton and does not attend another institution during the term of the suspension or thereafter may return to Tarleton after the term of the suspension and will be on academic warning the first long semester back at Tarleton. Any student who does not attend a fall or spring semester must reapply to the university.
7. A student who is suspended from Tarleton and attends another institution during the term of suspension or thereafter must meet Tarleton's transfer admission requirements in order to be readmitted. The student will be on academic warning the first long semester back at Tarleton. Any student who does not attend a fall or spring semester must reapply to the university.
8. Any student, whether in good standing, on academic warning, or on probation, will be suspended at the end of any long semester if his or her total institution GPA is below 1.00.

**\*\*NOTE: If a student is suspended from Tarleton State University, sits out a long semester (spring/fall), the student must reapply at [www.applytexas.org](http://www.applytexas.org) ([https://www.applytexas.org/adappc/gen/c\\_start.WBX](https://www.applytexas.org/adappc/gen/c_start.WBX)) to regain admission into the university.\*\***

## Length of Suspension

The first suspension is for one long semester. The second is for one calendar year, and the third is indefinite. Three calendar years after imposition of third suspension, the student may apply for readmission; this application will be evaluated by the appropriate dean, but readmission is not guaranteed. Students who have been absent for one or more long semesters must reapply to the university for admission.

## Summer School

A student on academic warning or probation may attend summer school at Tarleton (transfer requirements having been met, if applicable).

Students placed on first suspension at the end of a spring semester may request their dean's approval to attend summer school. A student attending summer school while on first suspension, who has a cumulative GPA of 2.00 at the end of the last summer session attended, will be returned to good standing.

## Forgiveness Options

An undergraduate student enrolled at Tarleton may choose to exercise one, but not both, of the following forgiveness options:

OPTION I: Grades for any one semester of Tarleton work taken more than 5 years before a student's current enrollment at Tarleton may be deleted for computation of total institution GPA if the student files a request with the Provost and Vice President for Academic Affairs. This option may be exercised one time only.

OPTION II: After a student has attempted ninety or more hours at Tarleton, grades for one semester of Tarleton work may be deleted for computation of total institution GPA if the student files a request with the Provost and Vice President for Academic Affairs. This option may be exercised one time only.

When a student has exercised one of these forgiveness options, grades for the semester selected by the student will be excluded when computing the total institution grade point average. Under either option, **all courses and grades will continue to appear on the student's transcript and to be counted toward restrictions in total number of withdrawals, fees for repeated courses, fees resulting from excess hours beyond the degree, etc.** In applying the option, *all* grades from the chosen semester are deleted from the GPA, not just low or failing grades. Also, no classes taken in the semester being forgiven will be counted on the student's degree plan. A student seeking to exercise either option must be enrolled at Tarleton at the time he/she requests the forgiveness option.

## Enrollment Verification

### Enrollment Status Definitions

Please note the following information relative to enrollment verification:

- Required credit hours to be certified as a full-time undergraduate, graduate or doctoral student for fall and spring semesters and for the summer terms:

#### Undergraduate:

Semester Credit Hours	Fall/Spring	Summer
Full-time	12 hours	7 hours

#### Graduate:

Semester Credit Hours	Fall/Spring	Summer
Full-time	9 hours	6 hours

#### Doctoral:

Semester Credit Hours	Fall/Spring	Summer
Full-time	6 hours	6 hours

- Enrollment status for financial aid purposes may or may not match enrollment status as defined by the Office of the Registrar. For more information, please visit <http://www.tarleton.edu/finaid/index.html> (<http://www.tarleton.edu/finaid/>).
- **Once a student drops a course, those hours cannot be used for verification of enrollment purposes.** Information updates are supplied to the National Student Clearinghouse periodically, and a student's enrollment status may change if he/she drops a course or withdraws from the university.
- To obtain proof of enrollment, visit <http://www.tarleton.edu/registrar/enrollmentverifications.html>.
- A student who is enrolled in less than a full-time course of study at Tarleton State University may be in jeopardy of:
  - losing insurance coverage under his or her parent/guardian's insurance policy;
  - being placed on a loan repayment schedule by a lender or guarantor if the student is the recipient of Federal financial aid; and/or
  - losing a scholarship if the guidelines for receiving the scholarship require full-time enrollment, etc.
- If a student is co-enrolled at another collegiate institution during the same semester he or she is enrolled at Tarleton State University, **only the enrolled hours at Tarleton State University can be used for enrollment certification purposes.** This excludes students who have signed and completed a financial aid consortium.



## Requirements of an Associate Degree

### General Requirements

1. A GPA of 2.00 or better is required for all work counted toward a degree.
2. A GPA of 2.00 or better is required for all work in the major field of study and counted toward a degree.
3. All transfer students must have an overall GPA of 2.00 or better in all courses taken at Tarleton in their major field of study and counted toward a degree as well as an overall GPA of 2.00 or better in all courses taken at Tarleton and counted toward a degree.

### Program Requirements

A total of 60 credit hours consisting of 23 credit hours of prerequisites, and 37 credit hours of technical program courses. Prerequisite courses may be taken at the university or any one of the thirteen consortium community colleges. The sophomore courses comprising the technical program will be taken in Fort Worth at the Southwest Metroplex Center off-campus instructional site and affiliated clinical hospital sites.

## Requirements for a Baccalaureate Degree

### General Requirements

1. A GPA of 2.00 or better is required for all work counted toward a degree.
2. A GPA of 2.00 or better is required for all work in the major field of study and counted toward a degree.
3. All transfer students must have an overall GPA of 2.00 or better in all courses taken at Tarleton in their major field of study and counted toward a degree as well as an overall GPA of 2.00 or better in all courses taken at Tarleton and counted toward a degree.

### Residence Requirements

Residence is satisfied only by official enrollment in and completion of course work applied toward the degree requirements.

1. A minimum of 30 advanced semester hours of work counted toward the degree must be completed with Tarleton. The work completed at Tarleton and counted toward the degree must include 12 of these advanced hours in the major subject.
2. A maximum of 68 semester hours of academic credit will be accepted for degree credit from a two-year institution.

### Writing Proficiency Requirement

All students are required to satisfy the Writing Proficiency Requirement as a condition for the baccalaureate degree. To satisfy this requirement, students must have credit for four writing intensive (WI) courses. Two of these four courses must be upper level WI courses within the major or designed for the degree plan. The remaining WI requirement should be met through successful completion of freshman composition courses within the general education curriculum. For additional information regarding the WI program, please refer to: <http://www.tarleton.edu/PROGRAMS/wip/index.html> (<http://www.tarleton.edu/PROGRAMS/wip/>).

### General Education Requirements

All degree programs leading to the baccalaureate degree include the following University General Education Requirements <sup>1, 2</sup>:

<b>American History</b>		<b>6</b>
HIST 1301	United States History I	
HIST 1302	United States History II	
<b>Component Area Option and Communications</b>		<b>9</b>
ENGL 1301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II <sup>3</sup>	
Select one of the following:		
COMM 1311	Introduction to Speech Communication	
COMM 1315	Public Speaking	
COMM 2302	Business and Professional Speaking	
<b>Creative Arts</b>		<b>3</b>
Select one of the following:		
ARTS 1301	Art Appreciation	
ARTS 1303	Art History I	
ARTS 1304	Art History II	
ARTS 3331	Art History of America	
DRAM 1310	Introduction to Theatre	
DRAM 2361	History of the Theatre I	
DRAM 4304 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Dramatic Theory & Criticism	
FINA 1360	The Art of Film	
HUMA 1315	Fine Arts Appreciation	
MUSI 1306	Music Appreciation	
MUSI 1310	Popular Music in America	
MUSI 1311	Music Theory I	
MUSI 3325	Jazz History	
<b>Government and Political Science</b>		<b>6</b>
GOVT 2305	Federal Government (Federal Constitution and Topics)	
GOVT 2306	Texas Government (Texas Constitution and Topics)	
<b>Language, Philosophy and Culture</b>		<b>3</b>
Select one of the following:		
ENGL 2320	Forms of Literature	

ENGL 2340	Literature and Film
ENGL 2350	Backgrounds of Western Literature
HIST 2321	World Civilizations I
HIST 2322	World Civilizations II
KINE 2315	History and Philosophy of Sport, Recreation, and Exercise
PHIL 1301	Introduction to Philosophy

**Life and Physical Sciences (6 Hours + 2 Hours in Institutional Option) <sup>4</sup>** **8**

Select from the following:

BIOL 1406	Biology for Science Majors
BIOL 1407	Biology for Science Majors II
BIOL 2401	Anatomy and Physiology I
BIOL 2402	Anatomy & Physiology II
CHEM 1302	Essential Elements of Chemistry
CHEM 1407	Fundamentals of Chemistry
CHEM 1411	College Chemistry I
CHEM 1412	College Chemistry II
EASC 2310	Earth Systems Science
GEOG 1451	Pre-GIS: GPS, VGI and Cartography
GEOL 1403	Physical Geology
GEOL 1404	Historical Geology
GEOL 1407	Introduction to Environmental Science
GEOL 1408	Natural Disasters
PHYS 1302	Essential Elements of Physics
PHYS 1401	College Physics I
PHYS 1402	College Physics II
PHYS 1403	Stars and Galaxies
PHYS 1410	Great Ideas of Physics
PHYS 1411	Introductory Astronomy I
PHYS 2425	University Physics I
PHYS 2426	University Physics II

**Mathematics <sup>3</sup>** **3**

Select one of the following:

MATH 1314	College Algebra <sup>3</sup>
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)
MATH 1332	Contemporary Mathematics I
MATH 1342	Elementary Statistical Methods
MATH 2412	Precalculus Math
MATH 2413	Calculus I

**Social & Behavioral Sciences** **3**

Select one of the following:

AGEC 2317	Introductory Agricultural Economics
ANTH 2302	Introduction to Archeology
ANTH 2351	Cultural Anthropology
CRIJ 1301	Introduction to Criminal Justice
ECON 1301	Introduction To Economics
ECON 2301	Principles of Macroeconomics
ENGR 2303 or ENGT 2303	Engineering Economy
GEOG 1303	World Regional Geography
GEOG 1320	Introduction to Human Geography
GEOG 2301	The Geography of Texas
PHIL 2303	Introduction to Logic
PHIL 3301	Ethics in the Professions
PSYC 2301	General Psychology
SOCI 1301	Introductory Sociology
SOCI 1306	Social Problems
SOCI 2303	Race and Ethnic Relations

**Component Area Option** **1**

First Year Seminar <sup>4</sup>

Total Hours **42**

<sup>1</sup> General Education Requirements are subject to review and change by the Texas Higher Education Coordinating Board.

<sup>2</sup> Some degree programs specify the courses that satisfy these requirements. A student should consult with an academic advisor in selecting general education requirement courses.

<sup>3</sup> Students must enroll in these courses as outlined in the PLACEMENT, CONTINUING ENROLLMENT, AND COMPLETION RULES for Freshman-Level Mathematics and English Courses.

<sup>4</sup> For additional information contact your departmental advisor or the advising center.

## Graduation Under a Particular Catalog

To receive a degree from Tarleton State University, a student must complete all requirements for a degree as set forth in a particular University catalog within six (6) years of the date of the catalog selected. For example, a student who chooses to graduate under the requirements of the 2011-2012 catalog must complete all requirements for the degree under that catalog prior to August 2017 graduation. For students serving on active duty with the Armed Forces of the United States between the dates of their matriculation and graduation, the six-year limit will be extended one year for each year of active duty served, up to a maximum of four years. Subject to the six-year window, Tarleton students may choose the catalog in force:

1. at the time the student first enrolls at Tarleton State University;
2. for any subsequent year that the student is registered at Tarleton State University. Transfer students who pre-register for the first time in the spring for the following fall may choose to be under the catalog in force that spring; or
3. at the time the student first enrolled in higher education.

Note: A student registering for the first time in the summer session may choose the catalog applying to the previous spring or the subsequent fall.

## Degree Plan Information

Students are encouraged to file a degree plan before the junior year. Following initial enrollment at Tarleton, students with 75 or more hours attempted who do not have a degree plan on file may be barred from registration.

1. MAJOR
  - a. The major must be declared by the beginning of the junior year for advising purposes.
  - b. A minimum of 24 semester hours is required for a major, of which at least 12 must be in advanced courses in the major subject.
  - c. A double major requires that a degree plan be filed for each major.
2. MINOR
  - a. A minor consists of a minimum of 18 hours in a field other than the major, of which at least 6 hours must be advanced and completed at Tarleton State University.
  - b. Declaration of a minor by the student is optional in most degree programs but strongly recommended. There are restrictions on minors for the interdisciplinary degree programs (BAAS, BSGS, BSAS, BAT, BAS). If a minor is desired, it must be declared on the degree plan. Students may declare no more than two minors.
  - c. Lists of possible minors for baccalaureate degrees are in the UNDERGRADUATE ACADEMIC PROGRAMS section of the catalog.
3. DEVELOPMENTAL COURSES needed as preparation for regular University requirements (READ 0303, ENGL 0303, and MATH 0303 and 0304) cannot be applied as degree plan contents.
4. CREDIT HOUR REQUIREMENTS
  - a. The minimum number of semester credit hours for a baccalaureate degree is 120.
  - b. Unless recommended otherwise by the appropriate dean and approved by the provost, 45 hours of advanced (upper level) credit are required for all baccalaureate degrees.
5. SPECIAL CONSIDERATIONS
  - a. A student classified as a senior cannot take a freshman course that carries the same academic prefix description as the student's first or second declared major field.
  - b. A student may count toward the degree not more than 6 hours of activity KINE credits.

## Double Major

A student who fulfills the specified requirements for two different majors under a single degree, simultaneously, completes a double major. The student must complete a minimum 24 credits for each selected major, with a minimum of 12 hours in advanced courses in each selected major. A double major requires that a degree plan be filed for each major. Students completing a double major must also meet Tarleton's residency requirements.

## Dual Degrees

A student who fulfills the specified requirements for two different majors from different degrees simultaneously, or who fulfills the specified requirements for two degrees in different colleges simultaneously, will earn dual degrees. The student must complete a minimum additional 24 credit hours beyond the degree plan with the greater required credit hours and also complete all degree requirements for both degrees. No one course in the required additional 24 hours can be counted in the semester credit hours in more than one major. In the event that a single course is listed in both majors, a student may receive approval from his/her academic advisor to complete another course to fulfill the semester credit hour requirement of the second degree. A minimum of 144 total semester is required for completion of dual degrees.

## Class Rings

Students may order class rings during the semester following completion of 60 semester hours of degree credit. Students will receive notification by mail from Jostens Ring Company of their eligibility. Students may order their official Tarleton ring at Ring Days or may order online at [www.jostens.com](http://www.jostens.com). Ring days are held throughout the year at the Tarleton Alumni Center and at the Thompson Student Center. Students will receive their rings at the Tarleton Alumni Association Official Ring Presentation Ceremony held in the Spring and Fall semesters.

## Application for a Degree

1. A candidate for a degree must apply for the degree by filing an "Application for Graduation" with the Registrar (undergraduate students) or the Graduate Office (graduate students) no later than specified in the University Calendar.
2. To be considered for degree conferral, a candidate must be in good standing with the University. All contractual and financial obligations to the University must be satisfied.

## Eligibility for Honors Graduation

To be eligible for honors graduation, a student must complete no fewer than 30 hours at Tarleton. The GPA is calculated on the total number of hours listed on a transcript (Overall GPA) and the total number of hours taken at Tarleton (Institutional GPA). Students who qualify for Honors Graduation must have a 3.50 or greater for both the Overall GPA and the Total Institutional GPA. Honors graduates will be recognized as follows based on the smaller of the two GPAs:

- 3.90-4.00 GPA – Summa Cum Laude
- 3.75-3.89 GPA – Magna Cum Laude
- 3.50-3.74 GPA – Cum Laude

Students who are members in good standing of national honor societies that are recognized by Tarleton State University and that require a 3.2 cumulative GPA or higher for membership may have that membership identified on their transcripts.

## Tuition Rebate

A \$1,000 tuition rebate from the state of Texas is offered to qualifying students who graduate from Tarleton State University with a bachelor's degree and no more than 3 hours over the minimum number of hours required for the degree. Beginning with students admitted the first time in Fall 2005, a student must also graduate in a timely manner to earn the tuition rebate. Detailed information regarding graduating in a timely manner and other requirements to qualify for tuition rebate can be found at [www.collegefortexans.com](http://www.collegefortexans.com) (<http://www.collegefortexans.com>). Students must apply for the tuition rebate prior to receiving their degree. This rebate program is effective for students who entered a bachelor's degree program as freshmen during or after Fall 1997. Additional information is available from the Registrar's Office.

## Special Degree Programs

### Interdisciplinary Degree Programs

Tarleton State University offers the following degree programs that are interdisciplinary in nature: the Bachelor of Applied Arts and Sciences (BAAS), Bachelor of Applied Technology (BAT), Bachelor of Applied Science (BAS), and the Bachelor of Science in Applied Science (BSAS). The BAAS, BSAS and the BAS allow the student to apply vocational or technical training to his/her degree program while the BAT requires the student to have completed an associate degree in an appropriate technical field. In all cases the student is encouraged to make contact with an academic advisor in the appropriate department who is familiar with the specific program requirements. Students in these degree programs must meet all Tarleton requirements that are established as conditions for baccalaureate degrees unless specific waivers have been approved. These include, but are not restricted to, general education requirements, residency, and upper-level hour requirements. Students in these degree programs may not get a minor in any support area required for the degree.

### The Bachelor of Applied Arts and Sciences Degree (BAAS)

The Bachelor of Applied Arts and Sciences (BAAS) is designed for the students with training in a technical area. This degree utilizes workforce education earned at technical schools, community colleges, military technical schools, etc. A student must have completed at least 12 semester credits of related hours (or equivalent) in technical training to be eligible for consideration for this degree. A limited number of experiential credits may be earned through a Prior Learning Portfolio depending on the program. A student must have at least 12 semester credit hours (or equivalent) in the combination of workforce education and technical training and to be eligible for consideration. In all cases, the workforce education and technical training in the proposed degree area must be directly related to each other.

The approved occupational areas for the BAAS degree are: Business, Criminal Justice Administration, Information Technology, Manufacturing and Industrial Management and, Child Development and Family Studies.

A student interested in the Bachelor of Applied Arts and Sciences should:

1. Review the admission requirements;
2. Contact the Office of the Registrar for a list of sponsoring departments; and
3. Meet with an academic advisor in the sponsoring department. The student will submit written records related to educational training and work experience (if any). The student is responsible for securing all related documentation.

The department will review the written records and decide whether to sponsor a degree plan application. Sponsored degree plan applications will be considered by the Interdisciplinary Degree Programs (IDP) Committee. Degree plans approved by the Committee will be processed through regular University channels. Final approval will depend on completion of the University review process.

### Occupational Requirements for BAAS Degree Programs

#### Occupational Specialization

The occupational specialization is a maximum of 33-36 semester credit hours (or equivalent) directly related to the degree area. These credit hours may consist of technical training and credit for work experience. Each of these has restrictions;

1. The technical training must be documented and approved by the IDP committee, appropriate documentation include: Certificates, Training transcripts, Military transcripts, State and National Licenses.
2. Students who have documented training from the employer that is relevant to the degree hours can receive credit based on the standard formulas below. Course work that comes from non-regionally accredited institutions will be treated as training hours, not semester credit hours.
  - 15 Clock Hours = 1 semester hour credit
  - 1 CEU = 10 clock hours
3. Course based credit in terms of workforce education will be primarily, credit based hours are courses that are included in the Texas Workforce Education Course Manual (WECM) or related are in the field of study. Out of state workforce credit will can be used but will be evaluated by the committee to ensure that the providers were accredited and recognized at the time credit was awarded. Credit will be graded based on the following formulas
  - Semester Credit hours= Full Credit
  - Quarter hours x 2/3 = semester hours (or .66 of each quarter hour)
4. Students who has less than 12 semester credit hours of technical training or course work will not be considered for the program. The possible credit for technical training ranges from 12 semester credit hours up to and including all 36 hours of occupational specialization in the degree.
5. Credit for work experience is awarded based on a PLA portfolios providing the program has chosen to provide an opportunity for it. Successful portfolios will be recommended by the department to the IDP committee for review and final approval. A total of 21 semester credit hours from multiple portfolios is the greatest possible amount awarded for work experience.
6. No student will be considered for the Bachelor of Applied Arts and Sciences degree that has less than 12 semester credit hours in technical training or the combination of technical training and work experience.

#### Emphasis Area

(Minimum 24 semester credit hours, at least 12 to be upper level.) The emphasis area is to be related to and supportive of the occupational specialization. The advisor and the IDP committee will work together in selecting courses that meet the individual needs of each student.

### The Bachelor of Science in Applied Science

The BSAS degree program differs from the BAAS in two important ways. First, the degree accepts WECM classes and training hours that are not directly related to the major. Second, the degree is not able to accept Prior learning Experience. To be accepted into the BSAS, the student must have the equivalent of 12 Semester credit hours of either training or workforce education. The student pursuing the BSAS must complete the following, in addition to the University general education requirements:

### Occupational Requirements for BS AS Degree Programs

#### Occupational Specialization

1. The occupational specialization is a maximum of 36 semester credit hours (or equivalent) that dose not need to be related to the degree area . These credit hours may consist of technical training and credit for workforce classes . Each of these has restrictions;

2. The technical training must be documented and approved by the IDP committee, appropriate documentation include: Certificates, Training transcripts, Military transcripts, State and National Licenses.
3. Course Based credit in terms of workforce education will be primarily, credit based hours are courses that are included in the Texas Workforce Education Course Manual (WECM) or related are in the field of study. Out of state workforce credit will be evaluated by the committee to ensure that the providers were accredited and recognized at the time credit was awarded. Credit will be graded based on the following formulas
  - Quarter hours x 2/3 = semester hours (or .66 of each quarter hour)
  - Semester Credit hours= Full Credit
4. Students who has less than 12 semester credit hours of technical training or course work will not be considered for the program. The possible credit for technical training ranges from 12 semester credit hours up to and including all 36 hours of occupational specialization in the degree.
5. No student will be considered for the Bachelor of Science Applied Sciences degree that has less than 12 semester credit hours in technical training or the combination of technical training and work experience.
6. Students who have documented training from the employer that is relevant to the degree hours can receive credit based on the standard formulas below. Course work that comes from non-regionally accredited institutions will be treated as training hours, not semester credit hours.
  - 15 Clock Hours = 1 semester hour credit
  - 1 CEU = 10 clock hours

The Bachelor of Science in Applied Science is available with concentration in Business and Psychology. Note that work experience is not a part of this degree program. Students must work closely with the departmental advisor(s) responsible for this program.

### The Bachelor of Applied Science (BAS)

The Bachelor of Applied Science degree accepts WECM classes and training hours that are closely related to the program. The degree is not able to accept work experience. To be accepted into the BSAS, the student must have the equivalent of 12 Semester credit hours of either training or course work.

### Occupational Requirements for BAS Degree Programs

#### Occupational Specialization

1. The occupational specialization is a maximum of 36 semester credit hours (or equivalent) that does not need to be related to the degree area. These credit hours may consist of technical training and credit for workforce classes. Each of these has restrictions;
2. The technical training must be documented and approved by the IDP committee, appropriate documentation include: Certificates, Training transcripts, Military transcripts, State and National Licenses.
3. Course Based credit in terms of workforce education will be primarily, credit based hours are courses that are included in the Texas Workforce Education Course Manual (WECM) or related are in the field of study. Out of state workforce credit will be evaluated by the committee to ensure that the providers were accredited and recognized at the time credit was awarded. Credit will be graded based on the following formulas
  - Quarter hours x 2/3 = semester hours (or .66 of each quarter hour)
  - Semester Credit hours= Full Credit
4. Students who has less than 12 semester credit hours of technical training will not be considered for the program. The possible credit for technical training ranges from 12 semester credit hours up to and including all 36 hours of occupational specialization in the degree.
5. No student will be considered for the Bachelor of Applied Sciences degree that has less than 12 semester credit hours in technical training or the combination of technical training and work experience.
6. Students who have documented training from the employer that is relevant to the degree hours can receive credit based on the standard formulas below. Course work that comes from non-regionally accredited institutions will be treated as training hours, not semester credit hours.
  - 15 Clock Hours = 1 semester hour credit
  - 1 CEU = 10 clock hours

### The Bachelor of Applied Technology (BAT)

Students pursuing the Bachelor of Applied Technology or the Bachelor of Applied Science will have completed an appropriate associate degree at a community college before beginning one of these programs. There must be a close fit between the technical associate degree and the degree area, and students are encouraged to seek clarification before beginning the associate degree program to guarantee compatibility with approval criteria. For the Bachelor of Applied Technology the available emphasis area is Health Professions Technology,

### Other Academic Programs

#### Cooperative Education

Cooperative education in institutions of higher learning is an academic program that provides students with an opportunity to integrate formal academic work with planned and supervised experience in industry, government, or service agencies. Students are given an opportunity, through cooperative education, to earn a salary that may be used to finance their education. More importantly, the program allows student to participate in off-campus work experiences that are integrated with and that supplement their entire education and career goals.

Students may see their department heads for additional information about cooperative education.

#### Pre-Law Program

Admission to law school is based primarily upon a student's performance on the Law School Admission Test (LSAT) and cumulative grade point average. Tarleton offers a BA in Legal Studies, but a student may elect to take the LSAT and apply to law schools with any major offered at Tarleton. The LSAT covers three basic areas: logical reasoning, reading comprehension, and analytical reasoning. Students who possess a solid foundation in these areas will be better able to compete successfully for admission to selective law schools.

Students interested in preparing for the LSAT and law school are advised to consult the typical curriculum for their chosen degree and to consult a Tarleton State University Pre-Law Advisor early in their undergraduate program. For those not pursuing the BA in Legal Studies there are specific course recommendations for a solid pre-law preparation. These courses focus on various areas of legal knowledge, skills, and processes; philosophy and logic; and communications. Students who plan to apply to law school should enroll in as many of these courses as possible. Alternatively, students are encouraged to pursue a Legal Studies minor.

For more information on these opportunities and the many degree and minor options, contact one of the University Pre-Law advisors in the Department of Government, Legal Studies, & Philosophy: Dr. Amy O'Dell, 254-968-9027 or Dr. Casey Thompson, 254-968-1698.

#### Pre-Theological Program

Students seeking a bachelor's degree as preparation for entering a theological seminary will find that most programs for Master of Divinity and related degrees are based on the standards of the American Association of Theological Schools (AATS). These call for a heavy emphasis on the humanities, especially communication skills in written English and speech; basic knowledge of the past and present culture through history, sociology, philosophy, political science,

literature, science, psychology, and related areas; and a foreign language. Of those languages offered at Tarleton, French or German is appropriate for those whose primary concern is scholarship; Spanish, for those planning a church ministry in the Southwest.

Some religious courses, such as those offered at religious centers at Tarleton, are valuable and usually taken by pre-ministerial students but the AATS discourages duplication of later work at the seminary. Although most seminaries accept candidates with a wide range of majors, the usual degrees for pre-seminary work are in such areas as English, communications, history, and sociology. Students planning to be candidates for seminary work need to check seminaries' catalogs for special requirements. Tarleton does offer a Pre-Ministry track with the BS degree in Sociology. This track includes required courses in Religious Studies that compliment the degree as preparation for a seminary education.

For more information on this degree, on preparing for graduate studies in religion, or on preparing as an undergraduate for a seminary education, contact Dr. Derek Lehman in the Department of History, Sociology, Geography and GIS – lehman@tarleton.edu (lehman@tarleton.edu) - (254) 968-9918.

## Religion Studies

Religion Studies courses are offered on campus through the Department of Social Sciences. The courses include Old and New Testament surveys, World Religions, Church History, Sociology of Religion, and Religion and Politics. Some of these courses are a required component of the Pre-Ministry Track of the BS in Sociology. For more information on these courses and related degrees and vocational opportunities, contact Dr. Derek Lehman in the Department of History, Sociology, Geography and GIS – lehman@tarleton.edu (lehman@tarleton.edu) - (254) 968-9918.

## Accelerated Degree Programs

Tarleton State University offers an accelerated degree program, which is intended to allow a student who enters Tarleton as a freshman to complete a baccalaureate degree in three years. (Please note: To complete a degree in three years may require that a student attend summer school for at least one summer.) The three-year program is intended for students who enter Tarleton with strong academic preparation. To be eligible for the accelerated program, an entering freshman must:

1. have graduated from an accredited high school with a ranking in the top quarter of the high school class;
2. be exempt from TSI because of exam scores or have passed all parts of TSI with scores that would not require the student to enroll in any developmental courses at Tarleton; and
3. score at least 1050 on the SAT or 23 on the ACT.

A currently-enrolled Tarleton student or a transfer student with less than 30 hours of transferable college credit is eligible to participate in the program if he/she meets the above requirements and has a college GPA of at least 3.0. A currently-enrolled Tarleton student or transfer student with more than 30 hours of college credit may participate in the program if he/she has a college GPA of at least 3.0.

A high school student who hopes to participate in Tarleton's accelerated program may wish to get some college credits while still in high school, through dual enrollment, concurrent enrollment, or advanced placement. High school counselors can provide information about such programs.

Students admitted to the program should take no more than 19 hours in their first long semester at Tarleton; the number of hours may be higher for students with exemplary high school grades or SAT/ACT scores. Students who complete at least 15 hours with a GPA of at least 3.00 their first semester in the program will be authorized to enroll in up to 21 hours the following semester. A student maintaining a Tarleton GPA in excess of 3.25 may request authorization to enroll in more than 21 hours for a long semester.

At any time that a participant's Tarleton GPA drops below 3.00 or he/she completes less than 15 hours in a long semester, the student will no longer be considered a part of the accelerated degree program.

Program participants must satisfy all requirements for their degree programs, including total semester credit hour requirements. They may request minor modification of some University general education requirements (i.e., a substitution of one course for another). Such a request should be directed to Academic Affairs. Students in the program may request departmental authorization to take courses out of sequence (without designated prerequisites) when necessary.

Participants will be advised in their academic departments and by a special designated academic counselor who will help participants plan their programs. The counselor will advise participants about methods of accelerating their degree programs (including CLEP tests, problems courses, correspondence courses, and departmental exams) and will also monitor the progress of students in the program.

## Expenses

**NOTE: The fees provided below are for the 2021-2022 academic year. The Nonresident Undergraduate and the Nonresident Graduate rates have not been updated by the Texas Higher Education Coordinating Board at the time of publishing and may change. The tuition/fee information below is an estimate and is subject to change based on Board action and Legislative requirements.**

### 2021-2022 Regular Session Fees

#### Fall and Spring Semesters

Tuition Fee (see Note) (required)

Fee Type	Amount
<b>UNDERGRADUATE GUARANTEED RATE</b>	
Texas Resident – Undergraduate (1)	\$199.92 per hour
Differential Tuition - College of Business	\$30.60 per hour
Differential Tuition - College of Liberal and Fine Arts	\$5.44 per hour
Differential Tuition - College of Agriculture and Natural Resources	\$14.74 per hour
Differential Tuition - College of Education and Human Development	\$5.42 per hour
Differential Tuition - College of Science and Technology	\$14.74 per hour
Differential Tuition - Criminal Justice	\$32.18 per hour
Differential Tuition - College of Health Sciences and Human Services	\$53.90 per hour
Differential Tuition - Engineering	\$67.22 per hour
<b>UNDERGRADUATE VARIABLE RATE</b>	
Texas Resident - Undergraduate (1)	\$183.71 per hour
Nonresident Undergraduate(1)	\$591.71 per hour
Differential Tuition - College of Business	\$29.14 per hour
Differential Tuition – College of Liberal and Fine Arts	\$5.18 per hour
Differential Tuition – College of Agriculture and Natural Resources	\$14.04 per hour
Differential Tuition – College of Education and Human Development	\$5.16 per hour

Differential Tuition – College of Science and Technology	\$14.04 per hour
Differential Tuition - Criminal Justice	\$30.65 per hour
Differential Tuition – College of Health Sciences And Human Services	\$51.34 per hour
Differential Tuition – Engineering	\$64.02 per hour
<b>GRADUATE RATE</b>	
Texas Resident – Graduate(1)	\$241.90 per hour
Nonresident Graduate(1)	\$650.90 per hour
Differential Tuition - College of Business Administration	\$26.77 per hour
Differential Tuition - College of Liberal and Fine Arts	\$5.11 per hour
Differential Tuition - College of Agriculture and Natural Resources	\$14.04 per hour
Differential Tuition - College of Education and Human Development	\$5.11 per hour
Differential Tuition - College of Science and Technology	\$14.04 per hour
Differential Tuition -Criminal Justice	\$2.72 per hour
Differential Tuition - College of Health Sciences and Human Services	\$51.34 per hour
Differential Tuition - Engineering	\$51.34 per hour
<b>Fee Type</b>	<b>Amount</b>
University Services Fee - Undergraduate	\$96.01 per hour
University Services Fee - Graduate	\$123.50 per hour
Health Service Fee	\$4.91 per hour
Excessive Hours Fee	\$100.00 per hour
Intercollegiate Athletics Fee	\$35.00 per hour with \$455.00 max.
Parking Fee (Stephenville & Ft. Worth)	\$100.00
Recreational Sports Fee (Stephenville)	\$100 per semester
Recreational Sports Fee (Ft. Worth)	\$50.00
Repeated Courses Fee	\$100.00 per hour
Room Application Fee (required, nonrefundable, residence hall students)(2)	\$100.00
Student Center Facility Fee (required, Stephenville)	\$3.96 per hour with \$39.60 maximum

## 2022 Summer Session Fees

Tuition Fee (see Note) (required)

<b>Fee Type</b>	<b>Amount</b>
<b>GUARANTEED RATE</b>	
Texas Resident – Undergraduate -(1)	\$199.92 per hour
Differential Tuition - College of Business Administration	\$30.60 per hour
Differential Tuition - College of Liberal and Fine Arts	\$5.44 per hour
Differential Tuition - College of Agriculture and Natural Resources	\$14.74 per hour
Differential Tuition – College of Education and Human Development	\$5.42 per hour
Differential Tuition – College of Science and Technology	\$14.74 per hour
Differential Tuition - Criminal Justice	\$32.18 per hour
Differential Tuition – College of Health Sciences and Human Services	\$53.90 per hour
Differential Tuition - Engineering	\$67.22 per hour
<b>VARIABLE RATE</b>	
Texas Resident - Undergraduate (1)	\$183.71 per hour
Nonresident – Undergraduate(1)	\$591.71 per hour
Differential Tuition - College of Business	\$29.14 per hour
Differential Tuition - College of Liberal and Fine Arts	\$5.18 per hour
Differential Tuition - College of Agriculture and Natural Resources	\$14.04 per hour
Differential Tuition - College of Education and Human Development	\$5.16 per hour
Differential Tuition - College of Science and Technology	\$14.04 per hour
Differential Tuition - Criminal Justice	\$30.65 per hour
Differential Tuition - College of Health Sciences and Human Services	\$51.34 per hour
Differential Tuition - Engineering	\$64.02 per hour
<b>GRADUATE RATE</b>	
Texas Resident	\$241.90 per hour
Nonresident – Graduate(1)	\$650.90 per hour
Differential Tuition - College of Business	\$26.77 per hour
Differential Tuition - College of Liberal and Fine Arts	\$5.11 per hour
Differential Tuition - College of Agricultural and Environmental Sciences	\$14.04 per hour
Differential Tuition - College of Education	\$5.11 per hour
Differential Tuition - College of Science of Technology	\$14.04 per hour
Differential Tuition- Criminal Justice	\$2.72 per hour
Differential Tuition - College of Health Sciences and Human Services	\$51.34 per hour
Differential Tuition - Engineering	\$51.34 per hour
<b>Fee Type</b>	<b>Amount</b>
University Services Fee - Undergraduate	\$96.01 per hour
University Services Fee - Graduate	\$123.50 per hour
Excessive Hours Fee	\$100.00 per hour

Health Service Fee	\$4.91 per hour
Intercollegiate Athletics Fee	\$35.00 per hour with \$455.00 max
Parking Fee Stephenville & Fort Worth	Varies Annually
Recreational Sports Fee (Required Stephenville)	\$50.00
Recreational Sports Fee (Required Fort Worth)	\$20.00
Repeated Courses Fee	\$100.00 per hour
Room Application Fee (required, nonrefundable, residence hall students) (2)	\$100.00
Student Center Facility Fee (required, Stephenville)	\$3.96 per hour with \$19.80

<sup>1</sup> The selection option for Guaranteed or Variable Tuition Rate applies to Texas Residents, New Incoming and Transfer students. Undergraduate Variable Tuition Rate will be assigned to Nonresident (Texas) and International students. Students who are nonresident will be assigned the Out of State Tuition Rate of \$591.71 per hour. Nonresident rates have not been updated by the Texas Higher Education Coordinating Board as of publishing date.

Graduates Tuition Rate will be assigned to Texas Resident Graduate students. Graduate students who are nonresident will be assigned the Out of State Tuition Rate of \$650.90 per hour. Nonresident rates have not been updated by the Texas Higher Education Coordinating Board as of publishing date.

<sup>2</sup> For students who have not paid the application fee

## Explanation of Fees

Please Note: The following fees are required of all students, regardless of classification (undergraduate or graduate) or type of housing (on- or off-campus) with the exception of fees designated by campus: Tuition, University Services, Student Center Facility (Stephenville), Health Service, Intercollegiate Athletics, Recreational Sports Fee (Stephenville and Ft.Worth).

### The following are payable on an installment basis in the regular semesters.

- **GUARANTEED TUITION FEE** for Texas resident undergraduate students is \$199.92 per semester credit hour. The selection option for this rate applies to New Incoming and Transfer Texas Resident Students only.
- **VARIABLE TUITION FEE** for Texas resident undergraduates students is \$183.71 per semester credit hour. The Variable Tuition Rate will be automatically assigned for non-resident of Texas, including those who are not U.S. citizens, and Graduate students. The tuition rate is \$588.04 for Undergraduate and \$694.79 for Graduate per semester credit hour. See "Determination of Residence for Tuition Purposes" in this section for more information.
- **UNIVERSITY SERVICES FEE.** for Undergraduates is \$94.04 and \$235.79 for Graduate, is assessed by semester credit hour and funds services such as advising, student services, technology, library, distance education and outreach programs as well as other administrative services such as ID services and records services.
- **DIFFERENTIAL TUITION.** This fee is assessed by semester credit hour to courses under the following College and/or Department and is used to enhance the academic programs under the College and/or Department. If a student is taking a class in Criminology, Nursing/Health Science, and Engineering will receive an additional Differential Tuition charge per hour in addition to the College and/or Department Differential Tuition Fee.
- **EXCESSIVE HOURS FEE.** This fee of \$100 per semester credit hour is charged to students with excessive semester credit hours towards a degree program. Reference Texas Education code § 54.014 which provides a limit on the number of hours an undergraduate Texas resident may attempt while paying in-state tuition. For more information, please visit [www.tarleton.edu/registrar](http://www.tarleton.edu/registrar).
- **HEALTH SERVICE FEE.** This fee of \$4.91 per semester credit hour is used to cover costs of the Student Health Center.
- **INTERCOLLEGIATE ATHLETICS FEE.** This fee of \$35 per semester credit hour, with a \$455 maximum per semester, is used to support intercollegiate athletics at Tarleton State University.
- **INSTALLMENT FEE.** The Texas Education Code includes a provision for students to pay tuition and certain designated fees for the fall and spring semesters on an installment basis. Students may elect to pay in full or in four installments. Students who elect to pay on the installment plan will be charged an installment fee of \$20 per semester and will be required to sign an installment agreement.
- **LABORATORY FEE.** A fee of not less than \$2 and not more than \$30 for each laboratory course may be charged for materials and supplies.
- **LATE REGISTRATION FEE.** Students who do not register or make an initial payment on days set aside for that purpose will pay a late fee of \$25.
- **LATE PAYMENT FEE.** Students not making an installment payment by the due date will be charged a late payment fee of \$10. Students who are delinquent more than five days may be prohibited from registering for classes and may be blocked from all University services.
- **PARKING FEE.** Students who wish to park a vehicle on any part of Tarleton property will pay a parking fee on Stephenville and Fort Worth Campuses.
- **RECREATIONAL SPORTS FEE.** The Stephenville Campus fee of \$100 per regular semester and \$50 per summer semester is used to fund debt service requirements and operational costs of the facility. The Fort Worth Campus Fee of \$50.00 per regular semester and \$20.00 per summer semester.
- **REPEATED COURSES FEE (3-PEAT).** This additional course fee will be charged at a rate of \$100 per semester credit hour to those students who have attempted the same course for a third time since Fall 2002. This provision is described in the Texas Higher Education Coordinating Board Rules (Chapter 13, Subchapter B, §13.25). For additional information please visit [www.tarleton.edu/registrar](http://www.tarleton.edu/registrar).

**ROOM & MEALS FEES.** All students living in the residence halls are required to pay for meals, in addition to room-rent fees. Meals are provided in modified cafeteria style during specific meal hours. Evening meals will not be served on days preceding holidays and end of semester or summer sessions. Room and meal rates and meal times are published in pamphlets available

## Payment of Fees

All of the aforementioned fees must be paid by a designated date, which is stated on the student's bill. Student account information is available through Texan Bill Pay. Services offered include: 24/7 access, E-bills, On-line Payment Plan enrollment, and Authorized User access. Payment due dates are also displayed via DuckTrax at [www.tarleton.edu](http://www.tarleton.edu) (<http://www.tarleton.edu/>) and on Business Services web page at [www.tarleton.edu/business](http://www.tarleton.edu/business) (<http://www.tarleton.edu/business/>). The following options are available for fee payment in regular semesters:

- **OPTION 1.** Payment in full by the designated date.
- **OPTION 2.** Payment in four installments (Fall & Spring) Three installments (Summer)

Each student who elects option 2 must enroll in the Payment Plan through Texan Bill Pay. An installment agreement must be on file in the Business Services Office. Students who fail to make tuition and fees payment by the due date may be prohibited from registering for classes for a succeeding semester until payment is made. Moreover, nonpayment prior to the end of the semester means the student may be denied credit for the work done that semester.

## Refunds

Students who have paid fees in full and withdraw from the University will receive refunds for tuition, university services fee, health service fee, student center facility fee, intercollegiate athletics fee, recreational sports fee, excessive hours fee, international student service fee, repeated courses fee, and laboratory fees. Students paying on an installment basis and who withdraw from the University will be required to pay the balance of fees due. The refund schedule is as follows:



**Session Length 10 Weeks or Greater**

Session	Percentage
Prior to first class day	100%
During first five class days	80%
During second five class days	70%
During third five class days	50%
During fourth five class days	25%
After fourth five class days	0%

**Session Length Greater than 5 Weeks and Less than 10 weeks**

Session	Percentage
Prior to 1st class day	100%
During first, second, or third class day	80%
During fourth, fifth, or sixth class day	50%
After sixth class day	0%

**Session Length 5 Weeks or Less**

Session	Percentage
Prior to 1st class day	100%
During first class day	80%
During second class day	50%
After second class day	0%

**Withdrawing From All Courses at the University**

Effective Withdrawal Date is the date the withdrawal is reported to and recorded in the Registrar's Office.

**Dropped Classes**

(Student remains enrolled in one or more courses at the University.) Effective Drop Date is the date the drop is recorded in the Registrar's Office.

1. If a course is dropped on or before the census date for the appropriate session, the student will be refunded for the tuition and fees associated with that course.
2. If a course is dropped after the appropriate census date, the student will not receive a refund.

Census dates for various length sessions are as follows:

- 3 week session 2nd class day
- 4 or 5 week session 4th class day
- 6, 7, or 8 week session 6th class day
- 9, 10, or 11 week session 7th class day
- 12,13, or 14 week session 9th class day
- 15 or more week session 12th class day

Special notes: For refund purposes, class days are determined by the calendar, not by the number of class meetings. As an example, if a semester starts on Monday, Thursday of that week is considered the 4th class day for all classes.

Those fees paid by Tuition Assistance or another third party receivable will be refunded to the military or other organization if a refund is due.

Tarleton's refund policy is in accordance with mandates of the state of Texas.

**Conditions of Refunds**

Refunds of tuition and fees will not be made until 10 days have elapsed from the date the fees were paid. Refunds of tuition and fees paid by a sponsor, donor, scholarship or by credit card will be made to the source rather than directly to the student who has withdrawn if the funds were made available through the University. All student services and privileges shall terminate when a student withdraws or graduates from the University.

**Nonrefundable Fees**

Fees required for special courses, parking, installment plan fee, reinstatement and late registration fee are non-refundable.

**Room Rent and Meal Fees**

Refunds to students withdrawing prior to the first class day will be based on a daily proration. Refunds to students withdrawing on or after the first class day will be based on a daily proration, less an early withdrawal fee equaling 10 percent of the semester room/meal rate. The effective date of withdrawal will be the date written notification is provided to the Registrar's Office.

**Texan Bucks**

This is an optional debit plan that allows students to use their Texan Card to make purchases both on and off campus. Accounts are opened through the Texan Card Office with an initial deposit of \$20.00. Cash withdrawals are not allowed.

Balances on dormant accounts: Accounts having a remaining balance on the earlier of either the third anniversary of the date issued if not used, or the third anniversary of the card's last use must be remitted to the state.

**Miscellaneous Fees****Reinstatement Fee**

A student who has been dropped from the rolls of the University and has been approved for reinstatement will be charged a fee of \$100.

**Unpaid Check (Returned Check)**

If a check accepted by the University is returned unpaid by the bank on which it is drawn, the person presenting it will be required to pay a penalty of \$30. If a check that is accepted by the University and processed by ACH (automated clearing house) or by eCheck (Electronic check through Texan Bill Pay), is returned unpaid by the bank on which it is drawn, the student account to which the original payment was applied will be charged a penalty of \$30.00 in addition to the

amount of the returned item. The student registration and transcript records will be placed on hold. If the check is not redeemed within 20 days after the date of the certified notice of return, the student may be dropped from the rolls of the University and the check turned over to the County Attorney for collection.

### Third Party Exam Proctoring

Students should be advised that if a course requires third-party exam proctoring and/or verification of identity, they may incur additional charges payable at the time service is provided. This type of charge will not be applied to the student bill and should be paid directly to the third party vendor.

Questions regarding fees and refunds should be directed to the Tarleton State University Business Office: (254) 968-9107.

### Determination of Residence for Tuition Purposes

Residency status is based on information obtained from the student's application for admission. Students are notified of their residency determination in their official acceptance notice from the University. It is the student's responsibility to answer all questions on the application for admission accurately and honestly. If a current student believes that residency status has changed, it is the student's responsibility to report this to the Admissions Office. If a new student/applicant believes that residency status is incorrect, please contact the Admissions Office.

To be a Texas resident, a student must have resided in Texas for twelve consecutive months or more and establish a domicile in Texas PRIOR to the semester of enrollment.

Additional documentation may be required to establish Texas residency. Residency rules are subject to change at any time due to Texas legislation.

The student has the burden of proof to show by clear and convincing evidence that residence or domicile, as appropriate, has been established and maintained according to the rules.

**The 36 Month Provision:** An individual who resided in Texas for the 36 consecutive months leading up to his/her graduation from a Texas high school or recipient of a GED, and continued to maintain a residence in Texas for the 12 months leading up to his/her enrollment in an institution of higher education may be classified as a resident for tuition purposes, regardless of dependency or immigration status. Undocumented students must submit the Affidavit of Intent to Become a Permanent Resident and an official high school transcript.

Students who do not meet the criteria of the 36 Month Provision may qualify for residency according to one of the following:

1. **Independent Students:** Independent students are those who provide more than half of their own financial support and are not eligible to be claimed as a dependent for income tax purposes. In order to qualify for residency for tuition purposes, an independent student must reside in Texas while doing one of the following for the twelve consecutive months preceding the student/applicant's enrollment:
  - Own a home in Texas;
  - Own a business in Texas;
  - Be professionally licensed to practice or conduct business in the State of Texas;
  - Be gainfully employed in a position not related to student status. Student worker positions, internships, and graduate assistantships may not be used as a basis for establishing residency in Texas; or
  - Be married to a Texas resident.
2. **Dependent students:** The residency for tuition purposes of a student who is not independent is based upon that of the parent or court-appointed legal guardian who claims that student as a dependent or provides more than half that student's financial support, regardless of the length of time the student has resided in Texas. If the parent or court-appointed legal guardian of a dependent student meets the criteria of having established residency for tuition purposes, the dependent student is eligible to pay resident tuition. Parents and legal guardians qualify for residency following the same criteria as independent students.
3. **Military personnel and dependents of military personnel:** Resident military personnel and their dependents are classified as residents, provided they maintain Texas as the Official Home of Record with the military service. Nonresident military personnel must submit certification of active duty in Texas at each registration to be eligible for resident tuition rates. The Office of Undergraduate Admissions must be contacted for an Active Duty Military/Dependent Certification Form. The spouse or child of a member of the Armed Forces of the United States who has been assigned to duty elsewhere immediately following assignment to duty in Texas is entitled to pay the tuition fees and other fees or charges provided for Texas residents as long as the spouse or child resides continuously in Texas. Nonresident military personnel who have separated or retired from military service while stationed in Texas and who intend to remain in Texas may be classified as residents provided certain actions are taken by the soldier one year prior to enrollment. Please contact the Admissions Office for information.
4. **International Students:** International Students/applicants who are eligible to establish a domicile in Texas may also qualify for Texas resident status. Please contact the Admissions Office for further information.
5. **Residency Reclassification:** A student classified as a non-resident retains that classification until he/she requests reclassification in writing and provides proof of residence to the Admissions Office. An Application for Reclassification can be found on the Admissions website or requested from the Admissions Office. Applications for reclassification must be submitted prior to the official census date of the relevant term. The student has the burden of proof to show by clear and convincing evidence that residence or domicile, as appropriate, has been established and maintained according to the rules.

Residency Forms: Forms for residency can be found on the admissions website or by contacting the Admissions Office at 254-968-9752

## Financial Aid

Tarleton State University offers student financial aid in the form of loans, grants, work opportunities and scholarships to help assist with your educational expenses while attending Tarleton State University. To determine a student's eligibility for financial aid, the student and parent (if the student is dependent) must first complete the Free Application for Federal Student Aid (FAFSA).

To apply for financial aid, a student must submit a Free Application for Federal Student Aid (FAFSA) each year (opens October 1 each year). To access the online FAFSA you must go to [www.fafsa.ed.gov](http://www.fafsa.ed.gov). A student and parent must first apply for the FSA ID. The FSA ID is a unique federal identifier that allows you to complete the FAFSA, make FAFSA corrections and access your federal financial aid history. The FSA ID is also accessed through the [www.fafsa.ed.gov](http://www.fafsa.ed.gov) website.

### Academic Eligibility Requirements for Financial Aid

#### Satisfactory Academic Progress Policy

Federal and state regulations require all students to make satisfactory academic progress (SAP) toward completion of degree, certificate or licensure requirements to receive student financial aid. All terms of attempted enrollment, including transfer hours, are considered in determining satisfactory academic progress regardless of whether aid was awarded for the term. Failure to meet satisfactory progress standards results in ineligibility for all types of federal, state, and university aid administered by the Student Financial Aid Office at Tarleton State University (TSU).

#### Evaluation Period

Monitoring satisfactory academic progress begins with the first credit attempted and is done at the end of fall and spring semesters.

#### Qualitative Standard: Grade Point Average (GPA)

Attempted credits include all courses on student records after the 12<sup>th</sup> class day, including withdrawals, incompletes, repeats, noncredit and remedial courses. TSU's satisfactory progress policy requires that students achieve the following **cumulative** grade point averages:

**Undergraduate Students: 2.0****Graduate Students: 3.0****Quantitative Standard (Pace): Completion Percentage (Deficit Hours)**

Financial aid standards require students to satisfactorily complete a minimum of **67%** of their total cumulative attempted credits. This percentage includes all institutional and transfer credit hours, regardless of whether or not financial aid was received. Hours successfully completed include those with grades of A, B, C, D, P and S. Grades of F, I, K, Q, W, WF, U, NG and grad exclusions are not considered to be adequate grades for completion. The calculation used to determine the completion rate:

$$\frac{\text{Total Hours Successfully Completed}}{\text{Total Hours Attempted}} = \text{Completion Rate}$$

**Quantitative Standard: Maximum Hours Attempted (Excessive Hours)**

Students are expected to complete their degree pursuits within a maximum timeframe, including transfer hours earned as well as institutional attempted credits. Credits attempted to complete a degree and receive financial aid cannot exceed **150%** of the credits required to complete the degree program. Credit hours are cumulative; thus, students obtaining more than the maximum hours (e.g., change in major) may reach this maximum timeframe before completing their course of study and may need to appeal the timeframe eligibility. Students may not receive financial assistance beyond the following:

<b>Undergraduate Students:</b>	<b>180 Hours</b>
<b>Graduate Students:</b>	<b>54 Hours</b>
<b>Doctoral:</b>	<b>108 Hours</b>

**Failure to Meet Standards**

If at the end of each semester, a student fails to meet any of the above Satisfactory Academic Standard(s), he/she will be placed on financial aid suspension for each standard not being met.

**Appeals**

Financial aid suspension status may be appealed to Student Financial Aid. Appeals are made on the basis of extraordinary or mitigating circumstances (including but not limited to major illness, death in the family, serious accident, etc.) or the successful completion of additional coursework. The appeal must state why the student failed to make satisfactory academic progress and what has changed in the student's situation that would allow the student to demonstrate satisfactory academic progress by the end of the following semester. Each case is reviewed individually. The Student Financial Aid Office informs the student in writing within seven business days of its decision, provided adequate documentation was submitted by the student.

If the appeal is approved, financial aid eligibility will be reinstated for a **probationary semester**. Written notification (financial aid contract) will include the standards the student is expected to meet in order to retain financial aid eligibility at the end of the semester.

If at the end of a probationary semester, the student meets TSU's **probationary term requirements** but has not met TSU's cumulative standards, TSU will permit the student to retain financial aid eligibility under a "continued probation" status. Probation status continues to be monitored each semester until the student meets TSU's **cumulative** standards for completion percentage and grade point average (GPA), at which time the student will be returned to "good standing".

If a student on "continued probation" status fails to meet TSU's cumulative standard(s) or the standards required for the **probationary semester**, TSU will suspend the student from financial aid eligibility.

If an appeal is denied, written notification will state the reason(s) for the denial and the process of appealing the denial.

A student not satisfied with an denied decision may submit a subsequent appeal to the university's appeal committee.

Programs that require longer than the maximum hours attempted limits must have individual approval from the Student Financial Aid Office through the appeal process. Students must submit for review an academic plan approved and signed by their advisor indicating the semester(s) remaining for degree completion, a course plan for each remaining semester, and projected graduation date. Appeals for hours in excess of 150% solely to improve GPA are not approved, unless the course is part of an approved academic plan. Submission of an appeal does not indicate automatic approval of the academic plan. Each appeal is reviewed on a case-by-case basis.

**Notification**

Students who fail to meet the minimum standards will be notified by email (go.tarleton email) when they are placed on probation or suspension. It is possible for students to be placed on financial aid suspension for failure to meet more than one type of Satisfactory Academic Progress Standard. Students who have not received financial aid in the past are immediately subject to standards when they apply for financial aid.

**Re-Establishing Eligibility After Financial Aid Suspension**

Students whose financial aid eligibility has been suspended may regain eligibility only through TSU's appeal process or when they meet the institution's satisfactory academic progress **quantitative** and **qualitative** standards. If Incomplete (I) hours are a factor in failure to maintain satisfactory progress, subsequent successful completion of these hours may be used to re-establish eligibility for aid. Paying for classes out of pocket or sitting out a period of time in and of itself is not sufficient to re-establish a student's financial aid eligibility.

**Repeated Courses**

Students who repeat a course may receive financial assistance more than once for enrollment in the same course. When a course is repeated, each enrollment is included in calculating the percentage of successfully completed hours and the total number of attempted hours is used to determine length of eligibility. For example, a student enrolls in a three hour course, fails it and the following semester re-enrolls in the same course and earns a C. That student would have enrolled in six hours, but successfully completed only three hours. Repeating a course more than once results in removal of only one previous grade from the GPA calculation.

Federal regulations also stipulate the way enrollment status is determined for students who are repeating coursework in which they previously received a letter grade of D- or higher. An institution may pay a student one time for retaking previously-passed coursework. To determine a student's enrollment status (full-time vs. part-time), the school may not include more than one repetition of a previously passed course.

**Example:** Two years ago, Sam enrolled in a 3-hour Applied Mathematics course and received a grade of D-. Sam took the same course again last year and received a grade of C-. His major requires that he pass the class with a C or better, so Sam decides to take the course again this semester. Sam is enrolled in 9 hours of other coursework plus the Applied Math class, for a total of 12 hours. The 3 hours of that class are not included in determining Sam's enrollment status for the current semester because it is the second time he is repeating a class in which he previously received a "passing" grade. Sam would be paid financial aid as a part-time student because he is enrolled in 12 hours minus the 3 hours of the course he's repeating for the second time, which do not count. For financial aid purposes, Sam is enrolled in 9 eligible hours.

**Withdrawing or Dropping Classes**

If you withdraw from all classes, either officially or unofficially, on or before completing the term and you have received Title IV federal funds in the form of a Federal Pell Grant, Federal Supplemental Educational Opportunity Grant (SEOG), Teacher Education Assistance for College and Higher Education (TEACH)

Grant, Iraq Afghanistan Service Grant, Federal Direct loans, or a Federal PLUS loan, the federal government requires that we review your eligibility for those funds. We are required to apply a federally mandated formula to determine how much of the federal funding was "earned" up to the time of withdrawal. This review and recalculation is called a "Return of Title IV Aid".

The Title IV funds that were disbursed in excess of the earned amount must be returned to the federal government by the university and/or you.

The amount to be returned to the federal government will be calculated from the date you officially withdrew from classes or, in the case of an unofficial withdrawal (see section above), the last date you were involved in an academically related activity.

## Priority Dates

Priority for campus-based funding is given to students who meet certain income eligibility requirements and have submitted their FAFSA to the Central Processor on or before January 15 for priority consideration. The FAFSA becomes available to begin filing October 1 of each year.

## Deadline

In order to ensure that your financial aid will be available by the week before fall semester classes, you must have submitted all required documents no later than June 1.

**Applicants are responsible for the timeliness and promptness of their applications.**

### Loans

## Federal Direct Loan Program

Federal Direct Loans are student loans that must be repaid and are available to both undergraduate and graduate students.

Annual Undergraduate loan limits may not exceed \$5,500 (of which no more than \$3,500 may be subsidized) for freshmen; \$6,500 (of which no more than \$4,500 may be subsidized) for sophomores; and \$7,500 (of which no more than \$5,500 may be subsidized) for juniors and seniors. Annual Graduate student loan limits are limited to \$20,500 in unsubsidized loans. In addition, students must be enrolled in at least 6 semester hours to qualify.

A subsidized loan is awarded on the basis of financial need. If eligible for a subsidized loan, the government will pay (subsidize) the interest on the loan while the student is in school and for the first six months after leaving school (grace period). However, for subsidized loans first disbursed on or after July 1, 2012, and before July 1, 2014, the student is responsible for the interest that accrues while the loan is in the grace period.

First time student loan borrowers must complete the Entrance Loan Counseling and the Electronic Promissory Note before TSU can release the first disbursement of their Federal Direct Student loan.

For an unsubsidized loan, the student is responsible for the interest from the time the unsubsidized loan is disbursed until it is paid in full.

Students begin repaying Federal Direct Student loans six months after they drop below half-time enrollment or graduate from college.

## Federal Direct Plus Loans (Parent Loan for Undergraduate Students)

Parent Loans are made by the Department of Education to parents to assist in meeting education costs. Parents, on behalf of their dependents, may borrow the annual loan limit of the cost of education, less other financial aid. Repayment is generally due within 60 days of the full loan disbursement. Fees charged to the PLUS borrower are deducted from the loan proceeds when the money is sent to the student's school.

## Short-Term Loans

Short-Term loan funds at Tarleton State University were established to provide assistance to students who are experiencing temporary financial difficulty in connection with educationally related expenses. These loans must be repaid with interest and/or service charge within the prescribed repayment period. It is not the intent of this program to supplement or to replace long-term aid or assistance offered by the Student Financial Aid Office. Short Term loans are available while school is in session and applicants must meet the requirements to be considered. Loan applications are online through myGateway.

## Book Loans

Book loan funds at Tarleton State University were established to provide assistance to students who are experiencing temporary financial difficulty in purchasing their books. These loans must be repaid with interest and/or service charge within the prescribed repayment period. For more information on the Book Loans, please contact the Office of Student Financial Services.

### Late Payments on Loans

When a student does not make payment on any outstanding loan by the due date, his/her records will be blocked immediately.

## Grants

### Federal Pell Grants

Pell Grants are available to eligible undergraduates. Pell Grant funds are disbursed based on number of hours enrolled as of the Pell Census date (or the 12th class day). All other sources of aid will be given in addition to the Pell Grant.

### Supplemental Educational Opportunity Grants

These grants, ranging from \$100 to \$4,000 per year, are available to help needy undergraduates meet education expenses.

### The Texas Public Education Grant

This grant was established by the Texas State Legislature to help needy students. Under this program, students may receive grants ranging from \$100 and up.

### Toward EXcellence, Access and Success (TEXAS) Grant Program

The TEXAS Grant Program was established in 1999 by the Texas Legislature to provide need-based financial assistance to resident Texas students who completed the Recommended high school program. Eligible students may receive an amount up to the cost of required tuition and fees each academic year of eligibility. Some restrictions apply.

To be eligible for the TEXAS grant, a student must be a Texas resident and a graduate from a public or accredited private high school and must demonstrate exceptional financial need as determined by the Free Application for Federal Student Aid (FAFSA). January 15 is the state priority deadline for identifying eligible students to be given priority in receiving awards through the state financial aid program.

Detailed information is available by request in the Student Financial Aid Office.

### Tarleton Tuition Grant

These grants are available to undergraduate students who are Texas residents and demonstrate need based upon data provided on the Free Application of Federal Student Aid (FAFSA). Priority is given to those students who file the FAFSA by the priority deadline.

## Tarleton Promise Grant

The Tarleton Promise Program will cover the remaining bill after a qualifying student's scholarships and grants are applied to their account. The promise will pay for tuition, required fees (including parking), room and board (for on campus housing) and provides a semester allowance for text books. Tarleton Promise Requirements are located on the Tarleton Financial Aid website.

## Work Opportunities

Tarleton participates in the Federal Work-Study Program, sponsored jointly by the Federal government and the University, and in the State Work-Study Program, sponsored jointly by the State of Texas and the University. Students must show financial need (must complete the FAFSA) to be eligible for work-study. Funds are awarded on a first-come, first-serve basis with priority awarding given to students currently/previously employed under the College Work Study. All wages are on an hourly basis, and work schedules are arranged around class schedules.

### THE INTERN 2 LEARN PROGRAM PROVIDES:

- Opportunities to work on-campus where supervisors understand academic schedules and demands
- R.E.A.L. participation; adding to your learning experience at Tarleton State University
- Resume building experience to give you a head start on your chosen career

### WHAT IS INTERN 2 LEARN?

Intern 2 Learn is an innovative, **on-campus student employment program** for undergraduates. The program is designed to provide relevant work experience and qualify as a R.E.A.L. (Real World Experience Applied to Learning) internship for participating students.

The best part is that the program benefits both students and employing departments!

Interns work in positions related to their academic curriculum and are eligible to **promote to higher levels of responsibility and pay** as their experience and knowledge levels grow. Employing departments enjoy the opportunity to mentor and coach student interns so that they function as additional staff.

## Scholarships

The Tarleton State University Office of Scholarships is committed to providing assistance to students in pursuit of their education. Scholarships are awarded for academic ability and achievement, demonstrated leadership, ability to perform (music, band, etc.), extracurricular activities, financial need, and other criteria as defined by specific scholarship programs. Scholarship consideration for current Tarleton students has full-time status as a criterion unless otherwise defined by specific scholarship programs. More than 500 endowed, local, and departmental scholarships are available to students attending Tarleton State University. Some scholarships are awarded in specific academic areas, such as science, humanities, agriculture, and business.

Scholarship information and application forms may be obtained from the Office of Scholarships, Box T-0760, Stephenville, TX 76402 or at [www.tarleton.edu/scholarships/](http://www.tarleton.edu/scholarships/) (<http://www.tarleton.edu/scholarships/>). The Office can also be contacted by telephoning (254) 968-9922.

Any student receiving institutional scholarships valued at \$5,000 or more is generally not eligible for other institutional scholarships.

The Presidential Honors Program offers exceptional opportunities for outstanding students. Presidential Honors Scholars are given priority in such areas as pre-registration and housing assignments. They also enroll in two interdisciplinary Honors Seminars, participate in the Honors Degree Program, have the opportunity to travel to a professional meeting in their major field of study, and receive annual scholarships of \$7,000. For more information, contact Dr. Craig Clifford, Director of the Presidential Honors Program, Box T-0545, Stephenville, TX 76402; (254) 968-1926.

## Veteran Services

### Veterans' Assistance

The Military Veterans Services Center serves students eligible for educational benefits from the Veteran's Administration. Records are maintained and reports made to the Veteran's Administration on behalf of veterans, dependents, and active-duty service members enrolled at the University.

### Hazlewood Act

Veterans should contact the Military Veterans Services Center to obtain forms to apply for Hazlewood Exemptions. Complete information must be submitted to the Military Veterans Services Center on or before the census date of each term.

## Texas Workforce Commission

### Vocational Rehabilitation

The Texas Rehabilitation Commission offers assistance for tuition and required fees to students who are physically or otherwise challenged, provided the vocational objective selected by the unusually challenged person has been approved by an appropriate representative of the Commission. Through this state agency, other rehabilitation services are available to assist these students in becoming employable. Application for this type of assistance should be made to the nearest Rehabilitation Office. Address inquiries to: Commissioner, Texas Rehabilitation Commission, Jefferson Bldg., 1600 W. 38th Street, Austin, Texas 78731.

## Tuition and Student Fee Exemptions

A student may qualify for legislative exemption from the payment of tuition and certain fees and charges according to the following conditions. Contact the Student Financial Aid Office for procedures for determining eligibility prior to the registration process.

Claims for exemption from any charges and/or fees must be supported by evidence sufficient to enable the Student Financial Aid Office to verify the student's exempt status and determine the duration of the exemption and the fees and charges to which it is applicable. Supporting document(s) must be in the Student Financial Aid Office before a student registers.

**Listed below are exemption programs available to Texas residents. To view exemption information, go to College for all Texans** (<https://www.collegeforalltexans.com>) (<https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.collegeforalltexans.com%2F&data=04%7C01%7CPETROSIA%40tarleton.edu%7Cb71163bf454849a2d1d508d8f2e00b46%7C2c5ee638a96349c0ac26828dd9b78d5e%7C0%7C0%7C637526391371048994%7CUnknown%7CTWFpbGZsb3d8eyJWljoimC4wLjAwMDAiLCJQljoiv2luMzliLCJBTiIi6k1haWwlcjXVCI6Mn0%3D%7C1000&data=SVwJ9ptSjVgsWzGUKLOjnljcrUeOwiCr%2F53%2Fcp6xxc%3D&reserved=0>) to view specific Exemption information.

**Please note:** When visiting **College for all Texans** you may see additional exemptions that may not be available at this time at Tarleton State University. If you have questions about Tarleton State University Tuition and Fee Exemptions, you may contact the Student Financial Aid Office at [finaid@tarleton.edu](mailto:finaid@tarleton.edu) or (254) 968-9070.

### Tarleton State University Tuition and Fee Exemptions

Fee Type	Blind/Deaf (Texas Edu Code 54.205)	Children of POWs and MIAs (Texas Edu Code 54.209)	Dependents of Fireman and Police (Texas Edu code 54.204)	Hazlewood-Texas Veterans dependent children and spouse of Texas Veterans (Texas Edu code 54.203)	Foster Care Children (Texas Edu Code 54.211)
Tuition	X	X	X	X	X
Student Services Fee	X	X	X		
Other Mandatory Fees	X	X	X	X	X
Course Specific Lab Fees	X	X	X	X	X
Breakage Deposit	X				
Testing Fee	X	X	X	X	X
Parking	X	X	X	X	X
Room Board					

Books

FEE EXEMPTIONS, continued

Fee Type	Foster Care Children (Texas Edu Code 54.211)	Adopted Students Formerly in Foster or Other Res Care (Texas Edu Code 54.2111)	Students of Other Nations of American Hemisphere (Texas Edu Code 54.207)	Valedictorian**(Texas Edu Code 54.201)	Survivor of Public Servant (Killed in the line of Duty) (Texas Gov Code 615.0225 & 615.003)
Tuition	X	X	X	X	X
Student Services Fee	X	X			X
Other Mandatory Fees	X	X			X
Course Specific Course Fees	X	X			X
Breakage Deposit					X
Testing Fee	X	X			X
Parking	X	X			X
Room Board					X

Books

FEE EXEMPTIONS, continued

Fee Type	Senior Citizen (6 sch limit) (Texas Edu Code 54.210)	Good Neighbor Scholarship Program (Texas Edu Code 54.207)	Nursing Faculty/Staff (Texas Edu Code 54.221)	Clinical Preceptor (Limit \$500) (Texas Edu Code 54.222)	Firefighters Taking Fire Science Curriculum (Texas Edu Code 54.208)
Tuition	X	X	X	X	X
Student Services Fee					
Other Mandatory Fees					
Course Specific Lab Fees					X
Course Specific Course Fees					
Breakage Deposit					
Testing Fee					
Parking					
Room Board					

Books

\*\*Awarded yearly to the highest ranking graduate of any accredited high school in Texas. Recipients are exempt from tuition payment for the two long semesters of their freshman year, providing that they attend the same school for both semesters. Eligible students should send or bring their certificate to the Financial Aid Office prior to registration.

### Scholarship Application Deadlines

APPLICATIONS FOR SCHOLARSHIPS MUST BE FILED ON OR BEFORE FEBRUARY 15 (EARLY CONSIDERATION - DECEMBER 1) FOR THE FOLLOWING FALL OR ACADEMIC YEAR OR DECEMBER 1 FOR THE FOLLOWING SPRING.

The following is a list of scholarships awarded by Tarleton State University by category.

#### Scholarships Based on Academic Criteria

- |   |  |
|---|--|
| Academic Affairs General Scholarship                | Lewis Charles Link Endowed Scholarship         |
| Academic Circle Graduate Scholarship                | Lone Star Ag. Credit Agricultural Scholarship  |
| Barbara Jeanne Adams Memorial Scholarship           | Lone Star Beefmaster Cattlewomen Scholarship   |
| Ag. & Consumer Sciences Student Teacher Scholarship | Lone Star Beefmaster Endowment Scholarship     |
| Dr. Ann Albrecht Honorary Counseling Scholarship    | Joe R. & Teresa L. Long Scholarship            |
| J. Brad & Nancy Gage Allen Endowed Scholarship      | Jeffrey P. Longbotham Endowed Scholarship      |
| Stacy and Barbara Allen Equine Scholarship          | Grace Lyon/Dr. Pepper Endowed Scholarship      |
| Allsup Family Endowed Scholarship                   | Mickey & Stella Nix Maguire Alumni Scholarship |
| ARAMARK Food Service Scholarship                    | Leon Manley Memorial End Sch                   |
| Glenda Anderson Memorial Scholarship                | Bea Marin Nursing Scholarship                  |
| Joe W. Autry Endowed Scholarship                    | Bea Marin Veterans Nursing Scholarship         |
| Sue Baker Memorial Scholarship                      | George Martin Memorial Endowed Scholarship     |

Cecil Ballow Memorial Endowed Scholarship  
 Carroll & Leta Barham Scholarship  
 Balfour Beatty Endowed Scholarship  
 Truman T. Bell Scholarship  
 Birdsong Endowment Scholarship  
 Bosque River Water Association Endowed Scholarship  
 J.W. & A.E. Bright Endowed Scholarship  
 Phillip & Ruth Bratten Scholarship  
 Cindy Bicket Nursing Scholarship  
 Edward L. Bicket Scholarship  
 Bryan & Carrie Bierschwale Endowed Scholarship  
 Buddy Bills Family Memorial Scholarship  
 Blue Cross Blue Shield of Tx Healthcare Scholarship  
 Bouquet & Jeske Families Business Scholarship  
 Dr. James Boyd Memorial Endowment  
 The Bragg Family Scholarship in Honor of Jori Bragg  
 Arlie Brown Memorial Endowed Scholarship  
 Michael Douglas Broyles Endowed Scholarship  
 Sue Carlson Memorial Scholarship  
 Sylvia Carmichael Campbell Memorial Scholarship  
 Arthur J. and Beatrice Robinson Carter Nursing Endowed Scholarship  
 Donald Cawley Social Work Endowed Scholarship  
 Dr. Nathan Cedars Endowed Scholarship  
 John S. Chapin Young Farmers Endowed Scholarship  
 The Chilton Family Scholarship  
 Carroll Lewis Clark Scholarship  
 Roberta Clay Journalism Scholarship  
 Clinical Laboratory Scholarship  
 COAES/Hilley Scholarship for Graduate Students  
 COBA Study Abroad Scholarship  
 COLFA Dean's Circle Scholarship  
 College of Business Administration Scholarship  
 College of Graduate Studies Masters/Doctoral Scholarship  
 Community College Bridge Scholarship  
 O.C. & Allene Knox Cook Scholarship  
 Duncan Wills Corbett Scholarship  
 R.E. Dick Corley Memorial Scholarship  
 Bob & Zeta Wall Crews Endowed Scholarship  
 Cross Plains Garden Club Scholarship  
 Cross Timbers School Development Scholarship  
 Crystal Apple Society Scholarship  
 Joe E. Cude Endowed Scholarship  
 Patricia Cude CIS Endowed Scholarship  
 Marion Cummings Memorial Scholarship  
 Paul & Opal Cunyus Endowed Scholarship  
 Dairy Products Institute Scholarship  
 C.J. "Red" Davidson Endowed Scholarship  
 Dawson-Blanchard Industrial Education & Technology Scholarship  
 Uta Davis Endowed Scholarship  
 Davidson Presidential Academic Scholarship  
 J. Thomas Davis Endowment  
 Deans' Academic Scholarship  
 Dr. Ken & Virginia Dorris Memorial Endowed Scholarship  
 Edwin & Welba C. Dorsey Academic Scholarship  
 Linda Duncan Honorary Counseling Endowed Scholarship  
 Betty Knudson Edgar Memorial Endowment Scholarship  
 Patricia Egdorf Nursing Scholarship  
 Lucy Ellis Endowed Scholarship  
 Zeddie & Ruby Edgar Memorial Scholarship  
 Bob & Peg Elliott Memorial Award  
 Engineering Scholarship  
 Engineering Technology Founders Scholarship  
 English & Languages Endowed Scholarship  
 Faculty Endowed Scholarship for Business Graduate Students  
 Faculty Endowed Scholarship for Business Students  
 Minnie Fagan Endowed Scholarship in Elementary Education  
 Robert & Patricia Fain Teaching Scholarship  
 Alex & Ruby Fambro Scholarship in Agriculture & Rodeo  
 Stacey & Robert Martin Scholarship  
 Math Club Scholarship  
 Lynda K. and A. Dwain Mayfield Endowed Scholarship in Engineering  
 Dennis & Mary Lou McCabe Presidential Endowed Scholarship  
 Cooper McCarty Memorial Scholarship  
 Ruth Scrimshire McCleskey Endowed Scholarship  
 LTC J.D. McCullough Memorial Scholarship  
 Jay R. McDanel Education Scholarship  
 Sue McGinity Scholarship  
 Sam R. McInnis Scholarship  
 Dan B. McMillin Endowed Scholarship  
 Joel Meador Family Endowed Scholarship  
 A.B. Medlen Endowment  
 Louis and Josie Belle Merrill Endowed Scholarship  
 Midlothian Outreach Campus Endowed Scholarship  
 Terry & Patti Miller Scholarship  
 Mogonye Family Scholarship Endowment  
 John Mitchell Moore Endowed Scholarship in Nursing  
 Mary Frances Morgan Education Scholarship  
 Gene Morrison Legacy Endowed Scholarship  
 Howard Nance Chemical Society Scholarship  
 Nelson Family Master of Science with a Botany Emphasis Scholarship  
 Nepalese Student Society Scholarship  
 Robert W. Newby Scholarship in Psychology  
 Lewis and Ina Newton Memorial Scholarship  
 Harold D. Nix Memorial Scholarship  
 Gregory Nowlin Scholarship Fund  
 Gregory Nowlin Scholarship - Dallas ISD  
 Gregory Nowlin Scholarship - Ft. Worth ISD  
 Gaylene E. & James T. Nunn Jr. Endowed Scholarship  
 Paul Pair Endowed Scholarship  
 Joe Parish Endowed Scholarship  
 Loy Patton Endowed Nursing Scholarship  
 John D. & Alene Moorman Palmer Endowed Scholarship  
 Outreach Campus Scholarship  
 Douglas B. Pair Pre-Pharmacy Scholarship  
 Donald T. Pendleton Endowment Scholarship  
 Donald T. & Bettejoe R. Pendleton Scholarship Endowment Fund  
 Dorris & Grady Perry Memorial Scholarship  
 Ann Bulecza Petronis Nursing Scholarship  
 Janis & Richard Petronis Endowed Scholarship  
 Pevehouse Range Management Scholarship  
 Meghan Keely Pharr Scholarship  
 John & Faye Phears Memorial Scholarship Endowment  
 Phi Alpha Theta Endowed Scholarship  
 Phi Theta Kappa Scholarship  
 Carl Phillips Memorial Scholarship  
 Randall Popken Endowed Scholarship  
 Presidential Academic Scholarship  
 President's 1st Generation Student Success Scholarship  
 President's Circle Scholarship  
 President's Guaranteed Award Program Scholarship  
 President's Texan Scholarship  
 Marshall "Digger" Procter Scholarship  
 Provost's Honors Scholarship  
 Derwayne & Barbara Rasco Scholarship  
 REAL Scholarship  
 Lyle & Josephine Reisman Scholarship Endowment  
 Dr. Rick & Melanie Richardson Endowed Scholarship  
 Jesse Lee & Armour McCluer Richardson Endowed Scholarship  
 Swan & Gaynelle Richardson Endowed Scholarship  
 Rick Roach Memorial Scholarship  
 Honest John Rogers Scholarship  
 Roy D. Russell Family Agricultural Education Scholarship  
 Jim and Judy Sale Nursing Scholarship  
 San Antonio Livestock Show & Rodeo Endowed Scholarship  
 Richard Saunders Scholarship  
 Richard C. Schaffer Clinical Lab Sciences Scholarship

John & Lillie May Farley Endowed Scholarship in Arts & Sciences  
 Frances W. Fenner Memorial Scholarship  
 Winnie McAnelly Fiedler Memorial Scholarship  
 First National Bank of Granbury Scholarship  
 First-Time Graduate Student Scholarship  
 C.M. "Dutch" Flory Memorial Scholarship in Physical Education  
 Mary Fletcher Endowment  
 Audie & Zera Floyd Educational Trust Scholarship  
 Follett Bookstore Scholarship  
 Mary Anne Foreman Memorial Scholarship  
 Fort Worth Police Department Scholarship  
 Flora Foust Graduate Scholarship  
 James Mack Foust Endowed Scholarship  
 Harold & Betty Freeman Scholarship  
 Freshman Sprint Scholarship  
 Dr. H. Bedford & Dr. Oneta Furr Scholarship  
 John Garner Memorial Mathematics Scholarship  
 Emma Mae & Evelyn Andrews Garrett Endowed Scholarship in Human Sciences  
 Bailey Gasch Scholarship  
 General Studies Upward Bound Endowed Scholarship  
 Goodlett-Hensarling Endowed Scholarship  
 Mr. & Mrs. W.K. Gordon, Jr. Endowed Scholarship  
 Graduate Fine Arts Scholarship  
 Jerry W. & Jean Graham Endowed Scholarship  
 O.A. Grant Scholarship in History/Government  
 T.C. & Jill Granberry Alumni Scholarship  
 Granbury Wine Walk Scholarship  
 Greater Texas Foundation Freshman Immersion in Teaching Scholarship  
 Ouita Griffin Memorial Scholarship  
 Dr. Christopher Guthrie History Scholarship  
 W.A. Hail Memorial Scholarship  
 Charles H. Hale Memorial Endowed Scholarship  
 Bob Hallmark Graduate Scholarship  
 Sara Hanson Scholarship for Parents Returning to Finish Their Degrees Scholarship  
 Rocky & Tracey Hardin Endowed Scholarship  
 Rocky and Tracey Hardin Scholarship  
 Rachel Harrist Memorial Scholarship  
 H.H. Hassler Memorial Equine Scholarship  
 Willene Lowery Hendrick Nursing Scholarship  
 Lonnie & Clara Herring Scholarship  
 John Fielding Higgs Memorial Scholarship  
 COAES Deans' Development Fund Hilley Scholarship  
 Mandy Holmes Memorial Endowed Scholarship  
 Hohenberger Ag. Economics Scholarship  
 Houston Livestock Show & Rodeo Agricultural Scholarship  
 E.J. Howell Memorial Scholarship  
 Ida Lou Nelson Holmes Scholarship in Human Sciences  
 Honors College Alumni Scholarship  
 Honors Degree Program Scholarship  
 International Studies Internship Scholarship  
 Evelyn Floyd & Leslie (Al) Jennings Scholarship  
 Herbert Jarrett Social Work Scholarship  
 Danny Jenkins Memorial Scholarship  
 Pauline "Polly" Jenkins Memorial Scholarship  
 Lamar & Maryilynn T. Johanson Scholarship Endowment  
 John Tarleton Ranching Heritage Endowed Sch  
 Johnson County Master Gardener Association Scholarship  
 Johnny Johnson Memorial Scholarship  
 Betty & Paul Jones Memorial Scholarship Endowment  
 Mae Jones Endowed Scholarship  
 Bettye & Gary Key Endowed Scholarship  
 C. Richard King Scholarship  
 Shelby Ehrhardt Koehler Endowment Scholarship  
 Harva Kuykendall Endowed Scholarship  
 J.V. & Lillie Ruth Laird Scholarship  
 Lambda Chi Alpha Mark Kilroy Memorial Endowed Scholarship  
 William Henry & Jessy Mays Sheffield Scholarship  
 Alan Douglas Shores Memorial Scholarship  
 SHS Class of '65 Scholarship  
 Jacey Smathers Memorial Endowed Scholarship  
 Dick Smith Scholarship in Arts & Sciences  
 Doug Smith Endowed Scholarship  
 McKee Jane Smith Endowed Memorial Scholarship  
 Patty Smith Memorial Endowed Scholarship  
 L. Dwayne & Connie Snider Scholarship  
 The Springfield Family Scholarship in Criminal Justice  
 SSC Engineering and Engineering Technology Scholarship  
 Staff Council Scholarship  
 Jackie W. & Bill E. Stallworth '51 International Business Excellence Scholarship  
 Dr. Leslie Stanley-Stevens and Dr. William H. Stanley, Sr. Endowed Scholarship  
 David & Debbie Stanphill Scholarship Stark Scholarship  
 STEDCO Engineering Scholarship Endowment  
 Dr. Steve Steed College of Business Scholarship  
 Stephenville Optimist Club Robert C. Fain Honorary Scholarship  
 Leon B. Stinson Endowed Scholarship  
 Student Research Symposium Scholarship  
 Gregory Scott Sultemeier Criminal Justice Memorial Scholarship  
 Scott Summy Pre-Law Endowed Scholarship  
 Dr. Jesse L. Tackett Endowed Scholarship  
 Tarleton Academic Scholarship  
 Tarleton Alumni Association Endowment Scholarship  
 Tarleton General Scholarship  
 R.L. & Mattie Tate Memorial Endowed Scholarship  
 Joy Terry Endowed Scholarship in Chemistry  
 Lee Edwin Terry Endowment  
 Texas Pioneer Foundation Scholarship  
 Texas Seed Trade Association/American Seed Trade Association Scholarship  
 I. B. Thomas Hydrology Scholarship  
 Dr. Barry B. Thompson Theatre Scholarship  
 Top Academic Partners Scholarship  
 Bernie Amos and Lorraine Yarbrough Trice Memorial Endowed Scholarship  
 W.O. Trogdon Endowment  
 Vance & Violet Terrell Scholarship in Nursing  
 Tarleton Alumni Association Baylor Nursing Scholarship  
 Tarleton Alumni Association Endowed Scholarship  
 Tarleton Discovery Scholarship  
 Tarleton Impact Scholarship  
 Tarleton Seed Scholarship  
 Tarleton State University Distinguished Alumni Chapter Scholarship Endowment  
 Tarrant County College Math Competition Scholarship  
 Willie L. & Eve K. Tate Scholarship  
 Jewell Taylor Dietetics Scholarship  
 Texas Ranger Law Enforcement Association Criminal Justice Scholarship  
 Texas Seed Trade Association Scholarship  
 Barry B. Thompson Science Education Endowed Scholarship  
 Town & Country Bank Dublin High School Scholarship  
 Transfer Sprint Scholarship  
 TSU Foundation Engineering Scholarship  
 TSU Middle School Mathematics Scholarship  
 TSU Student Nurses' Association Senior Scholarship  
 TSU Student Nurses' Association Sophomore Scholarship  
 Trenzio D. Turner Scholarship  
 Twentieth Century Club Scholarship  
 Dr. Sara Tyler Memorial Scholarship  
 Ultra Fine Arts Scholarship  
 Waco Outreach Campus Endowed Scholarship  
 Dr. Gay Wakefield Memorial Scholarship  
 Robert B. Waller Endowed Graduate Scholarship  
 Gilbert Ward Memorial Hydrology Scholarship  
 Washington D.C. Internship Scholarship  
 Coy L. Watson Class of 1939 Scholarship  
 Dr. David Weissenburger Scholarship



Jakie Laughlin Endowed Scholarship  
 Barbara Lancaster Scholarship  
 Myrtice N. Larson Education Sch  
 Col. Charles Leigon Endowed Scholarship in Nursing  
 James C. Leeth Memorial Scholarship  
 Carolyn Lesley Memorial Scholarship  
 Garry Lewellen Memorial Scholarship

**Presidential Honors Program**

Joy Gallant Archer Scholarship

Edward Larry Bicket Presidential Honors Scholarship  
 Andrea Bernice Brenner-McMullen Presidential Honors Scholarship  
 Daniel Ross Carpenter Presidential Honors Scholarship  
 Frederick Thomas & Madeline Tolksdorf Crimmins Criminal Justice Presidential Honors  
 Crimmins Criminal Justice Presidential Honors Scholarship  
 Helen Crimmins and Aurelia Tolksdorf Presidential Honors Scholarship  
 Herman Funston Honorary Endowed Scholarship for Presidential Honors Scholars  
 Guin Lemke Presidential Honors Scholarship  
 Roy & Mildred McKnight Endowed Scholarship  
 Audrey Myers Memorial Scholarship for Presidential Honors Scholars  
 M.D. McElroy Presidential Honors Scholarship  
 Will & Pearl Nix Presidential Honors Scholarship

**Scholarships Based on Leadership & Other Criteria**

Major General Chris Adams Air Force ROTC Scholarship  
 Agriculture Career Development Endowed Scholarship  
 Agriculture Contest Scholarship  
 Agricultural Services & Development Alumni Scholarship  
 Agricultural Special Need Scholarship  
 Allen Cattle Management Scholarship  
 Alpha Gamma Delta Epsilon Upsilon Alumnae Endowed Scholarship  
 Alpha Phi Omega Alumni Scholarship  
 Ben and Nellie Baty Endowed Scholarship  
 Ashley Beasley Memorial Scholarship  
 Gary Wayne Brannon Scholarship  
 Brown Foundation  
 W.P. & Lucille Brummett Endowed Scholarship  
 Major J.W. Burkett Memorial Scholarship  
 Chris Cain Memorial Plowboy Scholarship Endowment  
 John Caraway Memorial Endowed Nursing Scholarship  
 Childers Family Criminal Justice Leadership Excellence Scholarship  
 Mark G. and Katherine L. Childers CJ Leadership Endowed Scholarship  
 Class of 2014 Agribusiness Scholarship  
 Major William Clay, Jr. Memorial Scholarship  
 COAHS Scholarship  
 COBA Select Sires, Inc. Agricultural Scholarship  
 Comanche County Scholarship  
 Dr. Samuel E. Curl Endowed Scholarship  
 DeLeon, Texas Ex-students Association Scholarship  
 William Edwin Dyess Endowed Scholarship  
 June Frank Eldridge Memorial Scholarship  
 Erath County Association of Retired School Employees Scholarship  
 Bobby Fox Memorial Endowment  
 Oscar Frazier Endowment  
 Jerry Flemmons Memorial Endowed Scholarship  
 Friends of the Dick Smith Library Endowed Scholarship  
 Tony and Gina Gaither Memorial Endowed Scholarship  
 Gifford Family Veterans Endowed Scholarship  
 Golden Family Scholarship  
 Harris Methodist Hospital-Erath County Endowed Scholarship In Sports Medicine  
 Gene Haas Scholarship  
 Ben Hogan Scholarship  
 Brian K. Iley Memorial Scholarship  
 LTC Sam Jeffers ROTC Scholarship  
 John Tarleton Leadership Academy (JTLA) Scholarship

Christy West Scholarship Fund for Teachers  
 Lucile W. Whisenand Memorial Endowed Scholarship  
 Hosey-Whitman Scholarship  
 George Wiedebusch Scholarship  
 Evelyn Wisdom Memorial Endowed Scholarship  
 Wyatt Family Scholarship  
 Dr. Bryant Wyatt Mathematics Scholarship

W.L. (Bill) & Barbara Terrell Nix Honors Program Study Abroad Endowed Scholarship  
 Robert & Ireta Pittman Endowed Scholarship  
 Howard F. & Willie Dee Ross Memorial Endowed Scholarship  
 Louise & Tommy Thompson Presidential Honors Scholarship  
 Nita Todd Presidential Honors Scholarship

Henry Todd Presidential Honors Scholarship  
 Dr. James Clark Terrell Presidential Honors Scholarship  
 Dora L. Willard & Ellen W. Willard Terrell Presidential Honors Scholarship

J.L. Todd Presidential Honors Scholarship  
 Town & Country Bank Presidential Honors Scholarship  
 Clyde H. Wells Presidential Honors Scholarship  
 Royce Wisenbaker Presidential Honors Scholarship

Roscoe & Halcie Maker Endowed Scholarship  
 Judge & Mrs. Almon Maus Scholarship  
 Dr. Dennis P. McCabe Student Endowment Scholarship  
 Curtis L. Meeks Upward Bound Scholarship  
 Mills County Scholarship  
 Lt. Col. Jim and Dr. Theresa Mulloy Texan Corps of Cadets Scholarship  
 MVSC Veterans Assistance Scholarship  
 W.L. & Barbara Nix Erath County Scholarship  
 John & Rita Pelham Texan Corps of Cadets/ROTC Scholarship  
 Christian & Nancy Phillips Leadership Scholarship  
 Otho & Ellen Phillips Endowed Scholarship  
 Pinaeapple Games Scholarship Endowment  
 Presidential Leadership Scholarship  
 Recreational Sports Memorial Scholarship  
 Rennie & Hugley Memorial Scholarship in Nursing  
 Residential Living/Learning Leader Scholarship  
 Ruby Nell Ruth Endowed Scholarship  
 Jacob Sandlin Memorial Scholarship  
 Dr. Verne & Pearl Kern Scott Endowed Scholarship  
 SGA Service Scholarship  
 SHS Class of 1961 Endowed Scholarship  
 SHS/Tarleton Academic Reciprocal Scholars  
 Southwest Meat Assn. Foundation Scholarship  
 Brett Spindor Memorial Endowed Scholarship  
 June Arthur Shannon Scholarship  
 Doug Smith Endowed Scholarship  
 STEM Student Ambassador Scholarship  
 Deanna Supercinski & Janna Walker Memorial Scholarship  
 TAA Edwin Dyess Veteran Memorial Scholarship  
 TAA Legacy Scholarship  
 Tanton Family Granbury High School Scholarship  
 Tanton Family Dublin High School Scholarship  
 Tarleton Ambassador Core Values Scholarship  
 John Tarleton Leadership Academy Scholarship  
 Tarleton Parents Association Scholarship  
 Tarleton Professional Educators Scholarship  
 Tarleton State University SGA Zach Shaver Memorial Endowed Scholarship  
 Texan Corps of Cadets Scholarship  
 TEXAN Corps of Cadets Leadership Scholarship  
 Texan Reps Scholarship  
 Texan Sports Medicine Association Endowment and Scholarship Fund

Daniel Jones Delta Chi Memorial Endowed Scholarship  
 Larry Janca Kahlbau Endowed Scholarship  
 LTC John F. Kerby Army ROTC Endowed Scholarship  
 Ed Knoll Service Scholarship  
 John & Judy Landers Scholarship  
 Judy & John Landers Scholarship  
 Latinas in Progress Scholarship

### Scholarships Based on Need & Other Criteria

Dextor & Leroy Ator Endowed Scholarship  
 Joy Gallant Archer Memorial Endowed Scholarship  
 Sue Baker Scholarship  
 Paul D. & Gerry B. Bearden Endowed Scholarship  
 Dwain & Carolyn Bruner Endowed Scholarship  
 Clinton Smith, Clint Stewart and John Christie Memorial Endowed Scholarship  
 Class of 1948 Endowed Scholarship  
 Richard & Suzy Coan Endowed Scholarship  
 Josephine Garrett Donaldson Scholarship  
 Doss Foundation Scholarship  
 M. S. & Meek Lane Doss Scholarship  
 Dan & Geneva Fender Family Scholarship  
 Evans Family Scholarship  
 Florence Peek Foust Scholarship  
 Drucilla Eberhart George Memorial Endowed Scholarship  
 Walter and Sara George Scholarship  
 Truby Glasscock Endowed Scholarship  
 Eleanor Golding Memorial Scholarship  
 Cora Rohne Goodman & Kings' Daughters Nursing Alumnae Association Memorial Scholarship  
 Willis-Gordon Endowed Scholarship  
 E.R. & Sammie Henningsen Scholarship  
 Gladys Hale Endowed Scholarship  
 David & Danielle Hanson Scholarship for Twins  
 Dr. Gloria M. Hewlett Endowed Scholarship  
 David Hooks Memorial Scholarship  
 Daniel Jones "Never Give Up" Memorial Scholarship  
 Reecie & Opal Jones Endowed Scholarship  
 Ava & Jack Kenny Endowed Scholarship  
 Lee Law Firm Scholarship  
 Ethal Lewallen Memorial Scholarship  
 Kendra Lewis Memorial Scholarship Endowment  
 Mary Garrett Lindley Memorial Scholarship  
 Russell Moore Endowed Scholarship

### Performance-Based Scholarships

Athletic Performance Intern Scholarship  
 Band Scholarship  
 Bass Club Scholarship  
 Kacee Bradley Top Hand Rodeo Scholarship  
 Busby Quarter Horse Scholarship  
 John Caraway Memorial Endowed Music Scholarship  
 Dr. Marie Meisel Cedars Memorial Scholarship  
 Center Stage Scholarship  
 Cheerleader Scholarship  
 Choir Scholarship  
 Caden Coltharp Memorial Scholarship  
 Marily Considine Memorial Endowed Scholarship  
 Rachel Lorraine DeLeon Memorial Scholarship Endowment  
 Bob & Darla Doty Endowed Scholarship  
 Drama Scholarship  
 Perry & Meldeene Elliott Endowed Athletic Scholarship  
 Kenneth Evatt Rodeo Scholarship  
 Joe Fambro Memorial Endowed Scholarship  
 Jerry Flemmons Drama  
 Mike Myers & Oscar Frazier Track/Field Scholarship  
 Charles & Lucille Froh  
 John Franks Memorial Endowed Scholarship  
 Morris & Beverly Gifford Scholarship

TSU Foundation, Inc. Endowed Scholarship  
 TSU Meats Team Endowment  
 Waco Diplomat 'Imbued with Spirit' Endowed Scholarship  
 Wichita Farm & Ranch Club Scholarship  
 W.J. Wisdom Endowment  
 Zonta Club Loy Patton Scholarship

Clifton J. Morvant Endowed Scholarship  
 Ray & Pat Peters Endowed Scholarship  
 Virginia Powell Scholarship  
 Francine Esposito Pratt Social Work Endowed Scholarship  
 Presidential Need-Based Scholarship  
 James Winston Randle Endowed Scholarship  
 Shanon Rasco Scholarship for Physically Disabled Students  
 Regents' Trailblazer Grant/Scholarship  
 Removing Educational Barriers Endowed Scholarship  
 Annie Myra Schuman Nursing Scholarship  
 Dr. Verne A. Scott Scholarship  
 Second Chance Scholarship  
 Ram Lal Seekri Endowed Scholarship  
 Richard T. Shigley Memorial Scholarship  
 Spirit of Tarleton Scholarship  
 Stephenville Hospital Auxiliary Inc. Nursing Scholarship  
 Stephenville Study Club Endowed Scholarship  
 SunGard Generation Proud Scholarship  
 James H. & Betty Tally Endowed Scholarship  
 Texan GRIT Re-Entry Scholarship  
 Texas Association of Ag. Consultants Endowed Scholarship  
 Tarleton Flame Scholarship  
 Tarleton Pride Scholarship  
 Dean & Gloria Taylor/Kwik Kar Scholarship  
 Richard L. Thompson Endowed Scholarship  
 Thormann Endowed Scholarship  
 Dimple Obedia Tunnell Endowed Scholarship  
 Roger & Ruth Turney Memorial Scholarship  
 Stanley G. and Mary Ann Westbrook Endowed Scholarship  
 Lee Wayne Wheeler Scholarship  
 TAA Don Winn Scholarship  
 Kathleen Wisdom Endowed Scholarship  
 Hal W. & Winnie F. Wright Endowed Scholarship  
 Juanita Dixon Zonta Single Parent Scholarship

Kreek Magin Memorial Scholarship  
 Pearl Mahan Writing Scholarship  
 Mary Jane Mingus Endowed Scholarship  
 Donald W. Morton Music Scholarship Music  
 Sue Medlen Music Scholarship  
 Donald & Dahlee Morton Endowed Piano Scholarship  
 Piano Performance Scholarship  
 Terry and Alyce Price Choral Scholarship  
 Presidential Rodeo Scholarship  
 Swan & Ertith Richardson Endowment  
 David C. Riggins Memorial Scholarship  
 Scott Riola Memorial Endowed Scholarship  
 Walter Rode Endowed Scholarship  
 Rodeo Activity Scholarship  
 Rodeo Stall Scholarship  
 TSU Rodeo Association Scholarship  
 ROTC Scholarship  
 Earl Rudder Endowed Scholarship  
 Cheryl Spellmeier Endowed Scholarship  
 Student Services Rodeo Scholarship  
 Rick Tackett Memorial Scholarship  
 Herb Teat Endowment  
 Texan Stars Scholarship

Coach Ronnie Giles Memorial Scholarship  
 Lauren Green Memorial Scholarship  
 Daniel Parker Herd Memorial Endowed Scholarship  
 Hunewell Band Scholarship  
 International Piano Major Scholarship  
 Daniel Jones "Bleed Purple" Memorial Endowed Scholarship  
 Marguerite Landress Memorial Endowed Scholarship in Music  
 Ethel Lewallen Fine Arts  
 Ethel Lewallen Memorial Scholarship  
 A Diamond in Our Eyes: The Sade Lowery Memorial Scholarship

Town & Country Bank Rodeo Scholarship  
 Visual Art Scholarship  
 Terry Walls Memorial Scholarship  
 Clyde H. Wells Fine Arts Scholarship  
 Jana Williamson Memorial Endowed Scholarship  
 C.A. Wisdom Music Endowment  
 Col. Ray & Pat Yantis ROTC Endowed Scholarship  
 Marty Yates Rodeo Scholarship  
 Zonta Beaulah Brown Rodeo Scholarship

**Tarleton State University also awards NCAA Division II Athletic Scholarships to male and female student athletes.**

## Student Affairs

The Division of Student Affairs creates communities that provide a sense of belonging and engages students to be successful. To achieve this mission, Student Affairs provides outstanding programs and services for students in the following departments: Assessment & Strategic Initiatives, Campus Recreation, Community Outreach, Dean of Students Administrative Office, Fraternity and Sorority Life, Lance Zimmerman Department of Student Involvement, Tradition, Spirit, and Family Relations, Leadership and Service, New Student Programs, Office of Diversity, Inclusion, and International Programs, Residence Life, Rodeo Activities, Student Counseling Services, Student Government Association, Student Health Services, Student Media, and University Police.

## Assessment & Strategic Initiatives

Assessment & Strategic Initiatives promotes holistic student success by contributing to a culture of continuous improvement for departments within the Division of Student Affairs. Administered assessments provide stakeholders data to make evidence-based decisions in order to offer relevant programs and services.

## Campus Recreation

Campus Recreation provides a variety of recreational activities and events to meet the physical fitness and/or personal enjoyment needs of students, retirees, faculty/staff and spouses. Extracurricular opportunities are coordinated and implemented to provide intramural team and individual sports, self-directed activities, and special events.

The Recreation Sports Center is a 70,000 square foot facility, housing a weight room, climbing wall, four racquetball courts, men's and women's locker rooms, outdoor pursuits equipment check-out, three basketball/volleyball courts, three badminton courts, and two classrooms. The second floor includes two group fitness rooms, cardio machines, a three-lane track, and the administrative office suite.

The Aquatics Center is an 8-lane/25-yard indoor lap pool with a wet-dry classroom and locker rooms. The outdoor pool consists of a leisure area with tanning ledges for students. Memberships are available for students, faculty, staff, retirees, graduates, spouses, and community members.

The Vance Terrell Intramural Complex is equipped with one turf and two grass all-purpose fields to serve various organized and open recreational activities. Intramural Sports programs played at this facility include flag football, soccer, and softball while Sport Clubs include rugby, lacrosse, and soccer.

Fitness/Wellness programming is available to meet the fitness and wellness needs of Campus Recreation students and members. Examples of wellness include Group Fit classes, weight room and cardio areas of the facility, personal training services, and wellness workshops.

Tarleton Challenge is an energizing ropes course learning experience through a combination of high and low elements conducted by trained facilitators. Participants enjoy safe, fun, unique and innovative opportunities to promote group and personal growth and team-building, as well as communication and trust.

For more information visit [www.tarleton.edu/campusrec](http://www.tarleton.edu/campusrec) (<http://www.tarleton.edu/campusrec/>) or call 254-968-9912.

## Community Outreach

Student Affairs seeks to provide students the opportunity to become engaged within the civic community in which students reside while attending Tarleton. Civic engagement may take place by becoming a registered voter, participating in local, state, and national elections, attending community events, volunteerism, and being a good neighbor in both on and off campus living environments. Student Affairs Community Outreach will encourage students to live Tarleton's core values.

## Dean of Students Administrative Office

The Dean of Students Administrative Office provides essential services to students in the following areas: student conduct, Campus Assessment Response Evaluation (CARE) team, student concerns, temporary disability support, and absence requests. The Dean of Students Administrative Office is dedicated to maintaining a safe campus and implementing a holistic learning and development approach through the enforcement of the Code of Student Conduct (<http://www.tarleton.edu/studentrules/code-of-student-conduct.html>). Students are expected to act with integrity, responsibility, and respect while attending Tarleton State University and to follow the Student Conduct Code (<http://www.tarleton.edu/studentrules/code-of-student-conduct.html>). The Dean of Students Administrative Office holds all students accountable to these established standards and expectations. In addition to student conduct, the Dean of Students Administrative Office oversees support services that students may need while attending classes. These services include guidance/support for any student concerns and academic support during temporary medical leave or a death of an immediate family member. For additional information and support visit: <https://www.tarleton.edu/judicial/office> (<https://www.tarleton.edu/judicial/office.html>) or contact 254-968-9080.

## Fraternity and Sorority Life

Fraternity and Sorority Life at Tarleton provides opportunities for brotherhood/sisterhood, scholarship, leadership and service. Groups range from social to social/professional and offer numerous activities that include community engagement, philanthropy events and social activities. The variety of fraternities and sororities on campus allow students the opportunity to select one that will best fit their needs. Recruitment is held during the first few weeks of the fall and spring semesters. Students who are strong leaders in serving their communities may be considered for membership in the Order of Omega which recognizes Greek-based leadership. For more information go to [www.tarleton.edu/stulife/greeklife](http://www.tarleton.edu/stulife/greeklife) or call 254-968-1876 (<http://www.tarleton.edu/stulife/greeklife>) or 254-968-9252.

## The Lance Zimmerman Department of Student Involvement, Tradition, Spirit & Family Relations

While academic success is the highest priority, participation in The Lance Zimmerman Department of Student Involvement, Tradition, Spirit & Family Relations can add an important dimension to the university experience. Through student organizations and co-curricular activities, students build their co-curricular transcript through social development, project management and leadership experiences.

## Student Involvement

- **Registered Student Organizations (RSO)** provide opportunities for development in the areas of leadership, personal management, collaboration, supervision, organization, communication, networking, event planning, and relationship building. Visit TexanSync to explore the more than 120 active student organizations on all Tarleton campuses.

- **Tarleton Activities Board (T.A.B.)** The Tarleton Activities Board (T.A.B.) is the student-focused, value-driven activities board that responds to student interests by hosting entertainment opportunities which encourage students to connect and engage with one another and the campus community. T.A.B. offers a variety of recreational, educational, social, cultural, and other extra-curricular programs throughout each semester. Please email [tab@tarleton.edu](mailto:tab@tarleton.edu) for more information.

## Tradition & Spirit

- **Howdy Week & Welcome Back Week:** Howdy Week is held the first week of the Fall semester and Welcome Back Week the first week of the Spring semester. These programs are designed to welcome students back to campus through a variety of events including informational tents, Texan Bingo, Comedian Night, Movie on the Lawn, Meet the Greeks, and Welcome Back Picnic.
- **Founder's Week** is a week filled with traditional events showcasing school spirit. Traditionally held in April, each day highlights a different tradition. Events include Cruise the Isle (land), May Fete, Grassburr Bash, Oscar P Birthday Bash, Silver Taps and the announcements of Lord/Lady Tarleton and Mr./Ms. Tarleton.
- **Purple Reign** is the official student section at all Tarleton State University sporting events. The student-led organization is supported by the Lance Zimmerman Department of Student Involvement, Traditions, Spirit & Family Relations and Tarleton Athletics. For more information contact [purpleign@tarleton.edu](mailto:purpleign@tarleton.edu).

## Family Relations

Tarleton's Family Relations program is a support-based initiative that assists parent/guardian(s) to continue guiding their Tarleton student on a successful path. Through the Parent Portal, families are encouraged to be engaged, informed and connected to one another while supporting their student on their Tarleton journey. The Tarleton Parents' Association (TPA) is a fee-based organization that promotes the University through service opportunities and encourages communication between parents, administration, faculty, staff and students. For more information go to [www.tarleton.edu/parents](http://www.tarleton.edu/parents) (<http://www.tarleton.edu/parents/>) or call (254) 968-9490.

## Leadership and Service Programs

Tarleton Leadership Programs intend to instill the university's core values into students. Through programs and organizations students will gain experience and receive guidance to foster growth, development, and help create student leaders that become community leaders. Tarleton Leadership and Service Programs host Tarleton Round-Up, an annual Tarleton Day of Service and advise student leadership organizations like Tarleton Serves. Students also have opportunities for leadership training and professional development through events such as Leadership 101. Leadership and Service Programs encourages students to make a difference by volunteering. Students who earn 189.9 volunteer hours during their time at Tarleton can receive a graduation cord to wear as they cross the stage. Students seeking to learn about their skills may take the StrengthsQuest Assessment to learn their top 5 strengths and how to apply and develop these strengths through their college career. Students may be invited to be members of Omicron Delta Kappa, a National Leadership Honor Society. Please call 254-968-1899 for more information.

The Division of Student Affairs proudly hosts the annual Leadership and Service Awards Banquet each spring semester. Students are recognized for their accomplishments and are celebrated with a special event hosted in their honor.

## New Student Programs

New Student Programs hosts orientation and extended orientation programming designed to ease the transition to university life, including the Texan 3-Step, the Transfer 2-Step, and Texan Orientation Online. For more information visit our website: [www.tarleton.edu/orientation](http://www.tarleton.edu/orientation) (<http://www.tarleton.edu/orientation/>) or contact 254-968-9256.

### The Texan 3-Step

New students admitted for the fall semester can expect a three-phase acclimation to the university:

- **Texan Orientation** is designed to give students and their support systems an opportunity to interact with Tarleton faculty, staff, and administrators. This one-day even educations students and those who support them about the resources Tarleton offers to help set them on a path toward graduation.
- **Duck Camp** is a three-day, two-night experience for incoming freshman that eases the transition from high school into college. At Duck Camp you are immersed in Tarleton's rich history and traditions while bonding with classmates and student leaders.
- **Texan Transition Week**, also known as "T-Week", begins with the first-year move-in experience and continues through the first day of class. T-Week helps students make successful transition into the academic and campus community.

### The Transfer 2-Step

Admitted transfer students are not required to complete a formal orientation. However, New Student Programs offers the following help to ensure our transfer students transition successfully:

- **Texan Camp** is a three-day, two-night experience for transfer students to experience together. At Texan Camp, you are immersed in Tarleton's rich history and traditions while bonding with classmates and student leaders.
- **Texan Transition Week**, also known as "T-Week", helps transfer students make a successful transition from their previous institution into our Tarleton campus community.

### Texan Orientation Online

For students that are admitted to start in the spring or summer terms, New Student Programs offers educational modules through Texan Orientation Online. This online platform ensures that all students can learn about campus resources and services, even if they are not admitted on the cycle that offers participation in face-to-face programming.

## Office of Diversity, Inclusion, and International Programs

The Office of Diversity, Inclusion, and International Programs is committed to celebrating diversity, promoting inclusion, and pursuing equity for the whole Tarleton community. Through advocacy, training, and affirmation, the Office of Diversity, Inclusion, and International Programs supports underrepresented populations on campus and provides services to our international students from more than 28 countries. To learn more about the programs offered through the Office of Diversity, Inclusion and International Programs, visit [www.tarleton.edu/diversity](http://www.tarleton.edu/diversity) (<http://www.tarleton.edu/diversity/>) or call 254-968-9488.

## Residence Life

Work performed by staff in Residence Life transforms students through a community experience that promotes intentional connections to peers, faculty, staff, university resources and invaluable learning experiences.

Tarleton State University offers no fewer than 11 residential facilities that provide a wide variety of room designs and price points to meet the needs of our diverse student body. Each residence hall offers a unique and comfortable environment for students. Residence hall rooms are equipped with bedroom furniture, cable TV (TV not provided), and Internet/WiFi as well as a combination refrigerator/freezer with a microwave unit. Laundry facilities are offered in each residential environment. Hall staff members live on-site and among the residents to provide students with the assistance needed to succeed socially and academically.

A two-year campus residency requirement is in place for all undergraduate students and students classified as first-year students (regardless of assignment) are required to purchase at least a 12-meals/week meal plan. Visit <https://www.tarleton.edu/housing/meal-plan-details.html> for specific information regarding meal plans.

## On-Campus Housing Requirement

Residing on campus creates an environment where students experience more success. Therefore, Tarleton supports an on-campus living requirement of:

Two (2) academic years for:

- all "First Time Freshman" students who are younger than 21 years of age, prior to the start of the first registered semester
- all "Transfer" students who are younger than 21 years of age with less than 12 credit hours excluding dual credit hours, prior to the start of the first registered semester

One (1) academic year for:

- all "Transfer" students who are younger than 21 years of age with 12 credit hours or more excluding dual credit hours, prior to the start of the first registered semester

As a resident of campus housing, a student must have a meal plan for use in University dining facilities. The housing contract occupancy period is the entire academic year, which includes both the fall and spring semesters. Students may file for an exemption to this requirement for the following reasons:

- The student graduated from high school at least two years prior to the start of the semester.
- The student will be 21 years of age or older prior to the start of the semester.
- The student is a married student or a single parent with at least one dependent child.
- The student currently resides, and will continue to reside, in the established primary residence of a parent or legal guardian with 45 miles of the Tarleton State University Stephenville Campus.
- The student will reside with a sibling who is a registered student at Tarleton State University and will reside at the address that is located within 45 miles of the Tarleton State University Stephenville Campus.
- The student is a transfer student with 60 or more successfully completed transfer credit hours that are not AP/Advanced Placement and/or dual credit hours.
- The student is taking eight credit hours or fewer as a part-time student.
- The student has a financial hardship.
- Medical reasons.

It is recommended that students not arrange to live off campus until a request for exemption has been approved, and the Off-Campus Request Form submitted with supporting documentation, by the Department of Residence Life staff. Submission of the Off-Campus Request Form can only occur through the housing portal, which is accessed by the student. For more information about exceptions to the Campus Housing Residence Requirement or the Off-Campus Request Form, call the Department of Residence Life at 254-968-9083.

## Housing Application

Housing application information is available online at [www.tarleton.edu/housing](http://www.tarleton.edu/housing) (<http://www.tarleton.edu/housing/>). Students may complete their housing application through their "student" tab found after logging in through "My Gateway." A \$100 non-refundable application fee must be submitted with all applications. Applications are processed for assignment in order of the date they are completed. A housing application is not complete until the \$100 non-refundable application fee has been submitted and the student has been admitted to the university. Contact the Department of Residence Life at 254-968-9083 or visit [www.tarleton.edu/housing](http://www.tarleton.edu/housing) (<http://www.tarleton.edu/housing/>) for more information.

## Living-Learning Communities

A Living-Learning Community is a smaller cohort of students (approximately 30 students) pursuing a common academic purpose and experience. Living-Learning Community students will be assigned together in a cluster of rooms in a specific residential area and will be enrolled in a pair/set of major-specific courses required for their field of study. Participation in this program allows students to be part of a group living together in the community and enrolled in one (1) or more courses together. Some opportunities exist for students to participate in Living-Learning Communities designed around an applied learning experience such as service or sustainability. These students live together in a residence hall and commit to fulfilling the requirements identified for the learning experience outside of the classroom. Students benefit from the relationships established among their peers, faculty and staff associated with each Living-Learning Community and typically experience increased levels of academic success. Students interested in our Living-Learning Community programs can indicate their interest through their Housing Application/Contract. Students will be evaluated for eligibility and, if eligible, assigned to an appropriate Living-Learning Community based on space availability. Students who are not eligible will be assigned to an available space on campus. For more information, view the live-learn links on our website: [www.tarleton.edu/housing](http://www.tarleton.edu/housing) (<http://www.tarleton.edu/housing/>) or call the Department of Residence Life at 254 968-9083.

## Meningitis Vaccine

Texas Legislative Bill 4189 requires each student assigned to live on-campus to provide proof of a meningitis vaccine obtained no less than 10 days prior to moving into the on-campus environment. For more details about this requirement, go to [www.tarleton.edu/admissions/bacterial-meningitis.html](http://www.tarleton.edu/admissions/bacterial-meningitis.html) (<http://www.tarleton.edu/admissions/bacterial-meningitis.html>) or call 254 968-9125.

## Rodeo Activities

The Office of Rodeo Activities provides students the opportunity to be involved in rodeo activities at the intercollegiate level as they study for their undergraduate and graduate degrees. Tarleton State University is a member of the National Intercollegiate Rodeo Association (NIRA) and competes in the Southwest Region as one of the largest teams in the nation. The Tarleton Rodeo team provides students with the opportunity to be a part of and participate in events such as the Halloween Rodeo, 10 NIRA sanctioned rodeos, and various fundraising events. Interaction with the Stephenville and surrounding communities allows for students to meet with potential future employers once they complete their degrees. The Office of Rodeo Activities proudly announces their new home and practice facility located several miles north of Stephenville at the previous location of Clinton Anderson's Down Under Horsemanship Ranch. Scholarships are available for rodeo athletes based on success both academically and in the arena. For more information go to [www.tarleton.edu/rodeo](http://www.tarleton.edu/rodeo) (<http://www.tarleton.edu/rodeo/>) or call 254-968-9187.

## Student Counseling Services

Student Counseling Services provides counseling services, both face-to-face and virtually (when appropriate), to all students enrolled at Tarleton and paying the Health Services Fee. The mission of Student Counseling Services is to provide exemplary services to as many students as possible with the express purpose of transforming student lives. We promote wellness by assisting students from all backgrounds to accomplish their academic, career, and personal developmental goals. The student health fee covers counseling services, so students are not charged any additional fees. We offer individual, couples, pre-marital, family, and group counseling, along with consultation services. The SCS also provides preventative educational outreach programs to organizations across the campus. Presentations include topics such as stress management, test anxiety, relationship issues, positive body image, drug and alcohol use, and other topics as requested. The office is committed to diversity and meeting the needs of a changing university community. Appointments may be scheduled

by calling 254-968-9044. All counseling services are confidential within the limits outlined by Texas Law and Professional Ethics. For more information go to [www.tarleton.edu/counseling](http://www.tarleton.edu/counseling) (<http://www.tarleton.edu/counseling/>) or call 254-968-9044.

## Student Government Association

The Student Government Association is the representative voice of Tarleton students and it is directly responsible for bringing the interests and concerns of students to the attention of the administration and university community. For more information, go to the Student Government Association website: [www.tarleton.edu/sga](http://www.tarleton.edu/sga) (<http://www.tarleton.edu/sga/>).

## Student Health Services

Student Health Services provides health care services to students enrolled at Tarleton State University including the Stephenville, Fort Worth, Midlothian, RELIS-Bryan, and Waco locations. The student health fee covers office visits. Reasonable fees are charged for treatment, injections, tests and medications. Identification card presentation is required with each visit.

Services provided include prescription and over-the-counter medications, treatment of minor/acute illnesses and injuries, suturing of simple lacerations, removal of simple skin lesions, services of a medical doctor or nurse practitioner, administration of allergy injections as directed by the student's allergist, consultations regarding any health problems (including referrals), blood pressure checks and the continuation of health care following surgery or illness as directed by a physician.

Students who have graduated from a public school in Texas should have current immunization status. The State of Texas requires students who will be living on campus for the first time to show proof of vaccination against Bacterial Meningitis. The vaccination for Bacterial Meningitis must be received at least 10 days prior to moving on campus. Tuberculosis (TB) testing, tetanus, meningitis, influenza (fall semester only), and hepatitis B vaccines are available at the Student Health Center. Physical exams and women's health exams and birth control are also available for a reasonable fee. Health literature is available for personal and educational purposes.

All x-rays, laboratory tests, and medical services conducted outside of the Student Health Center are performed at the student's expense. Student Health Services is an advocate for the physically disabled. The university offers students a comprehensive injury and sickness insurance plan through the Texas A&M System to cover students beyond the resources of Student Health Services. For more information, call 254-968-9271 or go to [www.tarleton.edu/healthservices](http://www.tarleton.edu/healthservices) (<http://www.tarleton.edu/healthservices/>).

## Student Media

The department of Student Media oversees the production of the JTAC, the official campus newspaper; the Grassburr, the official yearbook for Tarleton State University; and manages the on-campus print shop, The Source. The department is also charged with managing all marketing and communication efforts for the Division of Student Affairs. All publications and marketing projects are conceptualized, developed, and produced by staff comprised of Tarleton students. As a student-driven department, Student Media offers various opportunities to gain real-world experience, develop critical personal and career skills, and create powerful portfolios. For more information, call 254-968-9056 or go to [www.tarleton.edu/studentpublications](http://www.tarleton.edu/studentpublications) (<http://www.tarleton.edu/studentpublications%20or%20call%20254-968-9056/>). Learn more about JTAC News at [www.jtac.com](http://www.jtac.com) (<http://www.jtac.com/>).

## Thompson Student Center

The Thompson Student Center provides programs, services, and facilities that are responsive to the needs of students, faculty, staff and the local community. As the center of university community life, it serves as an arena for students to apply their educational experiences outside the classroom.

The 103,000 square foot facility features four meeting rooms, three ballrooms, a student printing service, a gaming area, several campus life departments, the campus bookstore, food court, post office, and individual and group study areas. For more information go to [www.tarleton.edu/studentaffairs/tsc/index.html](http://www.tarleton.edu/studentaffairs/tsc/index.html) (<https://www.tarleton.edu/studentaffairs/tsc/>) or call 254-968-9383.

## University Police Department

The safety and security of the campus community is the number one priority of the University Police Department. Staffed by fully licensed police officers, the department operates around the clock and every day to ensure a positive environment for students to live, learn and interact. Additionally, the department offers safety escorts across campus vehicle jump-starts for dead batteries and will unlock your car if your keys are locked inside. Call 911 for emergencies or 254-968-9002 for anything else. We are always just a phone call away.

## Tarleton Libraries

Tarleton Libraries offer information and research materials, personalized services, technological tools, and study/meeting spaces to support the educational, research, scholarship, and recreational needs of the entire University community. The libraries' resources and services can be accessed online at <http://www.tarleton.edu/library> (<http://www.tarleton.edu/library/>) and by visiting the libraries.

The Dick Smith Library is centrally located on the Stephenville campus and offers all the typical amenities of an academic library including a Maker Spot and the Study Grounds Café. The Rickett Library in Fort Worth has a physical collection targeted to graduate degree offerings and utilizes the campus courier to provide access to Dick Smith Library materials. Writing Center and Information Technology Services can be found in both libraries.

Tarleton librarians and professional staff offer services and resources in person, by telephone, through email, and online to meet Tarleton community's ever-changing needs. Tarleton Libraries provide print and electronic books (600,000+), periodicals (82,000+), government documents, audiovisual materials, microforms, archives, and digital images. Tarleton Libraries offer over 300 databases that provide online access to full-text articles and citations from thousands of scholarly and professional journals, trade publications, popular magazines, newspapers, and selected reference books, as well as streaming video and digital music to support coursework and research endeavors. Interlibrary loan and TexShare are two other services to access resources we do not own.

## Honors College

In the Honors College students are part of a community combining the advantages of a small liberal arts college with the diversity of a comprehensive state university. The Honors College is comprised of two programs, the Presidential Honors Program and the Honors Degree Program. Students in these programs participate in an extensive academic curriculum including honors sections of core courses, special honors seminars, and honors research projects. Supplementing the challenging academic work that honors students complete in their classes, the Honors College also provides many opportunities for educational and cultural experiences outside of the classroom, such as trips to Bass Performance Hall and the art museums in Fort Worth, Honors College Alumni Day, and a month-long study abroad program on the Italian Renaissance in Urbino, Italy.

Freshmen students in the Honors College live in the Honors Hall and returning students have the option to live in Honors Hall or make other housing arrangements. The administrative offices, meeting spaces, and honors classrooms are located on the first floor of the Honors Hall, which gives students easy access to Honors academic advising and events.

Fifty Presidential Honors Scholars receive an annual scholarship of \$7,000. A number of Honors Degree Program participants receive a \$4,000-a-year or \$1,000-a-year scholarship.

For information on the admission standards, program requirements, benefits, Honors Hall, and the application process for the Honors College, please visit our website at [www.tarleton.edu/honors](http://www.tarleton.edu/honors) (<http://www.tarleton.edu/honors/>) or contact the Honors College at 254-968-1926 or [honors@tarleton.edu](mailto:honors@tarleton.edu).

## University College

Dr. Laurie Sharp

### University College

University College is a network of programs and services available to assist Tarleton students as they work toward degree completion and their future career goals. University College works in collaboration with academic colleges and departments to coordinate meaningful first-and second-year experiences and support student success through degree completion. University College includes the departments of Academic Advising, Career Services, Student Development and Mentoring, Student Retention, and the Tutoring and Learning Center.

#### Academic Advising

Professional academic advisors assist with questions related to core curriculum, academic progress, schedule and major changes, declaring and changing minors, graduation planning, and activities that encourage all students to become engaged in their professional development toward achievement of their academic goals.

#### Career Services

Staff members and well-trained career coaches implement programs that develop the behaviors, knowledge, and skills that current students and alumni need to be competitive in the workplace. Career Services also fosters partnerships with employers to offer internships, jobs, and student employment opportunities.

#### Student Development and Mentoring

Student Development and Mentoring provides academic supports for students through academic coaching, peer mentoring, as well as programs that prepare students for college courses, such as Tarleton's Developmental Education Program and the iSucceed Program.

#### Student Retention

Student Retention organizes and supports retention efforts among current students in collaboration with university, college, school, and departmental leadership. Student Retention plans and directs communication efforts that utilize a wide range of virtual platforms, such as the AdmitHub retention bot, EAB, and Platform Q.

#### Tutoring & Learning Center

The Tutoring & Learning Center offers academic supports and resources for current students, including supplemental instruction, in-person and online tutoring, and coordinated group study.

### Courses

**UNIV 0010. Academic Strategies. 0 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).**

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**UNIV 0100. Academic Strategies. 1 Credit Hour (Lecture: 0 Hours, Lab: 0 Hours).**

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**UNIV 0200. College Success. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is a college readiness course. The goal of this course will be to increase student success in college by developing self-esteem, personal responsibility, self-motivation, resource management, study skills, and academic and career planning.

**UNIV 0204. University College Studies. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The goal of this course will be to strengthen academic skills among students to better ensure success in college-level coursework. Students will develop an individualized education plan that reinforces skills needed for success in the academic classroom and workplace.

**UNIV 0301. Integrated Reading/Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The focus of the course will be on applying critical reading skills for organizing, analyzing, and retaining material and developing written work appropriate to the audience, purpose, situation, and length of the assignment. The course integrates preparation in basic academic reading skills with basic skills in writing a variety of academic essays. This is a course with a required lab. The course fulfills TSI requirements for reading and/or writing.

**UNIV 0314. Foundations of College Algebra. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An intensive study of fundamental concepts and skills that support the processes in College Algebra. Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**UNIV 0324. Foundations of Math for Business & Social Sciences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An intensive study of the fundamental concepts and skills that support the mathematical processes in Math for Business & Social Science.

**UNIV 0332. Foundations of Contemporary Mathematics 1. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An intensive study of the fundamental concepts and skills that support the mathematical processes in finance, probability, statistics, and geometry. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**UNIV 0342. Foundations of Statistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An intensive study of fundamental concepts and skills that support the processes in statistics and probability. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**UNIV 0350. NCBO - ESOL - Reading and Vocabulary. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Develops English reading proficiency and vocabulary for academic, career, or personal purposes in speakers of languages other than English and prepares them to function in a multicultural, multilingual society.

**UNIV 1100. Transitioning to University Studies-Alternative First Year Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process.

**UNIV 1102. Learning Frameworks I. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

A study of the 1) research and theory in the psychology of learning, cognition, and motivation; 2) factors that impact learning; and application of learning strategies. Theoretical models of strategic learning, cognition and motivation serve as the conceptual basis for the introduction of college-level student academic strategies. Students use assessment instruments (e.g., learning inventories) to help them identify their own strengths and weaknesses as strategic learners. Students are ultimately expected to integrate and apply the learning skills discussed across their own academic programs and become effective and efficient learners. Students developing these skills should be able to continually draw from the theoretical models they have learned.

**UNIV 1201. Learning Frameworks II. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

A study of the 1) research and theory in the psychology of learning, cognition, and motivation; 2) factors that impact learning; and application of learning strategies. Theoretical models of strategic learning, cognition and motivation serve as the conceptual basis for the introduction of college-level student academic strategies. Students use assessment instruments (e.g., learning inventories) to help them identify their own strengths and weaknesses as strategic learners. Students are ultimately expected to integrate and apply the learning skills discussed across their own academic programs and become effective and efficient learners. Students developing these skills should be able to continually draw from the theoretical models they have learned.

## Tarleton State University Fort Worth

Fort Worth Administrative Offices  
 Tarleton State University-Fort Worth  
 10850 Texan Rider Drive  
 Fort Worth, United States 76036  
 (817) 732-7300  
 (817) 732-7339  
 fortworth@tarleton.edu  
 www.tarleton.edu/fortworth/index.html (<http://www.tarleton.edu/fortworth/>)

Tarleton State University – Fort Worth, an off-campus instructional site of Tarleton State University, has operated programs serving the needs of Tarrant, Johnson and Parker Counties for over 40 years. Initial programs started in 1978 in the area of Medical Laboratory Sciences, providing critically needed health care professionals for the rapidly growing Dallas/Fort Worth Metroplex. Those programs were followed by cooperative programs with the Fort Worth ISD to offer alternative teacher certification programs to meet the growing demands for teachers in 2000. Since that time, Tarleton has expanded program offerings at this location to include a variety of programs from the College of Education, College of Business Administration, College of Health Sciences and Human Services, College of Liberal and Fine Arts, and College of Science and Technology. Programs include doctoral and master's level programs/course work, and junior/senior level courses for baccalaureate degree completion. Baccalaureate degree completion programs are designed to build upon associate programs offered by Tarrant County Community College District, Weatherford College, Hill College, among others.

Students enrolling at Tarleton State University– Fort Worth may choose courses and entire programs offered via a variety of delivery modes including face-to-face, blended/hybrid, online, or in a cohort model. Consult the individual program listings for the type of delivery modes available for each program offered through Tarleton State University-Fort Worth.

Tarleton's Fort Worth sites have a diverse student population comprised of working adults seeking doctoral and masters degrees and community college graduates/returning students seeking to complete their bachelor's degree. Classes are offered during the day, evenings, and weekends to accommodate both part-time and full-time students. Academic advisors and other support staff are available to assist with admissions, financial aid/scholarship, veteran services, student success services (tutoring, proctored testing, etc.), degree plans, and library services.

Over 50 academic degree programs and certification options are available through our Fort Worth instructional sites. A complete listing of opportunities can be found at: <https://www.tarleton.edu/fortworth/index.html> (<https://www.tarleton.edu/fortworth/>)

Thanks to the donation of 80 acres by the Walton Group of Companies, a beautiful new three –story, 76,000 square foot multi-purpose academic facility opened in fall 2019 on the Chisholm Trail Parkway in Southwest Fort Worth. This facility, along with the existing R.C. Shaeffer Building in the Fort Worth Medical District, and newly completed classrooms on the Tarrant County College – Trinity River West Fork Campus, provide Tarleton with outstanding facilities to meet student needs.

Additional information about any of these programs or teaching locations may be obtained by contacting:

Tarleton State University- Fort Worth Administrative Offices  
 10850 Texan Rider Drive  
 Fort Worth, Texas 76036  
 (817) 732-7300

Admission to one of the Fort Worth undergraduate programs requires completion of a minimum of 30 credit hours and that a student be Texas Success Initiative (TSI) satisfied. Applicants to an undergraduate program must meet the transfer admission standards for Tarleton State University: <https://www.tarleton.edu/admissions/>

## Tarleton State University Midlothian

Midlothian Administrative Offices  
 Tarleton State University  
 899 Mt. Zion Road  
 Midlothian, Texas 76065  
 972-775-7231  
 midlothian@tarleton.edu  
 www.tarleton.edu/midlothian/index.html (<http://www.tarleton.edu/midlothian/>)

Tarleton State University – Midlothian, a partner in the Midlothian Higher Education Center, operates programs serving the needs of Ellis and Dallas counties. The City of Midlothian and Ellis and Dallas counties are growing rapidly. In response to community need for baccalaureate level degree programs, the Midlothian Higher Education Center, a multi-institution teaching center, was approved by the Texas Higher Education Board to include Navarro College and Tarleton State University, among other university partners. Tarleton's program offerings at this site include Business, Criminal Justice Administration, Manufacturing and Industrial Management, and Psychological Sciences. Programs include junior/senior level courses for baccalaureate degree completion. Baccalaureate degree completion programs are designed to build upon associate programs offered by Navarro College and other area community college partners.

Students enrolling at Tarleton – Midlothian may choose courses and entire programs offered via a variety of delivery modes including face-to-face, hybrid-blended or online. Consult the program's listing for the type of delivery modes available for each program Tarleton offers through the Midlothian Higher Education Center.

Tarleton – Midlothian has a diverse student population comprised mostly of working adults or returning students seeking baccalaureate completion degrees. Classes are offered in the evenings and during the day to accommodate both part-time and full-time students. Academic advisors and support staff are available to assist with admission, financial aid/scholarship, veteran services, student success services (tutoring, proctored testing, etc.), and degree plans.

Information about any of these programs or teaching site may be obtained by visiting <https://www.tarleton.edu/midlothian/index.html> (<https://www.tarleton.edu/midlothian/>)

Additional information may be obtained by visiting or contacting:

Tarleton State University - Midlothian Administrative Offices  
 Navarro College - Midlothian  
 899 Mt. Zion Road  
 (972) 775-7231



Admission to one of the Midlothian undergraduate programs requires completion of a minimum of 30 credit hours and that a student be Texas Success Initiative (TSI) satisfied. Applicants to an undergraduate program must meet the transfer admission standards for Tarleton State University.

## Tarleton State University RELLIS

Dr. Shannon Hankhouse, Executive Director, Waco/RELLIS-Bryan Outreach Initiatives  
 Tarleton State University  
 McLennan Community College University Center  
 Michaelis Academic Center - Room 101  
 Waco, Texas 76708  
 (254) 299-8322  
 hankhouse@tarleton.edu

Tarleton State University proudly offers baccalaureate degree completion programs as part of the newest model of higher education in Texas, The Texas A&M University System's RELLIS Academic Alliance at the newly developed RELLIS Campus in Bryan, Texas. The RELLIS Academic Alliance Building I is located between College Station and Bryan, Texas, just off Texas Highway 47 and Texas Highway 21.

The RELLIS Academic Alliance allows multiple institutions within The Texas A&M University System and the Blinn College District to collaboratively offer selective degree and certificate programs. Students have the opportunity to be a part of a unique environment that challenges them to innovate, explore, and push themselves farther than they ever have before and receive an exceptional educational experience that will positively impact their respective careers.

Tarleton's School of Criminology, Criminal Justice and Strategic Studies, a part of the College of Liberal and Fine Arts, and the Department of Social Work in the College of Health Sciences and Human Services and the School of Engineering, a part of the College of Science and Technology, are committed to providing outstanding educational opportunities for students and working professionals in the Brazos Valley area.

Approved degree completion program offerings at RELLIS include Bachelor of Science (BS) degree in Criminal Justice, the Bachelor of Science (BS) degree in Public Administration, the Bachelor of Applied Arts and Science (BAAS) degree in Criminal Justice Administration, the Bachelor of Social Work (BSW) . The Bachelor of Science (BS) degree in Mechanical Engineering and the Bachelor of Applied Science (BAS) in Mechanical Engineering Technology

Standout features of the Tarleton program offerings at RELLIS-Bryan will include small class sizes, exceptional, qualified faculty and majors in high-demand professions.

Information about Tarleton's offerings at RELLIS-Bryan and the Academic Calendar can be found at the following locations:

<https://www.tarleton.edu/rellis/index.html> (<https://www.tarleton.edu/rellis/>)

<https://rellis.tamus.edu/academicalliance/academics/>

For additional information, please contact Dr. Shannon Hankhouse, Executive Director for Waco and RELLIS-Bryan Outreach Initiatives at (254) 299-8322 or (254) 299-8316.

Admission to one of the RELLIS-Bryan undergraduate programs requires completion of a minimum of 30 credit hours and that a student be Texas Success Initiative (TSI) satisfied. Applicants to an undergraduate program must meet the transfer admission standards for Tarleton State University: <https://www.tarleton.edu/admissions/>

Date	Event
<b>Fall 2021</b>	
Institution-specific	Graduation Application Deadline
	Transfer Admission Deadline
	Tuition & Fee Payment Deadline (will later be uniform)
Friday, August 27th	Last Day to Register for the Semester (16- and 1st 8 week)
Monday, August 30th	Fall Classes Begin
	Add/Drop Begins (16- and 1st 8-week classes)
Wednesday, September 1st	Last Day for Add/Drop (1st 8-week classes)
Friday, September 3rd	Last day for Add/Drop (16-week classes)
Tuesday, September 14th	Fall Census
Friday, October 8th	University Withdrawal/"Q" Drop Deadline (1st 8-week classes)
Friday, October 22nd	Last Day of 1st 8-week Classes
	Last Day to Register for 2nd 8-week Classes
Monday, October 25th	First Day of 2nd 8-week Classes
	Add/Drop Begins (2nd 8-week classes)
Wednesday, October 27th	Last Day for Add/Drop (2nd 8-week Classes)
Friday, November 19th	University Withdrawal/"Q" Drop Deadline (16-week Classes)
Wednesday, November 24th	Reading Day - No Classes
	University Withdrawal/"Q" Drop Deadline (2nd 8-week Classes)
Thursday, November 25th - Friday November 26th	Thanksgiving Holiday
Wednesday, December 8th	Last Day of Classes
Thursday, December 9th	Reading Day - No Classes
Friday, December 10th - Thursday, December 16th	Finals Week - See Finals Schedule for Specific Meeting Times
Friday, December 17th - Saturday, December 19th	Commencement
Friday, December 24th - Friday, December 31st	Winter Break - RELLIS Campus Closed
<b>Spring 2022</b>	
Institution-specific	Graduation Application Deadline
	Transfer Admission Deadline
	Tuition & Fee Payment Deadline (will later be uniform)
Friday, January 14th	Last Day to Register for the Semester (16- and 1st 8-week Classes)
Monday, January 17th	Martin Luther King, Jr. Day - RELLIS Campus Closed
Tuesday, January 18th	Spring Classes Begin
	Add/Drop Begins (16- and 1st 8-week Classes)
Thursday, January 20th	Last Day for Add/Drop (1st 8-week Classes)

Monday, January 24th	Last Day for Add/Drop (16-week Classes)
Wednesday, February 2nd	Spring Census
Friday, February 25th	University Withdrawal/"Q" Drop Deadline (1st 8-week Classes)
Friday, March 11th	Last Day of 1st 8-week Classes
	Last Day to Register for 2nd 8-week Classes
Monday, March 14th - Friday, March 18th	Spring Break - Faculty and Student Holiday
Monday, March 21st	First Day of 2nd 8-week Classes
	Add/Drop Begins (2nd 8-week Classes)
Wednesday, March 23rd	Last Day for Add/Drop (2nd 8-week Classes)
Friday, April 15th	Reading Day - No Classes
Tuesday, April 19th	University Withdrawal/"Q" Drop Deadline (16-week Classes)
Friday, April 20th	University Withdrawal/"Q" Drop Deadline (2nd 8-week Classes)
Tuesday, May 3rd	Last Day of Classes
Wednesday, May 4th	Reading Day - No Classes
Thursday, May 5th - Wednesday, May 11th	Finals Week - See Finals Schedule for Specific Meeting Times
Friday, May 13th - Saturday, May 14th	Commencement
<b>Summer 2022</b>	
Institution-specific	Graduation Application Deadline
	Transfer Admission Deadline
	Tuition & Fee Payment Deadline (will later be uniform)
Friday, May 27th	Last Day to Register for the Semester (10- and 1st 5-week Classes)
Monday, May 30th	Memorial Day - RELLIS Campus Closed
Tuesday, May 31st	Summer Classes Begin
Friday, June 3rd	Add/Drop Begins (10- and 1st 5 week Classes)
	Last Day for Add/Drop (10- and 1st 5-week classes)
	Summer Census
Monday, June 20th	University Withdrawal/"Q" Drop Deadline (1st 5-week Classes)
Friday, July 1st	Last Day of 1st 5 week Classes
Monday, July 4th	Independence Day - RELLIS Campus Closed
Tuesday, July 5th	Finals (1st 5-week Classes)
	No 10-week Classes Held
	Last Day to Register for 2nd 5-week Classes
Wednesday, July 6th	First Day of 2nd 5-week Classes
	Add/Drop Begins (2nd 5-week Classes)
Monday, July 11th	Last Day for Add/Drop (2nd 5-week Classes)
Wednesday, July 20th	University Withdrawal/"Q" Drop Deadline (10-week Classes)
Tuesday, July 26th	University Withdrawal/"Q" Drop Deadline (2nd 5-week Classes)
Monday, August 8th	Last Day of Classes
Tuesday, August 9th - Wednesday, August 10th	Finals (10- and 2nd 5-week Classes)

[\*Commencement will not be conducted during summer terms; students may walk at RELLIS in spring or participate in home institution's ceremony]

## Tarleton State University Waco

Waco Administrative Office  
 Tarleton State University  
 McLennan Community College University Center  
 Michaelis Academic Center - Room 101  
 Waco, Texas 76708  
 (254) 299-8322  
[www.tarleton.edu/waco/index.html](http://www.tarleton.edu/waco/index.html) (<http://www.tarleton.edu/waco/>)

Tarleton State University Waco, an off-campus instructional site of Tarleton State University, delivers programs serving the needs of McLennan and Hill Counties as a four-year partner of the McLennan Community College (MCC) University Center (UC). Waco and McLennan County represent a rapidly growing population not served by a four-year public institution. In response to a major identified community need for baccalaureate and master's-level degree programs, McLennan Community College established a University Center to host four-year institutional partners in offering these degree programs on the MCC campus, with Tarleton as one of the inaugural partners. Since 2002, Tarleton has expanded program offerings at this location to include a variety of programs from the College of Education, College of Business Administration, College of Health Sciences and Human Services, College of Liberal and Fine Arts, College of Agricultural and Environmental Science, and College of Science and Technology. Programs include doctoral and master's level programs/course work, and junior/senior level courses for baccalaureate degree completion. The baccalaureate degree completion programs are designed to build upon associate programs offered by McLennan Community College, Hill College, Texas State Technical College, among others.

Students enrolling at Tarleton Waco may choose courses and entire academic programs offered via a variety of delivery modes including face-to-face, blended/hybrid, or online. Some programs may be offered in a cohort model program-delivery design. Consult the program listing for the type of delivery modes available for each program Tarleton offers through the University Center at MCC.

Tarleton Waco has a diverse student population comprised of working adults seeking graduate degrees and community college graduates/returning students seeking to complete their bachelor's degree. Classes are offered in the day and evenings to accommodate both part-time and full-time students. Advisors and support staff are available to assist with admission, financial aid/scholarship, veteran services, student success services (tutoring, proctored testing, etc.), and degree plans.

Over 25 academic degree programs and certificates are available through our Tarleton Waco outreach teaching site. A complete listing of opportunities can be found at: <https://www.tarleton.edu/waco/index.html> (<https://www.tarleton.edu/waco/>)

Additional information about any of these programs may be obtained by visiting or contacting:

Tarleton State University – Waco Administrative Offices  
 McLennan Community College - Michaelis Academic Center, Room 101

1400 College Drive  
(254) 299-8322

Admission to one of the Waco undergraduate programs requires completion of a minimum of 30 credit hours and that a student be Texas Success Initiative (TSI) satisfied. Applicants to an undergraduate program must meet the transfer admission standards for Tarleton State University: <https://www.tarleton.edu/admissions/>

## Tarleton Online

Elizabeth Dunn Rawlings, Marketing and Communications Manager  
Tarleton State University  
Box T-0350  
Stephenville, Texas United States 76420  
254-968-9104  
online@tarleton.edu  
[www.tarleton.edu/online/index.html](http://www.tarleton.edu/online/index.html) (<http://www.tarleton.edu/online/>)

Tarleton Online operates to serve the needs of students who are geographically dispersed and/or who may be unable to attend traditional face-to-face classes at Tarleton's Stephenville campus or at the Fort Worth, Waco, Midlothian, or RELLIS-Bryan off-campus instructional sites. In response to the needs of learners who desire fully online degree programs, Tarleton developed one of the first online graduate degrees in Agriculture in 2003. Since that time, Tarleton has expanded its online offerings to include graduate and undergraduate completion programs in a variety of programs such as Business, Criminal Justice, Education, Psychological Sciences, Manufacturing and Industrial Management, among others.

Tarleton Online offers a set of wholly online master's programs and baccalaureate completion degree programs. Students desiring a campus designation of Distance Learner-Online may not reside in the following fourteen Texas Counties: Comanche, Dallas, Eastland, Ellis, Erath, Hamilton, Hill, Hood, Johnson, McLennan, Palo Pinto, Parker, Somervell, or Tarrant. Students residing within these counties may enroll in online and blended programs but must do so with a campus designation of one of the following locations: Stephenville, Midlothian, Fort Worth, or Waco.

Tarleton Online has a diverse student population comprised of working adults seeking master's degrees and community college graduates or returning students seeking baccalaureate completion degrees delivered online. Academic advisors and support staff are available to assist with admission, financial aid/scholarship, veteran services, student success services (tutoring, proctored testing, etc.), and degree plans. Programs and courses are offered through Tarleton's learning management system, Canvas.

Information about any of these programs or teaching locations may be obtained by visiting <https://www.tarleton.edu/online/index.html> (<https://www.tarleton.edu/online/>).

For additional information, please contact Tarleton Online at (254) 968-9104.

Admission to one of the online undergraduate degree completion programs requires a minimum of 30 credit hours and that a student be Texas Success Initiative (TSI) satisfied. Applicants to an undergraduate program must meet the transfer admission standards for Tarleton State University: <https://www.tarleton.edu/admissions/>

Out-of-state students interested in Tarleton Online can visit <https://www.tarleton.edu/online/student-services.html> to find out about resources for distance learners.

## Academic Degree Programs and Majors by College and Department

University Degree Inventory ([http://www.highered.texas.gov/apps/programinventory/?view=ReportCIP\\_UHRI&Inst\\_ID=98&PDF=1](http://www.highered.texas.gov/apps/programinventory/?view=ReportCIP_UHRI&Inst_ID=98&PDF=1))

### College of Agricultural and Environmental Sciences

#### *College of Agricultural and Environmental Sciences*

- Department of Agricultural and Consumer Sciences (<https://www.tarleton.edu/agsservices/>)
  - # Agribusiness (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-agribusiness/>)
  - # Agricultural Communication (BS)
  - # Agricultural Services and Development (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-agricultural-services-development/>)
  - # Agricultural and Consumer Resources (MS) (<http://www.tarleton.edu/degrees/masters/ms-agricultural-consumer-resources/>)
- Department of Animal Science and Veterinary Technology (<https://www.tarleton.edu/animalsciences/>)
  - # Animal Science (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-animal-science/>)
  - # Veterinary Technology (BAS) (<http://www.tarleton.edu/degrees/bachelors/bas-veterinary-technology/>)
  - # Animal Science (MS)
- Department of Wildlife, Sustainability, and Ecosystem Sciences (<https://www.tarleton.edu/ecosciences/>)
  - # Environmental Science (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-environmental-science/>)
  - # Wildlife, Sustainability, and Ecosystem Sciences (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-wildlife-sustainability-ecosystem-science/>)
  - # Agricultural and Natural Resources (MS) (<http://www.tarleton.edu/degrees/masters/ms-agricultural-natural-resource-sciences/>)

### College of Business Administration

#### *College of Business Administration*

- Department of Accounting, Finance, and Economics (<https://www.tarleton.edu/afe/>)
  - # Accounting (BBA) (<http://www.tarleton.edu/degrees/bachelors/bba-accounting/>)
  - # Economics (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-economics/>)
  - # Finance (BBA) (<http://www.tarleton.edu/degrees/bachelors/bba-finance/>)
  - # Accounting (MAcc) (<http://www.tarleton.edu/degrees/masters/macc-accounting/>)
- Department of Management (<https://www.tarleton.edu/mgmt/>)
  - # Applied Science (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-applied-science/>)
  - # Business (BAAS) (<http://www.tarleton.edu/degrees/bachelors/baas-business/>)

- # General Business (BBA) (<http://www.tarleton.edu/degrees/bachelors/bba-general-business/>)
- # Human Resources Management (BBA) (<http://www.tarleton.edu/degrees/bachelors/bba-human-resources-management/>)
- # International Business (BBA) (<http://www.tarleton.edu/degrees/bachelors/bba-international-business/>)
- # Management (BBA) (<http://www.tarleton.edu/degrees/bachelors/bba-management/>)
- # Business Administration (MBA) (<http://www.tarleton.edu/degrees/masters/mba-business-administration/>)
- # Human Resources Management (MS) (<http://www.tarleton.edu/degrees/masters/ms-human-resources-management/>)
- # Management (MS)
- Department of Marketing and Computer Information Systems (<https://www.tarleton.edu/cis/>)
  - # Marketing (BBA) (<http://www.tarleton.edu/degrees/bachelors/bba-marketing/>)
  - # Computer Information Systems (BBA) (<http://www.tarleton.edu/degrees/bachelors/bba-computer-information-systems/>)
  - # Computer Information Systems (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-computer-information-systems/>)
  - # Information Technology (BAAS) (<http://www.tarleton.edu/degrees/bachelors/baas-information-technology/>)
  - # Information Systems (MS) (<http://www.tarleton.edu/degrees/masters/ms-information-systems/>)

## College of Education

### *College of Education*

- Department of Curriculum and Instruction (<https://www.tarleton.edu/teachered/>)
  - # Interdisciplinary Studies (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-interdisciplinary-studies/>)
  - # Curriculum and Instruction (MEd) (<http://www.tarleton.edu/degrees/masters/med-curriculum-instruction/>)
- Department of Educational Leadership and Technology (<https://www.tarleton.edu/edlt/>)
  - # Educational Administration (MEd) (<http://www.tarleton.edu/degrees/masters/med-educational-administration/>)
  - # Educational Leadership (EdD) (<http://www.tarleton.edu/degrees/doctoral/edd-educational-leadership/>)
- Department of Psychological Sciences (<https://www.tarleton.edu/psychology/>)
  - # Child Development and Family Studies (BAAS) (<https://www.tarleton.edu/degrees/bachelors/baas-child-and-family-studies/>)
  - # Child Development and Family Studies (BS) (<https://www.tarleton.edu/degrees/bachelors/bs-child-and-family-studies/>)
  - # Psychology (<http://www.tarleton.edu/degrees/bachelors/bs-psychology/>)
  - # Applied Psychology (MS) (<http://www.tarleton.edu/degrees/masters/ms-applied-psychology/>)
- School of Kinesiology (<https://www.tarleton.edu/kinesiology/>)
  - # Athletic Training (MSAT) (<https://www.tarleton.edu/degrees/masters/msat/>)
  - # Kinesiology (MS) (<https://www.tarleton.edu/degrees/masters/ms-kinesiology/>)
- Department of Health and Human Performance
  - # Kinesiology (BS) (<https://www.tarleton.edu/degrees/bachelors/bs-kinesiology/>)
- Department of Sport Science
  - # Kinesiology (BAAS)
  - # Kinesiology (BS) (<https://www.tarleton.edu/degrees/bachelors/bs-kinesiology/>)

## College of Health Sciences and Human Services

### *College of Health Sciences and Human Services*

- Department of Counseling (<http://www.tarleton.edu/counsel/>)
  - # Clinical Mental Health Counseling (MS) (<http://www.tarleton.edu/degrees/masters/ms-clinical-mental-health-counseling/>)
- Department of Medical Laboratory Sciences and Public Health (<http://www.tarleton.edu/medicallab/>)
  - # Histotechnology (AAS) (<http://www.tarleton.edu/degrees/associates/aas-histotechnology/>)
  - # Medical Laboratory Technology (AAS) (<http://www.tarleton.edu/degrees/associates/aas-medical-laboratory-technology/>)
  - # Health Professions Technology (BAT) (<http://www.tarleton.edu/degrees/bachelors/bat-health-professions-technology/>)
  - # Medical Laboratory Science (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-medical-laboratory-science/>)
  - # Public Health (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-public-health/>)
  - # Medical Laboratory Science (MS) (<http://www.tarleton.edu/degrees/masters/ms-medical-laboratory-science/>)
- Department of Nursing (<http://www.tarleton.edu/nursing/>)
  - # Nursing (BSN) (<http://www.tarleton.edu/degrees/bachelors/bsn-nursing/>)
  - # Nursing Administration (MSN) (<http://www.tarleton.edu/degrees/masters/msn-nursing-administration/>)
  - # Nursing Education (MSN) (<http://www.tarleton.edu/degrees/masters/msn-nursing-education/>)
- Department of Social Work (<http://www.tarleton.edu/socialwork/>)
  - # Social Work (BSW) (<http://www.tarleton.edu/degrees/bachelors/bsw-social-work/>)
  - # Social Work (MSW) (<http://www.tarleton.edu/degrees/masters/msw-social-work/>)

## College of Liberal and Fine Arts

### *College of Liberal and Fine Arts*

- # General Studies (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-general-studies/>)
- Department of Communication Studies (<http://www.tarleton.edu/communications/>)
  - # Communication Studies (BA) (<http://www.tarleton.edu/degrees/bachelors/ba-communication-studies/>)
  - # Communication Studies (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-communication-studies/>)
  - # Communication Studies (MA) (<http://www.tarleton.edu/degrees/masters/msw-social-work/>)
- Department of English and Languages (<http://www.tarleton.edu/english/>)

- # English (BA) (<http://www.tarleton.edu/degrees/bachelors/ba-english/>)
- # Spanish (BA) (<http://www.tarleton.edu/degrees/bachelors/ba-spanish/>)
- # English (MA) (<http://www.tarleton.edu/degrees/masters/ma-english/>)
- Department of Fine Arts (<http://www.tarleton.edu/finearts/>)
  - # Art (BFA) (<http://www.tarleton.edu/degrees/bachelors/bfa-art/>)
  - # Digital Media Studies (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-digital-media-studies/>)
  - # Fashion Studies (BS) (<https://www.tarleton.edu/degrees/bachelors/bs-fashion-studies/>)
  - # Music (BA) (<http://www.tarleton.edu/degrees/bachelors/ba-music/>)
  - # Music (BM) (<http://www.tarleton.edu/degrees/bachelors/bm-music/>)
  - # Performance (BM) (<http://www.tarleton.edu/degrees/bachelors/bm-performance/>)
  - # Theatre (BFA) (<http://www.tarleton.edu/degrees/bachelors/bfa-theatre/>)
  - # Music Education (MM) (<http://www.tarleton.edu/degrees/masters/mm-music-education/>)
- Department of Government, Legal Studies, and Philosophy
  - # International Studies (BA) (<http://www.tarleton.edu/degrees/bachelors/ba-international-studies/>)
  - # Legal Studies (BA)
  - # Political Science (BA) (<http://www.tarleton.edu/degrees/bachelors/ba-political-science/>)
  - # Political Science (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-political-science/>)
- Department of History, Sociology, and Geography
  - # Geography and Geographic Information Systems (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-geographic-information-systems/>)
  - # History (BA) (<http://www.tarleton.edu/degrees/bachelors/ba-history/>)
  - # Sociology (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-sociology/>)
  - # History (MA) (<http://www.tarleton.edu/degrees/masters/ma-history/>)
- School of Criminology, Criminal Justice, and Strategic Studies (<http://www.tarleton.edu/criminology/>)
  - # Public Administration (MPA) (<http://www.tarleton.edu/degrees/masters/mpa/>)
  - # Public Administration (BS) (<https://www.tarleton.edu/degrees/bachelors/bs-public-administration/>)
- Department of Criminal Justice (<http://www.tarleton.edu/criminaljustice/>)
  - # Criminal Justice (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-criminal-justice/>)
  - # Criminal Justice Administration (BAAS) (<http://www.tarleton.edu/degrees/bachelors/baas-criminal-justice-administration/>)
  - # Criminal Justice (MCJ) (<http://www.tarleton.edu/degrees/masters/mcj-criminal-justice/>)
  - # Criminal Justice (PhD) (<https://www.tarleton.edu/degrees/doctoral/phd-criminal-justice/>)

## College of Science and Technology

### *College of Science and Technology*

- Department of Biological Sciences (<http://www.tarleton.edu/COSTWEB/biology/>)
  - # Biology (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-biology/>)
  - # Biomedical Sciences (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-biomedical-science/>)
  - # Biology (MS) (<http://www.tarleton.edu/degrees/masters/ms-biology/>)
- Department of Chemistry, Geoscience, and Physics (<http://www.tarleton.edu/COSTWEB/CHGP/>)
  - # Chemistry (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-chemistry/>)
  - # Geoscience (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-geoscience/>)
  - # Physics (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-physics/>)
  - # Environmental Science (MS) (<http://www.tarleton.edu/degrees/masters/ms-environmental-science/>)
  - # Geosciences (MS) (<https://www.tarleton.edu/degrees/masters/ms-geoscience/>)
- School of Engineering (<https://www.tarleton.edu/engineering/>)
  - Department of Engineering and Computer Science (<https://www.tarleton.edu/encs/>)
    - # Civil Engineering (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-civil-engineering/>)
    - # Computer Science (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-computer-science/>)
    - # Electrical Engineering (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-electrical-engineering/>)
    - # Environmental Engineering (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-environmental-engineering/>)
    - # Mechanical Engineering (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-mechanical-engineering/>)
    - # Computer Engineering (MS) (<https://www.tarleton.edu/degrees/masters/ms-computer-engineering/>)
  - Department of Engineering Technology (<https://www.tarleton.edu/engtech/>)
    - # Construction Science and Management (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-construction-science-management/>)
    - # Construction Science and Management (BAS)
    - # Industrial Technology (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-industrial-technology/>)
    - # Manufacturing Engineering Technology (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-manufacturing-engineering-technology/>)
    - # Manufacturing Engineering Technology (BAS)
    - # Manufacturing and Industrial Management (BAAS) (<http://www.tarleton.edu/degrees/bachelors/baas-manufacturing-industrial-management/>)
    - # Mechanical Engineering Technology (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-mechanical-engineering-technology/>)
    - # Mechanical Engineering Technology (BAS)
    - # Quality and Engineering Management (MS) (<http://www.tarleton.edu/degrees/masters/ms-quality-engineering-management/>)
- Department of Mathematics (<https://www.tarleton.edu/math/>)
  - # Mathematics (BS) (<http://www.tarleton.edu/degrees/bachelors/bs-mathematics/>)
  - # Mathematics (MS) (<http://www.tarleton.edu/degrees/masters/ms-mathematics/>)

## Center for Transformative Learning

Dr. Denae Dorris  
Center for Transformative Learning

Box T-0010  
Stephenville, Texas 76402  
254-968-9559  
ctl@tarleton.edu  
tarleton.edu/ctl (<http://tarleton.edu/ctl/>)

The Center for Transformative Learning serves as the host for many activities and partnerships between the University and the community through service learning and continuing education opportunities. These collaborative partnerships allow knowledge and resources to be combined to encourage learning, service, and research beyond the walls of Tarleton.

Center for Transformative Learning (<https://www.tarleton.edu/servicelearning/about.html>)

### **Service Learning**

Service Learning is a form of collaborative experiential education where learning occurs through a cycle of action and reflection. Students provide meaningful service to benefit the community while developing personal and social responsibility and cognitive abilities. Students improve academic skills by applying what they have learned in the classroom to the real world. Service Learning helps students link theory to practice, develop an advanced sense of civic responsibility, and gain a deeper understanding of subject matter.

The Applied Learning Experience (ALE) initiative encourages students to get involved in becoming better prepared for the real world after graduation. Students who are involved with the ALE program not only receive recognition at graduation but are better prepared for professional careers. Each student works directly with faculty and/or staff to relate coursework to the real world while building an e-portfolio. Connections made throughout research and experience during ALEs are extremely helpful for students when job and/or graduate school searching for after graduation.

Students may also seek out volunteer opportunities related to academic or personal interests through the All for Good Volunteer Opportunities widget at [www.tarleton.edu/servicelearning](http://www.tarleton.edu/servicelearning).

### **Service Day**

Service Day provides opportunities for Tarleton Texans to engage in the community, address a community need, connect knowledge learned in the classroom to the service experience, and enhance skills by serving the community.

Service Day will be held each Spring semester for Tarleton's faculty, staff and students to provide service to our communities. On Service Day classes are replaced with academic service projects related to a student's future profession. Service projects are organized by various colleges/departments, and are available for students on TexanSync.

### **Continuing Education**

Tarleton's Continuing Education program offers a wide variety of non-credit courses, both online and in-person. These non-credit courses may be taken by credit-seeking students to supplement degree coursework, or learn a new skill before entering the job market. Additionally, leisure learning and personal enrichment courses are available for students who desire to learn a new hobby or life skill. A list of current and future offerings is available at [www.tarleton.edu/continuinged](http://www.tarleton.edu/continuinged).

## Undergraduate

Mr. John Sharp, Chancellor  
The Texas A&M University System  
A&M System Building, Suite 2043  
200 Technology Way  
College Station, Texas 77845-3424  
(979) 458-6000  
(979) 458-6044

### Tarleton State University: An Overview

#### The Tarleton Heritage

Since its creation, Tarleton State University, a public coeducational institution, has provided a broad-based education. Established by a \$100,000 bequest from John Tarleton, an Erath County pioneer, John Tarleton College opened in 1899 as a private preparatory school and college for the youth of the surrounding rural region. During the next decade, students could earn a baccalaureate degree. In 1908, declining enrollment and inadequate funding caused college officials to reorganize the institution to a two-year degree program. This revised curriculum emphasized a liberal arts education, while retaining the two-year preparatory division. Again in 1916, Tarleton experienced financial difficulties; consequently, the Texas Legislature in 1917 approved the college as a branch of Texas Agricultural and Mechanical College, which would later become The Texas A&M University System. John Tarleton Agricultural College, as renamed by the Legislature, retained the two-year degree as well as the preparatory program and specialized curricula in agriculture, home economics, and military science.

To meet the needs of a changing constituency, Tarleton has adjusted and enriched its curriculum since the 1920s. Accredited as a junior college by the Southern Association of Colleges and Schools Commission on Colleges in 1926, Tarleton gradually redeveloped a liberal arts education. Then in 1949, the Legislature changed the name of the school to Tarleton State College, and in 1953 the preparatory division was discontinued, reflecting the increased access to public schools throughout the state. By a 1959 act of the Legislature, Tarleton once again became a four-year degree-granting institution, with the first class graduating in 1963. Accredited as a senior college in 1966, Tarleton initiated many new programs, including graduate courses in 1970. Because Tarleton offered a broad liberal arts education within undergraduate and graduate degrees, the Texas Legislature recognized the institution as a university in 1973, and changed the name officially to Tarleton State University. In 2003, a doctoral degree in Educational Leadership was initiated. In 2019, a Doctor of Philosophy in Criminal Justice was initiated (pending approval by the Southern Association of Colleges and Schools Commission on Colleges).

Over the past century, Tarleton has grown from a small private college into a thriving state university with over 13,000 students. In 1999, Tarleton established the first university system center in Texas, providing public, upper-level academic programs for the citizens of central Texas. This entity was called the Tarleton University System Center – Central Texas and it was located in Killeen. On September 1, 2009, the system center became an independent university – Texas A&M University – Central Texas.

Degree programs and degree completion programs are offered on the main campus in Stephenville, in Fort Worth at Tarleton's new campus located on the Chisholm Trail Parkway, the Terrell School of Medical Laboratory Sciences in the downtown medical district, and on the Tarrant County College – Trinity River Campus. In addition, degree programs are offered in Waco at the McLennan Community College University Center, in Midlothian at the Navarro College - Midlothian Campus, and through its Global Campus online. Tarleton also is a participating member in the Texas A&M University System – RELLIS Academic Alliance in Bryan. Additional sites include the Dora Lee Langdon Cultural and Educational Center in Granbury, and the W. K. Gordon Center for Industrial History of Texas, Museum Gallery in Thurber. These locations have enabled Tarleton to meet diverse educational demands from across the state. Throughout its first one hundred years, Tarleton has never lost the commitment to excellence that was the vision of its founder, John Tarleton.

#### Mission Statement

Tarleton State University provides an academically challenging education where learning is grounded in real-world experiences and effective teaching, research, scholarship and service. As a member of The Texas A&M University System, Tarleton is rich in history and tradition while being committed to student success and diversity. Tarleton strives to develop moral and ethical thinkers, scholars and leaders who demonstrate civility and integrity, while contributing meaningfully and responsibly to a global society.

#### Vision:

**Tarleton will be the premier student-focused university in Texas and beyond. We will transform generations by inspiring discovery, leadership and service through exceptional teaching and research in vibrant learning communities.**

#### Core Values:

- Integrity
- Leadership
- Tradition
- Civility
- Excellence
- Service

#### Strategic Goals

##### Academic Innovation

- Create and deliver an innovative and relevant program mix
- Use innovative instructional delivery and learning environments to enhance the academic experience and promote student success
- Create and deploy targeted academic support programs to promote student success
- Enhance the academic profile of Tarleton

##### Student Transformation

- Assure that students achieve their peak performance in all courses
- Engage students academically, socially, physically and mentally to enhance the Tarleton experience
- Prepare students for a global and multicultural world by developing strong habits of mind, body and spirit

##### Distinctive Engagement

- Increase the university's commitment to outreach, partnerships and community engagement
- Engage faculty, staff, students, alumni and external stakeholders by communicating strategically and effectively across multiple platforms
- Enhance the reputation of the university through distinctive academic and co-curricular programs

## Exemplary Service

- Develop a culture of exemplary service across campus
- Develop and support efficient and effective service systems to ensure long term success
- Implement a notable campus-wide sustainability initiative
- Achieve effective and efficient operations

## Enrollment and Faculty

Over 13,000 students attend Tarleton State University. Students from approximately 224 Texas counties, 47 US states and territories, and 32 foreign countries comprise the student body. More than 390 full-time faculty members are devoted to academic excellence and the personal development of each student. The student-faculty ratio is 19:1.

### The Campus

One of the most striking features of Tarleton State University is the spacious 170-acre campus located in the heart of Stephenville, a city of 19,370 people only 65 miles southwest of Fort Worth. Featuring malls, open space, and beautifully-landscaped grounds, the campus is dominated by majestic oak and pecan trees, which create a warm atmosphere for living and learning. The architectural integrity of aged red brick buildings is maintained campus wide. Tarleton is proud of its spacious classrooms, well-equipped laboratories, and extensive library collections. Other facilities include a multimedia foreign language laboratory, modern Fine Arts Center, and updated agricultural facilities.

An ongoing construction and modernization program ensures that Tarleton keeps abreast of new developments. The Barry B. Thompson Student Center, a 90,000-square-foot facility, is the hub for campus activity and is an integral part of the University's educational environment. The Center offers a food court, bookstore, post office, conference and meeting facilities, study areas, and commuter lounge. Other recently completed buildings include a number of new residence halls. Tarleton's science building features a planetarium plus state-of-the-art laboratory and classroom space for students to engage in study and research. The newest buildings on campus are the university dining hall, nursing building, dairy complex, and the sports recreational facility featuring an indoor walking track, climbing wall, and state of the art exercise equipment.

### The Texas A&M University System

Academic institutions under the direction of the Board of Regents of The Texas A&M University System include:

- Prairie View A&M University
- Tarleton State University
- Texas A&M University
- Texas A&M International University
- Texas A&M University - Central Texas
- Texas A&M University - Commerce
- Texas A&M University - Corpus Christi
- Texas A&M University - Kingsville
- Texas A&M University - San Antonio
- Texas A&M University - Texarkana
- West Texas A&M University

Other agencies and programs in The Texas A&M University System are:

- Texas AgriLife Research
- Texas AgriLife Extension Service
- Texas Engineering Experiment Station
- Texas Engineering Extension Service
- Texas Forest Service
- Texas Transportation Institute
- Texas Veterinary Medical Diagnostic Laboratory

### Board of Regents

Name	Location
Mr. Charles W. Schwartz (Chairman)	Houston
Ms. Elaine Mendoza (Vice Chairman)	San Antonio
Mr. Phil Adams	Bryan/College Station
Mr. Robert L. "Bob" Albritton	Fort Worth
Mr. Cliff Thomas	Victoria
Mr. William "Bill" Mahomes, Jr.	Dallas
Mr. Tim Leach	Midland
Mr. Anthony G. Buzbee	Houston
Mr. Morris E. Foster	Belton

## Undergraduate Academic Programs

Undergraduate academic programs at Tarleton State University integrate the two necessary components of a liberal education: the broad base of knowledge essential to the education of a citizen in a democracy, and the particular knowledge and skills needed in fields of major and minor concentration essential to our modern technological society. To accomplish these goals for each student, University programs provide three choices:

1. Four-year degree programs in most academic areas, with courses necessary for certification in public teaching offered in education;
2. Pre-professional two- and three-year programs in most professional fields; and
3. Special programs designed to meet unusual requirements of an individual, usually consisting of a rearrangement of university-level subject matter courses for cogent reasons.

The general approach in any case is to require during the first two years an arrangement of courses presenting basic ideas and ideals of civilization and perfecting tools of the learning process. The foundations curricula for the first two years are essentially the same, except for a slight emphasis on mathematics and science for science and business majors and on language and communication skills for liberal arts majors.



Special emphasis on major and minor subjects comes in the third and fourth years. Here the choice is made by each student, normally at the end of the second year, but certainly by the end of the third year. A degree plan is developed in consultation with an academic advisor in the chosen field; thereafter, any changes in this plan must be approved by the academic advisor, department head, and the dean of the appropriate college.

## Undergraduate Degree Programs

Tarleton State University offers the following degree programs:

### Associate of Applied Science

- Histotechnology
- Medical Laboratory Technology

### Bachelor of Applied Arts and Sciences

- Business
- Child Development and Family Studies
- Criminal Justice Administration
- Geographic Information Systems
- Information Technology
- Kinesiology
- Manufacturing and Industrial Management

### Bachelor of Applied Science

- Construction Science and Management
- Manufacturing Engineering Technology
- Mechanical Engineering Technology
- Veterinary Technology

### Bachelor of Applied Technology

- Health Professions Technology

### Bachelor of Arts

- Communication Studies
- English
- History
- International Studies
- Legal Studies
- Music
- Political Science
- Spanish

### Bachelor of Business Administration

- Accounting
- Computer Information Systems
- General Business
- Finance
- Human Resources Management
- International Business
- Management
- Marketing

### Bachelor of Fine Arts

- Art
- Theatre

### Bachelor of Music

- Music
- Performance

### Bachelor of Science

- Agribusiness
- Agricultural Communication
- Agricultural Services & Development
- Animal Science
- Applied Science
- Biology
- Biomedical Sciences
- Chemistry
- Child Development and Family Studies
- Civil Engineering
- Communication Science and Disorders
- Communication Studies
- Computer Information Systems
- Computer Science

- Construction Science and Management
- Criminal Justice
- Digital Media Studies
- Economics
- Electrical Engineering
- Elementary Teacher Education
- Environmental Engineering
- Environmental Sciences
- Fashion Studies
- General Studies
- Geographic Information Systems
- Geoscience
- Industrial Technology
- Kinesiology
- Manufacturing Engineering Technology
- Mathematics
- Mechanical Engineering
- Mechanical Engineering Technology
- Medical Laboratory Science
- Physics
- Political Science
- Public Administration
- Public Health
- Psychology
- Secondary Teacher Education
- Sociology
- Sport Management
- Wildlife, Sustainability and Ecosystem Sciences

#### **Bachelor of Science Nursing**

- Nursing

#### **Bachelor of Social Work**

- Social Work

### **Undecided as to Major**

Student Success advises all students who have not yet decided on their majors. Such students should schedule appointments with a member of this department prior to their first semester of enrollment at Tarleton. Advisors in this department refer students to campus services that help them select a major and provide academic advisement until such a selection has been made.

No secondary education degree program is available, per se. However, secondary education certification courses may be a part of the curriculum leading to most Bachelor of Arts and Bachelor of Science degree programs for the purpose of secondary teacher certification. Students should consult both the College of Education for information concerning certification requirements and the specific academic department for their recommended degree program.

Please refer to the College of Graduate Studies in this catalog for information about graduate degree programs.

### **Undergraduate Minors**

Tarleton State University offers the following minors. No more than two minors may be declared in baccalaureate degree programs. Minors require a minimum of 18 hours within the minor discipline, of which 6 hours must consist of upper-level coursework completed at Tarleton State University.

<b>Minor</b>	<b>Prefix</b>
Accounting	ACCT
Agricultural Communication	ACOM
Agricultural Economics	AGEC
Agricultural Mechanics	AGME
Agroecology	AGRO
Animal Science	ANSC
Art	ARTS
Art History	ARTH
Biology	BIOL
Business Computer Information Systems	BCIS
Business	BUS
Chemistry	CHEM
Child Development and Family Studies	CHFS
Civil Engineering	CVEN
Coaching	CHNG
Communication Studies	COMM
Computer Science	COSC
Construction Science and Management	CNST
Counseling	CNSL
Criminal Justice	CRIJ
Criminal Law	CLAW

Crop Sciences	CRSC
Digital Media Studies	DIGM
Earth Science	EASC
Economics	ECON
Electrical Engineering	ELEN
Engineering Technology	ENGT
English	ENGL
Entomology	ENTO
Environmental Engineering	ENVE
Environmental Science	ENVS
Ethnic and Cultural Studies	ECS
Film Production	FILM
Finance	FINC
Fisheries Management	FISH
Fitness	FITN
Food and Nutrition	FONU
Gender and Sexuality Studies	GSS
Geography	GEOG
Geology	GEOL
Hispanic Studies	HSPS
History	HIST
Homeland Security	HLSE
Horticulture	HRTC
International Business	INBS
International Studies	INTS
Kinesiology	KINE
Leadership Studies	LDRS
Legal Studies	LEGL
Management	MGMT
Marketing	MKTG
Mathematics	MATH
Mechanical Engineering	MEEN
Merchandising	MERC
Military Science	MS
Music	MUSC
Music Business	MBUS
Natural Resource Ecology	NRE
Neuroscience	NRSC
Philosophy	PHIL
Physics	PHYS
Plant Conservation	PCON
Political Science	POLS
Product Development	PDEV
Psychology	PSYC
Public Health	PH
Public Policy	PBPL
Range & Ranch Management	RNRM
Social Equity and Criminal Justice	SECJ
Social Work	SOCW
Sociology	SOCI
Soil Science	SOIL
Spanish	SPAN
Technical Writing	TWRT
Theatre	THEA
Veterinary Technology	VETE
Wildlife Management	WLDM

## College of Agriculture and Natural Resources

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The College of Agriculture and Natural Resources includes the Department of Agricultural Education and Communication; the Department of Animal Science; and the Department of Wildlife and Natural Resources.

Graduates of the College of Agriculture and Natural Resources are known for high performance and for contributions to their professions in all areas of agriculture and natural resources including animal science, agribusiness, agricultural education, agricultural industries, wildlife science, and horticulture. Many continue their education and earn graduate and professional degrees at leading universities nationwide.

The Animal Science Department offers an Animal Science B.S. with six possible concentrations: Science, Animal Production, Business, Pre-Veterinary Medicine, Meat and Food Science, and Range and Ranch Management. Certificates are available in Equine Science, Shelter Animal Medicine and Dairy Science.

The Agricultural Education and Communication Department offers three Bachelor of Science degrees – the B.S. in Agricultural Services and Development with concentrations in Teacher Certification, Agri-Industries and Agencies, and Interdisciplinary Agriculture; the B.S. in Agribusiness with concentrations in Agribusiness Management, Agricultural Economics, Dairy Business Management, and Personal and Small Business Financial Planning; and the B.S. in Agricultural Communication. All programs prepare students for successful careers upon graduation.

The Wildlife and Natural Resources Department offers one Bachelor of Science degree - the B.S. in Wildlife, Sustainability, and Ecosystem Sciences with concentrations in Wildlife Ecology and Management, Fisheries Ecology and Management, Horticultural Science, Natural Resource Ecology, Pre-Veterinary Medicine, and Zoo Animal and Confined Wildlife Biology and Management. All career tracks are designed with the goal of providing graduates with the academic background to compete in the employment market and to be life-long contributors to their professions.

Tarleton is known for its practical, hands-on approach to agricultural instruction. All degree programs stress experiential learning in the classroom, internships, and other applied learning experiences. The Tarleton Agriculture Center is central to our opportunities for hands-on instruction. Agriculture Center facilities include the Southwest Regional Dairy; the Animal and Plant Science Center with a retail merchandising laboratory (The Purple Tractor), six indoor laboratories for research and teaching in anatomy and physiology, genetics, nutrition, entomology, horticulture, soil science, and outdoor facilities consisting of four greenhouses, and 42,000 sq. ft. covered animal working area. The Agriculture Field Machinery and Fabrication Center with laboratories dedicated to metal fabrication, structures, and small engines, a computer lab, three classrooms, a multi-purpose room, and a spacious and well-equipped kitchen; the Equine Center with indoor arena, dedicated laboratory space, and stallion barn; the Meats Laboratory; Swine Center; a beef cattle feedlot; a rabbitry; an aquaponics/hydroponics center and an indoor wildlife research and teaching laboratory/classroom. Livestock includes dairy cattle, beef cattle, horses, sheep, goats, swine, rabbits, and aquatic species. The Tarleton Agriculture Center also provides excellent employment experiences for Tarleton students and research opportunities for undergraduate and graduate students.

The following are the degrees and study options available in the college.

Department of Agricultural Education and Communication (p. 68)

1. Bachelor of Science - Agricultural Services & Development
  - a. Agricultural Science with Teacher Certification
  - b. Agri-Industries and Agencies
  - c. Interdisciplinary Agriculture
2. Bachelor of Science - Agribusiness
  - a. Agribusiness Management
  - b. Agricultural Economics
  - c. Dairy Business Management
  - d. Personal & Small Business Financial Planning
3. Bachelor of Science - Agricultural Communication
  - a. Agricultural Communication
4. Master of Science - Agricultural and Consumer Resources
  - a. Leadership (thesis and non-thesis track)
  - b. Agribusiness Management (thesis and non-thesis track)
  - c. Educator Certification (non-thesis track)

Department of Animal Science (p. 79)

1. Bachelor of Science - Animal Science
  - a. Science
  - b. Business
  - c. Production
  - d. Meat & Food Science

- e. Pre-Veterinary Medicine
  - f. Range & Ranch Management
2. Master of Science - Animal Science (thesis and professional track)

Department of Wildlife and Natural Resources (p. 90)

- 1. Bachelor of Science - Wildlife, Sustainability, & Ecosystem Sciences
  - a. Wildlife Ecology & Management
  - b. Fisheries Ecology & Management
  - c. Zoo Animal Biology & Management
  - d. Entomology
  - e. Horticulture Science
  - f. Pre-Veterinary Medicine
- 3. Master of Science - Agricultural and Natural Resource Sciences (thesis and non-thesis track)

**Minors.** All departments offer a variety of minors as a way for students with secondary interests to complement their major, thus broadening their expertise and increasing their employability.

## Department of Agricultural Education and Communication

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Students seeking knowledge in education, communication, and human interactions across all segments of the agricultural industry will find interest in the department's offerings. Included are programs in Agricultural Science Teacher Certification, Agricultural Communication, Agricultural Extension/Industry, and Agribusiness. Internships are a part of all programs.

The Department of Agricultural Education and Communication administers three Bachelor of Science degrees with the following degrees and support areas:

### Bachelor of Science in Agricultural Services and Development

- Agricultural Science with Teacher Certification. Commonly referred to as Agricultural Education. Provides the skills and knowledge to become a teacher of Agricultural Science in public schools or pursue employment with government and agricultural business and industry.
- Agri-Industries and Agencies. Prepares students for a career in agricultural business, industry, agriculture extension, and government agency settings. The degree provides a broad-based agricultural experience and allows the student to specialize in an area of agriculture or business.
- Interdisciplinary Agriculture. Flexible degree program to prepare students for a variety of agricultural careers. Provides broad exposure to agriculture and allows students to select a specialized focus area in the various agricultural disciplines.

### The Bachelor of Science Degree in Agricultural Services and Development

#### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
HORT 1301	Horticulture	3
AGRI 1307	Agronomy	3
AGRI 1419	General Animal Science	4
Choose one of the following:		3
AGSD 3301	Advanced Agricultural Power Units	
AGRI 2303	Agricultural Construction I	
AGRI 2304	Introductory Metals and Welding	
AGSD 2306	Introduction to Mechanical Agriculture	
AGEC 2317 [shared]	Introductory Agricultural Economics	
AGSD 2307 or AGSD 2311	SAE Development in Agricultural Education Applied Agricultural Analysis	3
AGSD 4310	Leadership Development	3
Choose one of the following:		3
ACOM 3314 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Writing and Editing for Agricultural Publications	
ACOM 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Communicating Agriculture to the Public	

AGSD 3302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Agricultural Sales and Services	
ANSC 4300 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Research and Writing in Animal Science	
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	

Total Hours 64

**Additional Required Courses for Concentrations**

**Agricultural Science with Teacher Certification**

COMM 1311 [shared] or COMM 1315	Introduction to Speech Communication Public Speaking	
Sophomore English Literature [shared]		
Choose two of the following [shared]:		
BIOL 1406	Biology for Science Majors	
BIOL 1407	Biology for Science Majors II	
CHEM 1407	Fundamentals of Chemistry	
CHEM 1411	College Chemistry I	
AGSD 3307 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Premier Leadership in Agriculture	3
ANSC 3301	Livestock Management	3
AGSD 3101	Analysis of Agricultural Occupations	1
AGSD 1110	Introduction to Agricultural Services & Development	1
HORT 3300 or HORT 3370	Plant Propagation Floriculture	3
AGSD 4350	Animal Related Systems	3
AGSD 4306	Agricultural Mechanical Services and Instruction	3
AGSD 4307	Program Methods	3
READ 3351 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Content Area Literacy	3
PSYC 3303	Educational Psychology	3
AGSD 4601	Clinical Teaching	6
AGSD 4320	Agriscience Course Building	3
EDUC 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Middle and Secondary Classrooms	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
EDSP 4361	Teaching Strategies for Adolescent Students with Learning Disabilities	3
Additional Hours from ACOM, AGECE, AGRI, AGSD, ANSC, ENTO, ENV5, FDSC, HORT, NUTR, RNRM, SOIL, VETE, or WSES *		12
Total Hours		56

**Agri-Industries and Agencies**

AGSD 1110	Introduction to Agricultural Services & Development	1
Choose two of the following: [shared]		
BIOL 1406	Biology for Science Majors	
BIOL 1407	Biology for Science Majors II	
CHEM 1407	Fundamentals of Chemistry	
CHEM 1411	College Chemistry I	
AGSD 2330	History and Philosophy of the Cooperative Extension Service	3
AGEC 3314 or MKTG 3312	The Agricultural Marketing System Marketing	3
AGSD 4185	Seminar	1
AGSD 4330	Agricultural Extension and Industry Methods	3
AGSD 4684	Internship	6
Choose one of the following:		
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	3
ACOM 3314 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Writing and Editing for Agricultural Publications	
ACOM 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Communicating Agriculture to the Public	

AGSD 3302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Agricultural Sales and Services	
AGSD 3307 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Premier Leadership in Agriculture	
AGSD 4305	Agricultural Mechanical Services	3
Choose one of the following:		3
AGSD 4350	Animal Related Systems	
ANSC 3301	Livestock Management	
ANSC 4440	Sustainable Livestock Systems	
AGSD 3101	Analysis of Agricultural Occupations	1
General Electives		5
AGSD Elective		3
Advanced Elective Hours from ACOM, AGECE, AGRI, AGSD, ANSC, ENTO, ENVIS, FDSC, HORT, NUTR, RNRM, SOIL, VETE, or WSES		15
Advanced Electives		6
<b>Total Hours</b>		<b>56</b>

### Interdisciplinary Agriculture

AGSD 4330	Agricultural Extension and Industry Methods	3
AGSD 4684	Internship	6
AGSD 4185	Seminar	1
AGSD 3101	Analysis of Agricultural Occupations	1
Choose one of the following:		3
ACOM 3314 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Writing and Editing for Agricultural Publications	
ACOM 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Communicating Agriculture to the Public	
AGSD 3302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Agricultural Sales and Services	
AGSD 3307 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Premier Leadership in Agriculture	
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	
Agricultural Focus Area Electives (9 hours must be advanced 3xxx or 4xxx Level)		21
General Electives		5
Advanced General Electives (3xxx or 4xxx Level)		16
<b>Total Hours</b>		<b>56</b>

\* Excluding ANSC 1202, ANSC 1320, and WSES 4407.

## Bachelor of Science in Agricultural Communication

• Agricultural Communication. Provides the student with both agricultural and communication knowledge and skills for exciting careers in agricultural publications, radio, livestock organizations, commodity groups, and governmental agencies that provide communication and information.

### Bachelor of Science Degree in Agricultural Communication

#### Field of Study Courses

ACOM 1110	Introduction to Agricultural Communication	1
ACOM 2301	Digital Photography Techniques for Agriculture	3
ACOM 2307	Graphic Design and Layout for Agricultural Publications	3
ACOM 3314 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Writing and Editing for Agricultural Publications	3
ACOM 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Communicating Agriculture to the Public	3
ACOM 4305	Publication Development in Agricultural Communication	3
ACOM 4320	Advanced Technology in Agricultural Communication	3
ACOM 4350	Electronic Field Production for Agricultural Communications	3
ACOM 4684	Internship	6
AGSD 3301	Advanced Agricultural Power Units	3
or AGRI 2303	Agricultural Construction I	
or AGRI 2304	Introductory Metals and Welding	
or AGSD 2306	Introduction to Mechanical Agriculture	
AGSD 2311	Applied Agricultural Analysis	3
AGSD 4185	Seminar	1
AGSD 4310	Leadership Development	3

AGSD 4330	Agricultural Extension and Industry Methods	3
Advanced ACOM Elective		9
COMM 2311	News Gathering & Writing I	3
General Elective		6
Advanced Elective		9
Elective Hours from ACOM, AGECE, AGRI, AGSD, ANSC, ENVS, FDSC, HORT, NUTR, RNRM, SOIL, VETE, or WSES		3
<b>Other Required Courses</b>		
General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
AGRI 1307	Agronomy	3
or HORT 1301	Horticulture	
AGRI 1419	General Animal Science	4
AGECE 2317 [shared]	Introductory Agricultural Economics	
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
Total Hours		120

## Bachelor of Science in Agribusiness

- Agribusiness Management. Prepares students for entry-level positions such as the retail/wholesale sectors of agribusiness or the businesses and agencies supporting the agricultural industry.
- Agricultural Economics. Designed to prepare students for a career in the analytical or research sectors of production, marketing, or finance. Recommended for students preparing for graduate study.
- Personal and Small Business Financial Planning. To meet the needs and interests of students wishing a career as a financial planner.
- Dairy Business Management. Industry-designed for students who plan a career in the sector of dairy operations and supporting infrastructure including input suppliers and the processing and distribution of dairy products.

## The Bachelor of Science Degree in Agribusiness

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
ECON 2301	Principles of Macroeconomics	3
ACCT 2301	Principles of Accounting I-Financial	3
ACCT 2302	Principles of Accounting II-Managerial	3
AGECE 1309	Microcomputer Applications in Agriculture	3
AGECE 2317 [shared]	Introductory Agricultural Economics	
or AGRI 2317	Introductory Agricultural Economics	
AGECE 3330	Agricultural Credit	3
AGECE 3312	Production Economics	3
AGECE 3314	The Agricultural Marketing System	3
AGECE 3317	Agricultural Statistics	3
AGECE 3333	Agriculture Prices	3
AGECE 4301	Public Agricultural Food Programs	3
AGECE 4384	Internship <sup>2</sup>	3
Electives		6
Total Hours		81

## Additional Required Courses for Concentrations

### Agricultural Economics

MATHEMATICS OPTION: Choose one of the following options		3
MATH 1314 & MATH 1324 [shared]	College Algebra and Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1324 & MATH 1325 [shared]	Math for Business & Social Sciences I (Finite Mathematics) and Math for Business & Social Sciences II (Business Calculus)	
Select one of the following:		3
AGRI 1419	General Animal Science	
HORT 1301	Horticulture	
AGRI 1307	Agronomy	
AGECE 4302	International Trade and Agriculture	3
AGECE 4306	Commodity Futures Markets	3
AGECE 4321	Regional Economics	3
AGECE 4330	Agricultural Finance	3
ECON 3301	Intermediate Macroeconomics	3
ECON 3302	Intermediate Microeconomics	3
AGECE 4325	Recreation and Tourism Economics	3
AGECE 4333	Economics of Agribusiness Management	3



Advanced Electives		9
Total Hours		39
<b>Agribusiness Management</b>		
MATHEMATICS OPTION: Choose one of the following options		3
MATH 1314 & MATH 1324 [shared]	College Algebra and Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1324 & MATH 1325 [shared]	Math for Business & Social Sciences I (Finite Mathematics) and Math for Business & Social Sciences II (Business Calculus)	
Select one of the following:		3
AGRI 1419	General Animal Science	
HORT 1301	Horticulture	
AGRI 1307	Agronomy	
AGEC 4302	International Trade and Agriculture	3
AGEC 4306	Commodity Futures Markets	3
AGEC 4330	Agricultural Finance	3
AGSD 3302	Agricultural Sales and Services	3
AGEC 4321	Regional Economics	3
or AGECE 4325	Recreation and Tourism Economics	
AGEC 4333	Economics of Agribusiness Management	3
Advanced COBA/AGEC Electives <sup>1</sup>		15
Total Hours		39
<b>Dairy Business Management</b>		
CHEM 1411 [shared]	College Chemistry I	
CHEM 1412 [shared]	College Chemistry II	
MATH 1314 [shared]	College Algebra	
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)	3
AGRI 1311	Dairy Science	3
AGRI 1419	General Animal Science	4
AGEC 4306	Commodity Futures Markets	3
AGEC 4330	Agricultural Finance	3
AGEC 4333	Economics of Agribusiness Management	3
ECON 3304	Environmental Economics	3
ANSC 3408	Physiology of Reproduction	4
ANSC 3409	Feeds and Feeding	4
ANSC 3315	Animal Diseases and Parasites	3
ANSC 4350	Feed Analysis	3
AGEC 4321	Regional Economics	3
Total Hours		39
<b>Personal and Small Business Financial Planning</b>		
MATHEMATICS OPTION: Choose one of the following options		3
MATH 1314 & MATH 1324 [shared]	College Algebra and Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1324 & MATH 1325 [shared]	Math for Business & Social Sciences I (Finite Mathematics) and Math for Business & Social Sciences II (Business Calculus)	
Select one of the following:		3
AGRI 1419	General Animal Science	
HORT 1301	Horticulture	
AGRI 1307	Agronomy	
AGEC 4306	Commodity Futures Markets	3
AGEC 4333	Economics of Agribusiness Management	3
AGSD 3302	Agricultural Sales and Services	3
AGEC 3359	Personal & Family Financial Management I	3
AGEC 3360	Personal & Family Financial Management II	3
ACCT 4305	Federal Tax Accounting	3
BLAW 4333	Business Law II	3
FINC 3301	Principles of Financial Management	3
FINC 4308	Principles of Insurance and Risk Management	3
Select One of the Following:		3
AGEC 4090	Special Topics (Financial Planning Capstone Course)	
ECON 4090	Special Topics in Economics (Financial Planning Capstone Course)	
Select One of the Following:		3
AGEC 4090	Special Topics (Estate Planning)	
BLAW 4090	Special Topics in Business Law (Estate Planning)	
Total Hours		39

- 1 Advanced Business Electives can be any 3 or 4 thousand level courses in AGEC, ACCT, ADMS, BCIS, ECON, FINC, BUSI, MGMT, REST, BLAW, and MKTG
- 2 For the Personal/Business Financial Planning Concentration, students must complete AGEC 4384 as a Financial Planning Internship with an approved host company.

## Professors

- Drueckhammer, David Dr.
- Ford, Ted Dr.
- Graham, Sandra Dr.
- Lovell, Ashley Dr.
- Osei, Edward Dr.
- Tarpley, Rudy Dr.
- Yu, Mark Dr.

## Associate professors

- Atchley, Wayne Dr.
- Frazier, David Dr.
- Langley, Curtis Dr.

## Assistant professors

- Andrew, Chandra Dr.
- Haynes, J. Chris Dr.
- Poe, Brant Dr.

## Instructor

- Damerau, Michelle Ms.

## Visiting Instructor

- Rosenbusch, Gary Mr.

## Agri Services and Development Courses

### **AGSD 1100. Transitioning to University Studies in Agriculture Services and Development. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective.

### **AGSD 1110. Introduction to Agricultural Services & Development. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

An introduction to the careers, opportunities, and skills needed within the agricultural services professions. Topics will include agricultural education, agricultural extension, agricultural industries, and general agriculture.

### **AGSD 2306. Introduction to Mechanical Agriculture. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Introduction to current and emerging topics and industry related to agricultural mechanization and the use of mechanical principals in agricultural settings. Includes safe facility practices, construction practices, electrical energy, precision agriculture, nanotechnology, theory of the fusion of metals, efficiency of internal combustion engines, and other mechanical technology-related subjects.

### **AGSD 2307. SAE Development in Agricultural Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will foster information assimilation, critical thinking and problem solving skills necessary to successfully manage a supervised agricultural experience (SAE) or any business that uses generally accepted accounting principles and business management knowledge and skills. Information, concepts and skills applied in this course will provide a foundational knowledge to be used in the implementation of recordkeeping practices in a supervised agricultural experience (SAE).

### **AGSD 2311. Applied Agricultural Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Collection and computer analysis of data and records related to production agricultural enterprises. Problem-solving techniques related to the areas of animal science, agronomy, agricultural business, and agricultural mechanization are stressed.

### **AGSD 2330. History and Philosophy of the Cooperative Extension Service. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the Cooperative Extension Service, the philosophy of Cooperative Extension, and Extension's role within the Land-Grant system. History, organization, program areas, and guiding principles of Cooperative Extension are discussed in detail.

### **AGSD 3101. Analysis of Agricultural Occupations. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

A course to advance student understanding of professional occupations in agriculture and the professional and technical competencies required.

### **AGSD 3301. Advanced Agricultural Power Units. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Investigation of modern power systems on agricultural equipment, agricultural safety, internal combustion operation, preventative maintenance and general servicing of tractor systems, hydraulics, and powertrain operations. Prerequisite: Sophomore classification.

### **AGSD 3302. Agricultural Sales and Services. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Application of successful selling. Principles and practices in providing farm and ranch operations with agricultural materials, supplies, equipment, and services. Seller aspects involved in the marketing of farm and ranch products by farm-related agribusinesses. Career opportunities and preparation in agricultural sales and services will be explored.

### **AGSD 3306. Lab Techniques in Agricultural Mechanics. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

The development of mechanical laboratory skills used in the teaching of agriculture with emphasis on electrical, construction, and environmental topics. Laboratory management and maintenance for effective teaching will also be emphasized. Lab fee: \$2.

### **AGSD 3307. Premier Leadership in Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Study and application of leadership skills related to agricultural education in middle/secondary agricultural education programs.

### **AGSD 3318. Land Surveying and Soil/Water Conservation Practices. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Surveying principles including leveling, total station, laser levels, and mapping as applied to agriculture. The utilization of GPS in the agricultural industry. Planning and development of structures for surface water and waste water management. Lab fee \$10.

### **AGSD 3325. Agricultural Electrical Systems. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Elements of: electric current generation and transmission, agricultural applications of electric heating, lighting and power, wiring, motors, and power rates. Also includes National Electrical Code and maintenance of air conditioning and cooling systems. Lab fee \$16.

**AGSD 3326. Precision Agricultural Equipment Management and Operation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course provides an overview of current precision agriculture technologies, mapping methods, equipment operation, equipment setup, and equipment troubleshooting. Students can expect to be engaged in equipment operation in a broad range of agricultural experiences that deal with current precision equipment and techniques.

**AGSD 3329. Farm Utilities. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Farm water supply, sewage disposal, heating and ventilating system, farm refrigeration and farmstead layouts. Lab fee \$6.

**AGSD 3330. 4-H and Youth Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of 4-H and Youth Development programs within the Cooperative Extension Service. Volunteer management and guiding principles of the 4-H and Youth Development program will be discussed. Information, concepts and skills applied in this course will provide a foundational knowledge to be used in the implementation of developing and/or managing a 4-H and Youth Development program within the Cooperative Extension System.

**AGSD 3340. Agricultural Field Machinery. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Principles of construction, operation, adjustment, calibration, and repair of agricultural tillage, planting, cultivating, spraying, fertilizing, and harvesting machinery. Laboratory activities include set-up of new equipment, wear analysis and repair of used equipment, calibration of equipment, and field operations. Lab fee \$12.

**AGSD 3380. Formulation of Agriculture & Food Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the past and present development of agriculture and food policy at the state and national levels. Topics include a history of the legislative process, current agricultural issues, and the place of agriculture in the American political system.

**AGSD 4086. Problems in Agricultural Services. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Independent study in an area of specialization. May be repeated for a maximum of 6 hours credit when topics differ. Prerequisite: Approval of department head.

**AGSD 4185. Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

A review of current problems and developments in agricultural services; professional opportunities and responsibilities; individual investigations and reports. Prerequisite: Senior classification.

**AGSD 4302. Processing and Storage of Agricultural Products. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The mechanical processes used in the processing and storage of grains, forages, nuts, and other agricultural products along with factors important to maintaining product quality during storage and processing. Lab fee \$6.

**AGSD 4305. Agricultural Mechanical Services. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Applications of advanced phases in agricultural mechanics. The course will emphasize the organization, management, service, and use of equipment in all areas of agricultural mechanics. Prerequisite: Senior classification Lab fee: \$2.

**AGSD 4306. Agricultural Mechanical Services and Instruction. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Field-based applications of agricultural mechanics instruction. This course will emphasize the organization, management, service, and use of equipment in all areas of agricultural mechanics instruction. Prerequisite: AGRI 2301 OR AGRI 2304 Lab fee: \$2.

**AGSD 4307. Program Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of curriculum and programmatic management for all aspects of the secondary/middle school agricultural science and technology program. Topics include pre-employment laboratories, work-based learning, advisory committees, supervised agricultural experience programs, new program development/implementation, foundations of agricultural education, program activism, and incorporating Agricultural Science and Technology into the total school curriculum.

**AGSD 4310. Leadership Development. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Field-based experiences designed to develop leadership ability for teaching, entrepreneurship, and conducting adult and youth organizations. Includes systems of record keeping. Lab fee: \$2.

**AGSD 4320. Agriscience Course Building. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Field-based experiences are provided in a school setting where students will prepare and deliver units of instruction for middle school and secondary programs; develop unit and daily lesson plans, reports; manage curriculum issues; examine various models of instruction; implement brain-based teaching and learning techniques, analyze classroom management strategies, and demonstrate competencies in effective teaching practices. Prerequisite: EDUC 3321, EDUC 4331, EDSP 4361 and READ 3351 Lab fee \$2.

**AGSD 4325. Agriculture Safety and Health. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Protecting agricultural workers and the general public in our age of technological and scientific advancement has become one of the most challenging and rewarding career fields. This online agricultural safety and health class will prepare you to respond to these needs, to analyze hazardous agricultural and rural public health situations, to develop and implement safety programs, and apply governmental regulations associated with production agriculture.

**AGSD 4326. National Agricultural Education Outreach Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in-depth course designed to give students hands-on experience with developing a national agricultural education outreach program. Student will be required to travel to the National FFA Convention in the fall semester to deliver the program at the National FFA Convention. Students will need to submit an application for course enrollment. Prerequisite: Instructor approval.

**AGSD 4330. Agricultural Extension and Industry Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Agricultural extension in agriculture and the agriculture industry. Objectives include organization, methods, and program building. Prerequisite: Approval of department head.

**AGSD 4350. Animal Related Systems. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Specialized feeding, training, and fitting livestock for sales and advertising. Specialized topics in identifying, selecting, and evaluating poultry and poultry products, horses, and dairy and dairy products. Prerequisites: Senior classification and AGRI 1419 Lab fee: \$2.

**AGSD 4355. Mexican Agricultural Relations. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

A study of international agricultural technology, educational methodology, and diverse cultural activities related to Mexico. A required one-week trip at student's expense to Mexico will be one of the requirements necessary to meet the course objectives. Prerequisites: Junior or senior classification and approval of the instructor.

**AGSD 4383. Internship in Classroom Teaching in Agricultural Services and Development. 3 Credit Hours (Lecture: 1 Hour, Lab: 9 Hours).**

This internship includes supervised, field-based activities in public school classrooms. Major emphasis is placed on the development of instructional strategies and professional practices designed to improve teaching performance. Students are required to conduct a reflective analysis of their teaching performance. May be repeated for credit. Prerequisite: admission to the Teacher Education Program and approval of department head. Field experience fee \$50.

**AGSD 4390. Special Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Deals with selected topics in Agricultural Services and Development. May be repeated for credit when topics vary. Prerequisite: approval of department head.

**AGSD 4601. Clinical Teaching. 6 Credit Hours (Lecture: 1 Hour, Lab: 16 Hours).**

Twelve weeks or equivalent of off-campus supervised clinical teaching in an Agricultural Science and Technology Program in selected public schools in Texas. Prerequisite: Senior classification.

**AGSD 4684. Internship. 6 Credit Hours (Lecture: 0 Hours, Lab: 12-16 Hours).**

The student will complete an approved supervised work experience with an agricultural service organization or related industry. Prerequisites: Senior classification and advisor approval. Lab fee: \$2.

## Agricultural Communication Courses

### **ACOM 1110. Introduction to Agricultural Communication. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Focuses on the fundamentals of agricultural news writing and other communication methods. Students will learn about the history and practice of agricultural communication, the role of the media in agriculture and related fields, and careers.

### **ACOM 2301. Digital Photography Techniques for Agriculture. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course focuses on the fundamentals of Digital Photography and image editing in an agricultural setting. Topics will include livestock, wildlife, event, and portrait photography as they relate to the field of agriculture.

### **ACOM 2307. Graphic Design and Layout for Agricultural Publications. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Fundamentals of layout and design as applied to agricultural publications, such as brochures, newsletters, magazine and advertising layouts, and social media. Practical application of design principles, typography, desktop-publishing software and printing practices.

### **ACOM 3314. Writing and Editing for Agricultural Publications. 3 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Writing and editing in agricultural industries and publications. Writing agricultural articles, tightening copy, editing, copy reading, writing headlines, writing photo captions.

### **ACOM 3321. Communicating Agriculture to the Public. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course is an application of public relations writing and skills in an agricultural context. Agricultural organizations can be government-related, for-profit business, or not-for-profit commodity groups. Whatever the organization classification, they must communicate internally, among each other, and to a larger audience. This course will equip you with an understanding of public relations and help develop necessary skills to be successful communicators for the industry.

### **ACOM 4086. Problems in Agricultural Communications. 1-4 Credit Hours (Lecture: 1-4 Hours, Lab: 0 Hours).**

Individualized study of current topics in student's major concentration of study or supporting discipline. Specific content and credit dependent upon students' interest, needs, and depth of study. Maximum undergraduate credit, four semester hours. Prerequisite: Senior classification and advanced approval by academic advisor.

### **ACOM 4305. Publication Development in Agricultural Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides directed experience in the development of a commercial agricultural publication. Students will master public relations writing style, interviewing and photography skills, and sponsorship sales techniques in an agricultural context.

### **ACOM 4320. Advanced Technology in Agricultural Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of various topics, trends, technologies, and best practices in the field of Agricultural Communication. Students will work both independently and in teams to apply critical thinking and creative problem solving skills to address real-world challenges.

### **ACOM 4350. Electronic Field Production for Agricultural Communications. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course provides directed experience in agricultural television field production and electronic news gathering. Students will master video production skills such as script writing, storyboarding, camera operation, and video editing in an agricultural setting.

### **ACOM 4390. Special Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected topics in Agricultural Communication. May be repeated for credit when topics vary.

### **ACOM 4684. Internship. 6 Credit Hours (Lecture: 0 Hours, Lab: 16 Hours).**

Pre-approved and supervised work experience in an administrative systems-related position with a public or private business organization. Prerequisites: Junior classification and approval of department head. Field experience fee \$50.

## Agricultural Economics Courses

### **AGEC 1309. Microcomputer Applications in Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Microcomputer technology applied to management, record keeping, and agribusiness. Emphasis on the application of database, spreadsheet, and other business software in various agricultural environments. Lab fee: \$2.

### **AGEC 2305. Consumer Issues & Decision Making. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Designed to make the student an intelligent consumer of goods and services and to understand consumer decision-making in the marketplace. Major influences on consumer problems, fraud, protection, and consumer behavior.

### **AGEC 2317. Introductory Agricultural Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to economics principles and concepts in agriculture today as they relate to the American economic system. Emphasis will be on management problem-solving techniques under various situations, especially those agricultural in nature, including producing, processing, distributing, and consuming farm and ranch products.

### **AGEC 3312. Production Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Application of economic production principles in solving resource allocation problems in agriculture and agribusiness. Prerequisites: MATH 1324 or MATH 1325, and either AGRI/AGEC 2317 OR ECON 2302, or permission of instructor.

### **AGEC 3314. The Agricultural Marketing System. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introductory course covering the principles, practices, institutions, functions, and problems involved in the marketing of agricultural commodities. Prerequisite: AGRI 2317/AGEC 2317 or ECON 2302.

### **AGEC 3317. Agricultural Statistics. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Statistical principles and methods in analyzing agricultural and economic data to solve problems relating to production, consumption, and cost/profit optimization. Provides a basic background in statistical analysis and related computer applications. Prerequisite: MATH 1314 or higher, or approval of instructor. Lab fee: \$2.

### **AGEC 3330. Agricultural Credit. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Emphasis will be on building Balance Sheets, Income/Expenses Statements, Collateral Analysis, Credit Action Forms and Financial Analysis. Prerequisites: AGRI 2317/AGEC 2317 and MATH 1314 or higher, or approval of instructor.

### **AGEC 3333. Agriculture Prices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Factors affecting commodity prices, price trends and seasonal variations, parity prices, methods of forecasting demand and prices, and economic tools and techniques for making decisions. Prerequisites: AGRI 2317/AGEC 2317, AGRI 1309/AGEC 1309, and AGECE 3314. Lab fee \$15.

### **AGEC 3359. Personal & Family Financial Management I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Planning, managing, and purchasing decisions to achieve individual and family financial goals.

### **AGEC 3360. Personal & Family Financial Management II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Individual and family planning for insurance, risk management, investments, retirement, and estates.

### **AGEC 4086. Agricultural Economics Problems. 1-4 Credit Hours (Lecture: 0 Hours, Lab: 1-4 Hours).**

Individualized study of current topics in student's major concentration of study or supporting discipline. Specific content and credit dependent upon student's interest, needs, and depth of study. Maximum undergraduate credit, four semester hours. Prerequisite: Senior classification and advance approval by instructor of record.

**AGEC 4088. Undergraduate Research. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

Fundamental research methods will be addressed through a faculty-directed project. Participation in an abbreviated lecture series may be required. Project components may include a literature review, data collection and analysis, testing, planning, project design, and/or computer modeling. The student is required to prepare a final report and produce a presentation. No credit is awarded until the report and presentation are submitted. Only one undergraduate research experience will be counted toward degree requirements. Prerequisite: Junior Standing, completion of 12 hours in AGECE, and approval of department head.

**AGEC 4090. Special Topics. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Selected topics in agriculture or agribusiness. May be repeated for credit when content varies, to a maximum of six hours.

**AGEC 4301. Public Agricultural Food Programs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Identification and analysis of alternative governmental programs and policies affecting prices and quantities of agricultural commodities, farmer-rancher incomes, food supplies and consumer prices, and domestic and foreign food distribution and trade. Consideration of relevant political and economic factors, administrative aspects, and the policy participants. Prerequisites: AGRI 2317/AGEC 2317 or two semesters of economics and junior classification.

**AGEC 4302. International Trade and Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Role of U.S. agriculture in a dynamic world economy; national and international policies, institutions, exchange rates, tariffs, and non-tariff barriers that impact US agribusiness trade. Prerequisites: AGECE 2317 or 3 hours of economics and junior or senior classification. Prerequisite: AGECE 2317 or 3 hours of economics and junior or senior classification.

**AGEC 4306. Commodity Futures Markets. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the organization and functioning of futures markets. Analysis of the economic function performed by markets, and study of fundamental and technical approaches to market forecasting. Examination of various trading strategies applied primarily to agricultural commodities. Prerequisites: AGRI 2317/AGEC 2317 or ECON 2302; AGRI 1309/AGEC 1309 and AGECE 3314.

**AGEC 4317. Applied Quantitative Methods. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Application of quantitative techniques used to support managerial decision-making and resource allocation. Exposure to mathematical and statistical tools (regression analysis, mathematical programming, simulation) used in economic analysis in Agribusiness. Credit for AGECE 4317 or AGECE 5317 not both. Prerequisite: AGECE 3317 or BUSI 3317 or instructor approval.

**AGEC 4321. Regional Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Analysis of regional/community economic problems in the United States. Application of economic principles and theory to regional/community development. Evaluation of current methods and public programs for economic development. Application of analytical methods to development problems. Credit for both AGECE 4321 and ECON 4321 will not be awarded. Prerequisite: AGECE 2317/AGRI 2317 or ECON 2302.

**AGEC 4325. Recreation and Tourism Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Benefit-cost frameworks in public planning for outdoor recreation development, pricing problems, market demand assessment, and impacts of recreational development on regional economies. Prerequisites: ECON 2301, and either AGECE/AGRI 2317 or ECON 2302.

**AGEC 4330. Agricultural Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analysis of the capital requirements for farming and ranching; principles involved in the use of each type of farm credit. Prerequisites: AGECE 3330 and ACCT 2302.

**AGEC 4333. Economics of Agribusiness Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Economic aspects of the agribusiness system. Management techniques related to problem recognition and decision making in organizations involved in the agricultural sector. Prerequisites: AGECE 2317/AGRI 2317 or ECON 2302 and AGECE 3314.

**AGEC 4335. Farm Appraisal. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Techniques for evaluating the market value of agricultural real estate using three common approaches: sales comparison, cost, and income. Analyzing effects of different farm characteristics on farm value. Prerequisite: AGECE 3330 or AGECE 4330.

**AGEC 4336. Estate Planning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Tools and techniques to plan for the accumulation, conservation, and distribution of wealth. Synthesis of financial, legal, and personal considerations to achieve estate planning and wealth transfer goals. Students are encouraged to have completed ACCT 4305, AGECE 3359, AGECE 3360, BLAW 4333.

**AGEC 4341. Financial Planning/Development Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Retirement planning, qualified and non-qualified retirement plans, Social Security provisions, government and private sector healthcare plans, and basics of employee benefits. Focus on quantitative (i.e., calculating retirement needs and plan limits) and qualitative (i.e., retirement age decisions, retirement income management) aspects of retirement. Prerequisite: Students must have completed one of the following courses: ACCT 4305, AGECE 3359, AGECE 3360, FINC 3301, FINC 4308.

**AGEC 4350. Natural Resource Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Natural resource availability, use, conservation, and government policy relevant to crop and livestock production. Current and emerging natural resource issues affecting production agriculture and agribusiness firms. Evaluation of the farm economic impacts of natural resource policies at the state and federal levels. Prerequisites: AGECE 2317 or ECON 2302 and Junior or Senior classification.

**AGEC 4370. Family and Economic Issues. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focus is the intricate relationship between family management, the economic environment, non-economic and social changes and related planning and decisions in the family life cycle. Prerequisite: AGECE 3359 or AGECE 3360.

**AGEC 4384. Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An approved, supervised, comprehensive work experience consisting of a minimum of 240 hours(6 weeks) for career preparation in an agribusiness enterprise. Prerequisite: Completion of 24 hours in AGECE and instructor approval.

## Division of Agribusiness and Agricultural Economics

Dr. J. Chris Haynes, Interim Department  
Department of Agricultural Education and Communication  
Joe W. Autry Agriculture Building, Room 105  
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## The Bachelor of Science Degree in Agribusiness

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
ECON 2301	Principles of Macroeconomics	3
ACCT 2301	Principles of Accounting I-Financial	3
ACCT 2302	Principles of Accounting II-Manual	3
AGEC 1309	Microcomputer Applications in Agriculture	3
AGEC 2317 [shared] or AGRI 2317	Introductory Agricultural Economics	
AGEC 3330	Agricultural Credit	3
AGEC 3312	Production Economics	3
AGEC 3314	The Agricultural Marketing System	3
AGEC 3317	Agricultural Statistics	3
AGEC 3333	Agriculture Prices	3
AGEC 4301	Public Agricultural Food Programs	3
AGEC 4384	Internship <sup>2</sup>	3
Electives		6
Total Hours		81

### Additional Required Courses for Concentrations

#### Agricultural Economics

MATHEMATICS OPTION: Choose one of the following options		3
MATH 1314 & MATH 1324 [shared]	College Algebra and Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1324 & MATH 1325 [shared]	Math for Business & Social Sciences I (Finite Mathematics) and Math for Business & Social Sciences II (Business Calculus)	
Select one of the following:		3
AGRI 1419	General Animal Science	
HORT 1301	Horticulture	
AGRI 1307	Agronomy	
AGEC 4302	International Trade and Agriculture	3
AGEC 4306	Commodity Futures Markets	3
AGEC 4321	Regional Economics	3
AGEC 4330	Agricultural Finance	3
ECON 3301	Intermediate Macroeconomics	3
ECON 3302	Intermediate Microeconomics	3
AGEC 4325	Recreation and Tourism Economics	3
AGEC 4333	Economics of Agribusiness Management	3
Advanced Electives		9
Total Hours		39

#### Agribusiness Management

MATHEMATICS OPTION: Choose one of the following options		3
MATH 1314 & MATH 1324 [shared]	College Algebra and Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1324 & MATH 1325 [shared]	Math for Business & Social Sciences I (Finite Mathematics) and Math for Business & Social Sciences II (Business Calculus)	
Select one of the following:		3
AGRI 1419	General Animal Science	
HORT 1301	Horticulture	
AGRI 1307	Agronomy	
AGEC 4302	International Trade and Agriculture	3
AGEC 4306	Commodity Futures Markets	3
AGEC 4330	Agricultural Finance	3
AGSD 3302	Agricultural Sales and Services	3
AGEC 4321 or AGECE 4325	Regional Economics Recreation and Tourism Economics	3
AGEC 4333	Economics of Agribusiness Management	3
Advanced COBA/AGEC Electives <sup>1</sup>		15
Total Hours		39

#### Dairy Business Management

CHEM 1411 [shared]	College Chemistry I	
CHEM 1412 [shared]	College Chemistry II	
MATH 1314 [shared]	College Algebra	
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)	3
AGRI 1311	Dairy Science	3
AGRI 1419	General Animal Science	4

AGEC 4306	Commodity Futures Markets	3
AGEC 4330	Agricultural Finance	3
AGEC 4333	Economics of Agribusiness Management	3
ECON 3304	Environmental Economics	3
ANSC 3408	Physiology of Reproduction	4
ANSC 3409	Feeds and Feeding	4
ANSC 3315	Animal Diseases and Parasites	3
ANSC 4350	Feed Analysis	3
AGEC 4321	Regional Economics	3
Total Hours		39

### Personal and Small Business Financial Planning

MATHEMATICS OPTION: Choose one of the following options		3
MATH 1314 & MATH 1324 [shared]	College Algebra and Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1324 & MATH 1325 [shared]	Math for Business & Social Sciences I (Finite Mathematics) and Math for Business & Social Sciences II (Business Calculus)	
Select one of the following:		3
AGRI 1419	General Animal Science	
HORT 1301	Horticulture	
AGRI 1307	Agronomy	
AGEC 4306	Commodity Futures Markets	3
AGEC 4333	Economics of Agribusiness Management	3
AGSD 3302	Agricultural Sales and Services	3
AGEC 3359	Personal & Family Financial Management I	3
AGEC 3360	Personal & Family Financial Management II	3
ACCT 4305	Federal Tax Accounting	3
BLAW 4333	Business Law II	3
FINC 3301	Principles of Financial Management	3
FINC 4308	Principles of Insurance and Risk Management	3
Select One of the Following:		3
AGEC 4090	Special Topics (Financial Planning Capstone Course)	
ECON 4090	Special Topics in Economics (Financial Planning Capstone Course)	
Select One of the Following:		3
AGEC 4090	Special Topics (Estate Planning)	
BLAW 4090	Special Topics in Business Law (Estate Planning)	
Total Hours		39

<sup>1</sup> Advanced Business Electives can be any 3 or 4 thousand level courses in AGECE, ACCT, ADMS, BCIS, ECON, FINC, BUSI, MGMT, REST, BLAW, and MKTG

<sup>2</sup> For the Personal/Business Financial Planning Concentration, students must complete AGECE 4384 as a Financial Planning Internship with an approved host company.

### Courses

#### AGEC 1309. Microcomputer Applications in Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).

Microcomputer technology applied to management, record keeping, and agribusiness. Emphasis on the application of database, spreadsheet, and other business software in various agricultural environments. Lab fee: \$2.

#### AGEC 2305. Consumer Issues & Decision Making. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Designed to make the student an intelligent consumer of goods and services and to understand consumer decision-making in the marketplace. Major influences on consumer problems, fraud, protection, and consumer behavior.

#### AGEC 2317. Introductory Agricultural Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

An introduction to economics principles and concepts in agriculture today as they relate to the American economic system. Emphasis will be on management problem-solving techniques under various situations, especially those agricultural in nature, including producing, processing, distributing, and consuming farm and ranch products.

#### AGEC 3312. Production Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Application of economic production principles in solving resource allocation problems in agriculture and agribusiness. Prerequisites: MATH 1324 or MATH 1325, and either AGRI/AGEC 2317 OR ECON 2302, or permission of instructor.

#### AGEC 3314. The Agricultural Marketing System. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

An introductory course covering the principles, practices, institutions, functions, and problems involved in the marketing of agricultural commodities. Prerequisite: AGRI 2317/AGEC 2317 or ECON 2302.

#### AGEC 3317. Agricultural Statistics. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).

Statistical principles and methods in analyzing agricultural and economic data to solve problems relating to production, consumption, and cost/profit optimization. Provides a basic background in statistical analysis and related computer applications. Prerequisite: MATH 1314 or higher, or approval of instructor. Lab fee: \$2.

#### AGEC 3330. Agricultural Credit. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Emphasis will be on building Balance Sheets, Income/Expenses Statements, Collateral Analysis, Credit Action Forms and Financial Analysis. Prerequisites: AGRI 2317/AGEC 2317 and MATH 1314 or higher, or approval of instructor.

#### AGEC 3333. Agriculture Prices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Factors affecting commodity prices, price trends and seasonal variations, parity prices, methods of forecasting demand and prices, and economic tools and techniques for making decisions. Prerequisites: AGRI 2317/AGEC 2317, AGRI 1309/AGEC 1309, and AGECE 3314. Lab fee \$15.

#### AGEC 3359. Personal & Family Financial Management I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Planning, managing, and purchasing decisions to achieve individual and family financial goals.

**AGEC 3360. Personal & Family Financial Management II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Individual and family planning for insurance, risk management, investments, retirement, and estates.

**AGEC 4086. Agricultural Economics Problems. 1-4 Credit Hours (Lecture: 0 Hours, Lab: 1-4 Hours).**

Individualized study of current topics in student's major concentration of study or supporting discipline. Specific content and credit dependent upon student's interest, needs, and depth of study. Maximum undergraduate credit, four semester hours. Prerequisite: Senior classification and advance approval by instructor of record.

**AGEC 4088. Undergraduate Research. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

Fundamental research methods will be addressed through a faculty-directed project. Participation in an abbreviated lecture series may be required. Project components may include a literature review, data collection and analysis, testing, planning, project design, and/or computer modeling. The student is required to prepare a final report and produce a presentation. No credit is awarded until the report and presentation are submitted. Only one undergraduate research experience will be counted toward degree requirements. Prerequisite: Junior Standing, completion of 12 hours in AGEC, and approval of department head.

**AGEC 4090. Special Topics. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Selected topics in agriculture or agribusiness. May be repeated for credit when content varies, to a maximum of six hours.

**AGEC 4301. Public Agricultural Food Programs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Identification and analysis of alternative governmental programs and policies affecting prices and quantities of agricultural commodities, farmer-rancher incomes, food supplies and consumer prices, and domestic and foreign food distribution and trade. Consideration of relevant political and economic factors, administrative aspects, and the policy participants. Prerequisites: AGRI 2317/AGEC 2317 or two semesters of economics and junior classification.

**AGEC 4302. International Trade and Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Role of U.S. agriculture in a dynamic world economy; national and international policies, institutions, exchange rates, tariffs, and non-tariff barriers that impact US agribusiness trade. Prerequisites: AGEC 2317 or 3 hours of economics and junior or senior classification. Prerequisite: AGEC 2317 or 3 hours of economics and junior or senior classification.

**AGEC 4306. Commodity Futures Markets. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the organization and functioning of futures markets. Analysis of the economic function performed by markets, and study of fundamental and technical approaches to market forecasting. Examination of various trading strategies applied primarily to agricultural commodities. Prerequisites: AGRI 2317/AGEC 2317 or ECON 2302; AGRI 1309/AGEC 1309 and AGEC 3314.

**AGEC 4317. Applied Quantitative Methods. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Application of quantitative techniques used to support managerial decision-making and resource allocation. Exposure to mathematical and statistical tools (regression analysis, mathematical programming, simulation) used in economic analysis in Agribusiness. Credit for AGEC 4317 or AGEC 5317 not both. Prerequisite: AGEC 3317 or BUSI 3317 or instructor approval.

**AGEC 4321. Regional Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Analysis of regional/community economic problems in the United States. Application of economic principles and theory to regional/community development. Evaluation of current methods and public programs for economic development. Application of analytical methods to development problems. Credit for both AGEC 4321 and ECON 4321 will not be awarded. Prerequisite: AGEC 2317/AGRI 2317 or ECON 2302.

**AGEC 4325. Recreation and Tourism Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Benefit-cost frameworks in public planning for outdoor recreation development, pricing problems, market demand assessment, and impacts of recreational development on regional economies. Prerequisites: ECON 2301, and either AGEC/AGRI 2317 or ECON 2302.

**AGEC 4330. Agricultural Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analysis of the capital requirements for farming and ranching; principles involved in the use of each type of farm credit. Prerequisites: AGEC 3330 and ACCT 2302.

**AGEC 4333. Economics of Agribusiness Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Economic aspects of the agribusiness system. Management techniques related to problem recognition and decision making in organizations involved in the agricultural sector. Prerequisites: AGEC 2317/AGRI 2317 or ECON 2302 and AGEC 3314.

**AGEC 4335. Farm Appraisal. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Techniques for evaluating the market value of agricultural real estate using three common approaches: sales comparison, cost, and income. Analyzing effects of different farm characteristics on farm value. Prerequisite: AGEC 3330 or AGEC 4330.

**AGEC 4336. Estate Planning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Tools and techniques to plan for the accumulation, conservation, and distribution of wealth. Synthesis of financial, legal, and personal considerations to achieve estate planning and wealth transfer goals. Students are encouraged to have completed ACCT 4305, AGEC 3359, AGEC 3360, BLAW 4333.

**AGEC 4341. Financial Planning/Development Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Retirement planning, qualified and non-qualified retirement plans, Social Security provisions, government and private sector healthcare plans, and basics of employee benefits. Focus on quantitative (i.e., calculating retirement needs and plan limits) and qualitative (i.e., retirement age decisions, retirement income management) aspects of retirement. Prerequisite: Students must have completed one of the following courses: ACCT 4305, AGEC 3359, AGEC 3360, FINC 3301, FINC 4308.

**AGEC 4350. Natural Resource Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Natural resource availability, use, conservation, and government policy relevant to crop and livestock production. Current and emerging natural resource issues affecting production agriculture and agribusiness firms. Evaluation of the farm economic impacts of natural resource policies at the state and federal levels. Prerequisites: AGEC 2317 or ECON 2302 and Junior or Senior classification.

**AGEC 4370. Family and Economic Issues. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focus is the intricate relationship between family management, the economic environment, non-economic and social changes and related planning and decisions in the family life cycle. Prerequisite: AGEC 3359 or AGEC 3360.

**AGEC 4384. Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An approved, supervised, comprehensive work experience consisting of a minimum of 240 hours(6 weeks) for career preparation in an agribusiness enterprise. Prerequisite: Completion of 24 hours in AGEC and instructor approval.

## Department of Animal Science

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Students seeking knowledge in the production, management and care of livestock and companion animals will find interest in the department's offerings. Included are Animal Science concentrations in programs in Animal Science and a M.S. in Animal Science with thesis and non-thesis tracks. Internships are a part of most concentrations and encouraged in all.

The Department of Animal Science administers one Bachelor of Science degree with the following degrees and support areas:

#### Bachelor of Science in Animal Science

- Science. Provides a strong foundation in the scientific aspects of animal production, nutrition, reproduction, anatomy, and physiology. Supporting course work in chemistry, biology, and math provides students with background necessary for understanding the complex physiology and biology of animal function and performance.
- Animal Production. Stresses the practical aspects of commercial livestock production. Designed for students who expect and desire a career in the commercial production, marketing, and/or promotion phases of the livestock industry.
- Business. Combination of a strong foundation in animal science and basic business courses needed by graduates entering commercial and business enterprises related to animal agriculture.
- Pre-Veterinary Medicine. Includes all necessary prerequisites for application to the Doctor of Veterinary Medicine (DVM) program at Texas A&M University and other professional veterinary medicine schools. Acceptance into a DVM program is competitive. Students are encouraged to work closely with their academic advisor in planning their program of study.
- Meat and Food Science. Applications of science, business and animal production to food production, processing and safety. The course work will prepare students for careers in meat science, meat and food processing, and food safety.
- Range and Ranch Management. Similar to the Animal Production concentration but provides students an additional emphasis in livestock production in the range conditions of the western U. S. This concentration contains the courses required for the Federal Government's GS-454 "Range Management Specialist" position.

### The Bachelor of Science Degree in Animal Science

#### Field of Study Courses

AGRI 1419	General Animal Science	4
ANSC 2101	Animal Science Industry	1
ANSC 2350	Anatomy and Physiology of Domestic Animals	3
AGEC 2317 [shared] or AGRI 2317	Introductory Agricultural Economics	
	Introductory Agricultural Economics	3
ANSC 3308	Principles of Animal Nutrition	3
ANSC 3309	Applied Animal Nutrition and Feeding	3
ANSC 3408	Physiology of Reproduction	4
ANSC 3421	Meat Science	4
ANSC 4300	Research and Writing in Animal Science	3
Writing Intensive Requirement - take one of the following:		3
AGSD 3302	Agricultural Sales and Services	
ACOM 3314	Writing and Editing for Agricultural Publications	
ACOM 3321	Communicating Agriculture to the Public	
AGRI 3409	Genetics	4
ANSC 3319	Animal Breeding	3
ANSC 4185	Senior Seminar	1
Animal Production Elective - Choose six hours from the following:		6
ANSC 4313	Sheep and Goat Production	
ANSC 4303	Beef Cattle Production	
ANSC 4310	Swine Production	
ANSC 4320	Stocker Cattle Production and Feedlot Management	
ANSC 4330	Horse Enterprise Management	
ANSC 4440	Sustainable Livestock Systems	
ANSC 4302	Dairy Cattle Production	

#### Other Required Courses

GENERAL EDUCATION REQUIREMENTS ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
COMM 1315 [shared]	Public Speaking	
BIOL 1406 [shared]	Biology for Science Majors	
MATH (1314 or higher)		

**All Animal Science majors must complete the General Education requirements, the Animal Science Field of Study courses and one of the concentrations below to complete their degree program.**

Total Hours

84

### Additional Required Courses for Concentrations

#### Science Concentration

These courses are in addition to general education requirements (<http://catalog.tarleton.edu/undergrad/academicaffairs/>) and Animal Science Field of Study

BIOL 1407	Biology for Science Majors II	4
CHEM 1411 [shared]	College Chemistry I	
CHEM 1412	College Chemistry II	4
CHEM 2323 & CHEM 2123	Organic Chemistry I and Organic Chemistry I Laboratory	4
BIOL 3407	Microbiology	4
MATH 3450	Principles of Bio-Statistics	4
ANSC 4084	Internship	3
Electives (3@@@ or 4@@@ from ANSC, RNRM, VETE, BIOL, CHEM)		6
Animal Science Electives (ANSC, RNRM, VETE)		7
Total Hours		36

### Animal Production Concentration

**These courses are in addition to** general education requirements (<http://catalog.tarleton.edu/undergrad/academicaffairs/>) **and Animal Science Field of Study**

CHEM 1407 [shared]	Fundamentals of Chemistry	
AGRI 1307 & AGRI 1107	Agronomy and Agronomy Laboratory	4
RNRM 3301 or ANSC 3303	Principles of Range Management Pastures and Forages	3
ANSC 4084	Internship	3
Advanced business electives: AGECE or any course from the College of Business Administration		6
Select 6 hours from the following courses:		6
ANSC 3315	Animal Diseases and Parasites	
ANSC 3323	Ethical Issues in Agriculture and the Natural Resources	
ANSC 4308	Environmental Physiology of Farm Animals	
ANSC 4319	Biotechnology in Agriculture	
ANSC 4401	Ethology	
Animal Science Electives (ANSC, RNRM, VETE)		8
Electives		6
Total Hours		36

### Business Concentration

**These courses are in addition to** general education requirements (<http://catalog.tarleton.edu/undergrad/academicaffairs/>) **and Animal Science Field of Study**

CHEM 1407 [shared]	Fundamentals of Chemistry	
ECON 2301	Principles of Macroeconomics	3
ACCT 2301	Principles of Accounting I-Financial	3
ACCT 2302 or AGSD 2311	Principles of Accounting II-Managerial Applied Agricultural Analysis	3
AGEC 3330	Agricultural Credit	3
AGEC 3314	The Agricultural Marketing System	3
AGEC 3317	Agricultural Statistics	3
ANSC 4084	Internship	3
Advanced business electives: AGECE or any course from the College of Business Administration		9
Animal Science Electives (ANSC, RNRM, VETE)		6
Total Hours		36

### Pre-Veterinary Medicine Concentration

**These courses are in addition to** general education requirements (<http://catalog.tarleton.edu/undergrad/academicaffairs/>) **and Animal Science Field of Study**

MATH 2412 [shared]	Precalculus Math	
BIOL 1407	Biology for Science Majors II	4
BIOL 3407	Microbiology	4
CHEM 1411 [shared]	College Chemistry I	
CHEM 1412	College Chemistry II	4
CHEM 2323 & CHEM 2123	Organic Chemistry I and Organic Chemistry I Laboratory	4
CHEM 2325 & CHEM 2125	Organic Chemistry II and Organic Chemistry II Laboratory	4
BIOL 4374 or CHEM 4374	Biochemistry I Biochemistry I	3
PHYS 1401	College Physics I	4
PHYS 1402	College Physics II	4
MATH 3450	Principles of Bio-Statistics	4
Advanced Elective		1
Total Hours		36

**Meat and Food Science**

**These courses are in addition to** general education requirements (<http://catalog.tarleton.edu/undergrad/academicaffairs/>) **and Animal Science Field of Study**

BIOL 1407	Biology for Science Majors II	4
CHEM 1411 [shared]	College Chemistry I	
CHEM 1412	College Chemistry II	4
BIOL 3407	Microbiology	4
CHEM 2323 & CHEM 2123	Organic Chemistry I and Organic Chemistry I Laboratory	4
ANSC 4312	Meat Processing and Merchandising	3
ANSC 4314	Food Quality Assurance	3
ANSC 4338	Value-Added Processed Meats	3
ANSC 4084	Internship	3

**Concentration Electives** **8**

ANSC 1202	Barbeque Science	
ANSC 3323	Ethical Issues in Agriculture and the Natural Resources	
FDSC 1307	Concepts and Controversies in Food Studies	
FDSC 3304	Food Processing	
FDSC 4335	Food and Culture	
BUSI 4389	Global Business Practices	
MKTG 3312	Marketing	
MKTG 3316	Consumer Behavior	
MKTG 4312	Sales Management	
MKTG 4314	Supply Chain and Logistics Concepts	
FDSC 1316	Principles of Food Preparation	
AGSD 3380	Formulation of Agriculture & Food Policy	

Total Hours 36

**Range and Ranch Management**

**These courses are in addition to** general education requirements (<http://catalog.tarleton.edu/undergrad/academicaffairs/>) **and Animal Science Field of Study**

CHEM 1411 [shared]	College Chemistry I	
CHEM 1412	College Chemistry II	4
CHEM 2323	Organic Chemistry I	3
CHEM 2123	Organic Chemistry I Laboratory	1
AGRI 1307	Agronomy	3
RNRM 3300	Rangeland and Forest Plants	3
RNRM 3301	Principles of Range Management	3
RNRM 3315	Range Ecology	3
RNRM 4301	Perspectives and Practices in Grazing Management	3
RNRM 4312	Range Improvement and Development	3
SOIL 3301	Soil Science	3
BIOL 3436	Plant Physiology	4
or BIOL 3415	Plant Taxonomy	
RNRM 4384	Internship	3
or ANSC 4084	Internship	

Total Hours 36

**Certificate in Equine Science****Field of Study Courses**

Select 6 credits from the following courses: 6

ANSC 3305	Equine Evaluation	
ANSC 3325	Equine Exercise Physiology and Conditioning	
ANSC 3326	Horse Psychology and Training	
ANSC 3330	Basic Equine and Assisted Therapy	
ANSC 3331	Advanced Equine Assisted Therapy	
ANSC 3335	Equine Behavior Modification	
ANSC 4390	Special Topics	

**Other Required Courses**

ANSC 1310	Introduction to Horse Management	3
ANSC 1309	Introduction to Horse Production	3
ANSC 3324	Horse Nutrition	3
ANSC 3410	Principles of Equine Reproduction	4
ANSC 4330	Horse Enterprise Management	3

Total Hours 22

**\*\*NOTE: Some of the courses within the Equine Certificate may require other course prerequisites.\*\***

## Animal Science

### Required Courses

AGRI 1419	General Animal Science	4
Select one of the following:		3
ANSC 1309	Introduction to Horse Production	
ANSC 2307	Meat Animal Evaluation	
ANSC 2308	Meat and Carcass Evaluation	
ANSC 2350	Anatomy and Physiology of Domestic Animals	
ANSC 3305	Equine Evaluation	
Select one of the following: <sup>1</sup>		3-4
ANSC 3308	Principles of Animal Nutrition	
ANSC 3409	Feeds and Feeding	
Select one of the following: <sup>1</sup>		3-4
ANSC 3421	Meat Science	
ANSC 2350	Anatomy and Physiology of Domestic Animals	
Select one of the following: <sup>1</sup>		3-4
ANSC 3301	Livestock Management	
ANSC 3303	Pastures and Forages	
ANSC 3315	Animal Diseases and Parasites	
ANSC 3408	Physiology of Reproduction	
ANSC 3409	Feeds and Feeding	
ANSC 3421	Meat Science	
Select one of the following:		3-4
ANSC 4302	Dairy Cattle Production	
ANSC 4303	Beef Cattle Production	
ANSC 4310	Swine Production, Livestock Shows	
ANSC 4313	Sheep and Goat Production	
ANSC 4320	Stocker Cattle Production and Feedlot Management	
ANSC 4330	Horse Enterprise Management	
ANSC 4440	Sustainable Livestock Systems	

Total Hours 19-20

<sup>1</sup> A course can only count in one category

## Range and Ranch Management

### Required Courses

RNRM 3301	Principles of Range Management	3
RNRM 3315	Range Ecology	3
Select one of the following:		3-4
BIOL 3415	Plant Taxonomy	
BIOL 3436	Plant Physiology	
Select one of the following:		3-4
SOIL 3301 & SOIL 3101	Soil Science and Soil Science Laboratory	
SOIL 3302	Soils, Land Use, and The Environment	
Select one of the following:		3
ANSC 4303	Beef Cattle Production	
ANSC 4313	Sheep and Goat Production	
MGMT 3300	Principles of Management	3

Total Hours 18

## Minor in Veterinary Technology

### Required Courses

ANSC 1105	Introduction to Veterinary/Medical Terminology (Recommended first class)	1
Select one:		3
VETE 4313	Animal Welfare & Ethics	
ANSC 4401	Ethology	
Select one of the following:		3
VETE 4321	Companion Animal Diseases & Health Management	
VETE 4331	Equine Disease & Health Management	
ANSC 3315	Animal Diseases and Parasites	
VETE 4181	Veterinary Practice: Law & Ethics I	1
VETE 4182	Veterinary Practice: Law & Ethics II	1
Select one of the following:		3-4
ANSC 3308	Principles of Animal Nutrition	
ANSC 3424	Equine Nutrition	
VETE 4323	Companion Animal Nutrition & Care	

Electives (select 6 hours from the following):		6
ANSC 3408	Physiology of Reproduction	
VETE 3317	Veterinary Microbiology	
VETE 4253	Shelter Animal Medicine I	
VETE 4254	Shelter Animal Medicine II	
VETE 4255	Shelter Animal Medicine III	
VETE 4256	Veterinary Forensics I	
VETE 4257	Veterinary Forensics II	
VETE 4337	Equine Colic	
VETE 4271	Equine Lameness & Treatment Modalities	
VETE 4351	Veterinary Practice: Administration and Organization	
VETE 4352	Veterinary Practice: Fiscal Analysis and Planning	
VETE 4272	Equine Forensics: Cruelty	
Total Hours		18-19

### Certificate in Shelter Animal Medicine

#### Required Courses

VETE 4323	Companion Animal Nutrition & Care	3
VETE 4253	Shelter Animal Medicine I	2
VETE 4254	Shelter Animal Medicine II	2
VETE 4255	Shelter Animal Medicine III	2
VETE 4256	Veterinary Forensics I	2
VETE 4257	Veterinary Forensics II	2
VETE 4272	Equine Forensics: Cruelty	2
Total Hours		15

### Certificate in Dairy Science

#### Required Courses

ANSC 4302	Dairy Cattle Production	3
ANSC 4360	Lactation Physiology	3
ANSC 3360	Dairy Farm Evaluation	3
ANSC 4351	Environmental Stewardship in Animal Agriculture	3
Choose 6 credits from the following courses:		6
AGRI 3409	Genetics	
ANSC 3408	Physiology of Reproduction	
ANSC 3308	Principles of Animal Nutrition	
AGSD 3325	Agricultural Electrical Systems	
or AGSD 3340	Agricultural Field Machinery	
Choose one of the following:		3
AGEC 3330	Agricultural Credit	
MGMT 3302	Human Resource Management	
MGMT 3304	Small Business Management	
Total Hours		21

### Professors

- Lambert, Barry Dr.
- Owsley, Frank Dr.
- Rosiere, Randall Dr.
- Waddell, Jolena Dr.

### Associate professors

- Guay, Kimberly Dr.
- Jones, Trinetta Dr.
- Kinman, Lea Ann Dr.

### Assistant professors

- Cassens, Drew Dr.
- Jones, Barbara Dr.
- Roper, David Dr.
- Runyan, Cheyenne Dr.
- Smith, W. Brandon Dr.

### Instructor

- Cockrell, Michelle Ms.
- Doty, Bob Mr.
- Eakin, Mark Mr.
- Huxen, Shelby Ms.

- Jared, Jackson Mr.
- Walton, Roberta Ms.

## Animal Science Courses

### **ANSC 1100. Transitioning to University Studies in Animal Sciences. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective.

### **ANSC 1105. Introduction to Veterinary/Medical Terminology. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Introduction to veterinary/medical terminology. The foundation of veterinary terminologies and medical language roots, prefixes, suffixes, and combining forms are covered along with musculoskeletal and dissection/spatial body positions. Designed to provide a comprehensive entry-level study of medical language for health career learners.

### **ANSC 1202. Barbeque Science. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

An introduction to the science of meat preparation, incorporating food quality and safety, ingredients and flavors, cooking techniques, cut selection and consumer preferences. Lab fee: \$2.

### **ANSC 1309. Introduction to Horse Production. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An introduction to some of the fundamental aspects of horse production, including health, genetics and disease, nutrition, reproduction, and exercise physiology.

### **ANSC 1310. Introduction to Horse Management. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An introduction to fundamental aspects of horse management, including the status of the equine industry. Other topics include functional anatomy, locomotion, identification, equine behavior in relation to modification to training, health care management and stable management. Lab fee: \$2.

### **ANSC 1320. Rodeo Production and Skills. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

A study of rodeo activities including organization, promotion, and management of rodeos. Skill development in all standard events will be emphasized with special attention to student needs. Lab fee \$10.

### **ANSC 2101. Animal Science Industry. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

A review of the opportunities available to Animal Science students upon graduation, and the appropriate concentrations to achieve career goals. Prerequisites: Must be an ANSC major and must have completed AGRI 1419 or equivalent.

### **ANSC 2301. Foaling Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Management of the pregnant mare, parturition, and the neonatal foal. Students are required to attend overnight foal watch sessions as partial requirement for the course. Prerequisite: ANSC 1309 or instructor approval.

### **ANSC 2305. Horse Handling Techniques. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Skills development in basic horse handling and application of general principles of equine psychology and behavior. Students will be assigned a young horse to halter train for fundamental groundwork. Prerequisite: instructor approval Lab fee: \$2.

### **ANSC 2307. Meat Animal Evaluation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Evaluation of market animals including beef cattle, swine, sheep and goats. Emphasis is on selection of breeding animals and evaluation of market animals and economically important characteristics for each species. Prerequisite: AGRI 1419.

### **ANSC 2308. Meat and Carcass Evaluation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Evaluation of meat cuts and carcasses from cattle, swine, sheep and goats. Emphasis is on factors affecting quality and yield for each species. Techniques for evaluation and for preparation of written reasons. This course is required for participation in the meat judging program, but is open to all students meeting the prerequisites. Prerequisite: AGRI 1419.

### **ANSC 2350. Anatomy and Physiology of Domestic Animals. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Introduction to comparative anatomy and physiology of domestic animals. The roles of the various systems of the animal body will be studied with practical applications made to animal production. Topics include anatomy and physiology of the skeletal, muscular, cardiovascular, pulmonary, digestive and reproductive systems. Prerequisite: AGRI 1419.

### **ANSC 3301. Livestock Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Application of animal handling and management techniques for livestock. A study of the principles of breeding, feeding, disease and parasite control for beef, sheep, goats and swine. Prerequisites: AGRI 1319 or AGRI 1419; Agriculture Services and Development majors only.

### **ANSC 3303. Pastures and Forages. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Identification, management, and utilization of forage crops as they pertain to the production of livestock and related species, including pastures, hay, and silage.

### **ANSC 3305. Equine Evaluation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

A Study of the influence of heredity, conformation, training and environmental effects on performance. A detailed evaluation of the athletic performance and conformation as it relates to function, and the criteria used for evaluation and selection of breeding, race and performance animals. Prerequisite: ANSC 1310.

### **ANSC 3307. Livestock and Meat Evaluation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Comparative evaluation of breeding and market animals with emphasis on live animal selection, official carcass grading, carcass contest, wholesale cut selection and pricing, and performance testing. Oral reasons and written justifications on placing classes will be emphasized. Prerequisite: AGRI 1325 or approval of department head and instructor. Lab fee \$2.

### **ANSC 3308. Principles of Animal Nutrition. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An evaluation of the anatomical, physiological, and biochemical processes of digestion, absorption, and metabolism; overview of nutrients (water, carbohydrates, lipids, proteins, minerals, and vitamins) and their use within the body of animals. Prerequisites: BIOL 1406 or 1407; and CHEM 1407, 1411 or 1412.

### **ANSC 3309. Applied Animal Nutrition and Feeding. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Application of nutritional concepts; understanding of nutrient requirements and development of appropriate rations for livestock. Prerequisite: ANSC 3308.

### **ANSC 3314. Applied Equine Nutrition. 3 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Detailed examination of the unique anatomy and physiology of the digestive system of the horse. Dietary requirements nutrients as well as the major sources, needs, functions, and physiological aspects of inadequate and excess intake of nutrients. Common feedstuffs and use in formulating equine diets will be introduced. Prerequisite: ANSC 1309 or ANSC 3308 or instructor approval.

### **ANSC 3315. Animal Diseases and Parasites. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Exploratory study of infectious and non-infectious farm animal diseases, parasites, and parasitic diseases. Introduction to disease and parasite prevention through sanitation and treatment. Prerequisite: AGRI 1419.

### **ANSC 3319. Animal Breeding. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Specialized study of the application of genetic principles to livestock breeding. Improvement of the economic traits of farm animals by utilizing the principles of heritability and selection. Breeding and selection systems in cattle, swine, sheep, and horse production. Prerequisites: AGRI 3409, or BIOL 3303 and BIOL 3103, or BIOL 3403, or equivalent.

### **ANSC 3320. Livestock Event Production. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Planning and implementing livestock events. Publicity, promotion, budgeting, scheduling, soliciting sponsors, and event production.

**ANSC 3323. Ethical Issues in Agriculture and the Natural Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will examine the several major ethical issues facing agriculture and natural resources sciences in our current society. Readings, discussions and lectures will focus on the scientific, capitalistic, and philosophical motivation in common ethical issues. Upon completion of the course, students will be able to construct and dissect ethical arguments and hopefully become more aware of the ethical dilemmas we all face each day.

**ANSC 3325. Equine Exercise Physiology and Conditioning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Influence of exercise and conditioning on muscle physiology, cardiovascular physiology, the biomechanics of locomotion, and energy utilization. Fundamental rehabilitation and treatment of sports injuries will be introduced. Prerequisites: ANSC 1309 and ANSC 2350; OR instructor approval.

**ANSC 3330. Basic Equine and Assisted Therapy. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

Study and application of the methods of using the horse in a therapy program. Guidelines from the North American Riding for the Handicapped Association. Students will gain practical experience in the development and conduct of an equine-assisted therapy program. Prerequisite: Approval by instructor or Department Head.

**ANSC 3331. Advanced Equine Assisted Therapy. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Advanced studies in the use of the horse in a therapeutic riding program. Students will gain the hands-on experience and the information about riding, instruction and safety necessary to become a Certified Therapeutic Riding Instructor with the North American Riding for the Handicapped Association. Prerequisites: ANSC 1309, 3330, and approval of the instructor.

**ANSC 3335. Equine Behavior Modification. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Application of the principles of equine psychology to train horses. Prerequisite: Approval of instructor.

**ANSC 3340. Basic Therapeutic Riding. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

Study and application of the methods of using the horse in a therapeutic riding program. Guidelines from Professional Association of Therapeutic Horsemanship International will be used. Students will gain practical experience in the development and conduct of a therapeutic riding program.

**ANSC 3341. Advanced Therapeutic Riding. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

Advanced studies in the use of the horse in a therapeutic riding program. Students will gain the hands-on experience and the information about riding, instruction and safety necessary to become a Certified Therapeutic Riding Instructor with the Professional Association of Therapeutic Horsemanship International. Prerequisite: ANSC 3340 or instructor approval.

**ANSC 3360. Dairy Farm Evaluation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

On-site dairy farm inspections, evaluating management systems, and developing recommendations to enhance farm performance. Topics include dairy economics, management, and records. Prerequisite: AGRI 1419.

**ANSC 3408. Physiology of Reproduction. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Fundamental aspects of animal reproduction: basic reproductive anatomy, physiology, endocrinology, histology and behavior and how to apply it to production and effective management of domestic livestock. Prerequisites: AGRI 1419 and ANSC 2350.

**ANSC 3409. Feeds and Feeding. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Study of principal feeds and feed-stuffs from a practical point of view. Feeding standards and calculation of rations for maintenance, growth, fattening, and for milk, wool, and egg production. Prerequisite: Junior classification and AGRI 1419 with a C or better. Lab fee \$2.

**ANSC 3410. Principles of Equine Reproduction. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Theory and practices associated with equine reproduction, including mare and stallion anatomy, endocrinology, folliculogenesis, breeding soundness exams, record keeping, and health care. Prerequisite: ANSC 1309 or equivalent.

**ANSC 3421. Meat Science. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Basic physical and chemical components of meat and their influence on specific attributes of meat and meat products. Scientific and technical procedures involved in processing food animals, and anatomy, nomenclature, and evaluation of meats. Food safety issues in the meat industry and Hazard Analysis Critical Control Points. Prerequisites: AGRI 1419 and ANSC 2350.

**ANSC 4084. Internship. 3,6 Credit Hours (Lecture: 0 Hours, Lab: 48 Hours).**

Formally arranged and approved on-the-job training with cooperating sponsor in a commercial or private sector of the livestock or meats industries. A minimum of 120 hours of training is required for completion. Actual required hours will be determined by the nature of the internship and the internship coordinator. Oral and written reports of internship experience are required. This course may be offered pass/fail. Prerequisite: Approval of department head.

**ANSC 4086. Animal Science Problems. 1-4 Credit Hours (Lecture: 0 Hours, Lab: 1-4 Hours).**

Individualized study of current topics in student's major concentration of study or supporting discipline. Specific content and credit dependent upon student's interest, needs, and depth of study. May be repeated for a maximum of 6 semester hours credit. Prerequisite: Senior classification and advance approval by academic advisor.

**ANSC 4090. Special Topics in Animal Science. 1-4 Credit Hours (Lecture: 1-4 Hours, Lab: 0 Hours).**

Special Topics. (Credit-variable) This course deals with selected topics in animal science not covered by existing courses and may be repeated for credit when topics vary, with a maximum of six hours counting toward the degree. Prerequisite Course(s): Approval of department head.

**ANSC 4185. Senior Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

A review of current problems and developments in agriculture; professional opportunities and responsibilities; individual investigations and reports. Prerequisite: Senior classification.

**ANSC 4300. Research and Writing in Animal Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Detailed discussions and literature review of current knowledge in areas such as reproductive and alimentary physiology, nutrition, parasitology, pharmacology, and genetics. Topics will include experimental design and statistical evaluation of agricultural research. Students will prepare various types of writings based on scientific literature. Prerequisite: senior classification in agriculture.

**ANSC 4301. Equine Breeding Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Advanced theory and practices associated with equine reproduction, including breeding soundness exams, record keeping, and health care. Practices related to personnel management and economics of a equine breeding operation will be introduced. Prerequisite: ANSC 3410 or ANSC 3408 or instructor approval.

**ANSC 4302. Dairy Cattle Production. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Principles of dairy science and their application to the feeding and management of dairy cattle. Topics include herd improvement, selection, feeding, replacement stock development, disease control, animal welfare, milk marketing, and associated management practices. Prerequisites: ANSC 3408; ANSC 3409 or ANSC 3309 or ANSC 4306; or permission of instructor.

**ANSC 4303. Beef Cattle Production. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An overview of the beef cattle industry, with emphasis on the seedstock and cow-calf sectors. A study of the fundamental concepts and principles of beef cattle production. Integration of principles of nutrition, breeding, physiology, and marketing into complete production and management programs. In-depth coverage of seedstock and cow-calf segments of the industry, with introduction to stocker cattle production and feedlot management. Prerequisite: ANSC 3408; ANSC 3309 or ANSC 3409.

**ANSC 4308. Environmental Physiology of Farm Animals. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies of farm animals and interactions with their physical environment. Detailed attention is given to the effects of changes and extremes in natural and artificial animal environments, including temperatures, shelter, altitude, humidity, crowding, and other stress factors associated with modern livestock production and handling practices. Prerequisites: AGRI 1419 or AGRI 1319 with a C or better, and ANSC 2350 or approval of instructor.

**ANSC 4310. Swine Production. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Applications of nutrition, genetics, breeding, and reproduction to swine production. All aspects of production, with a focus on production systems. Prerequisite: ANSC 3408; ANSC 3309 or ANSC 3409.

**ANSC 4312. Meat Processing and Merchandising. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The chemical and physical characteristics of meats and their relations to the processing and manufacturing of meat food items. Carcass value as influenced by merchandising techniques and practices. Sanitation control and commercial and retail operations will be stressed. Laboratory work will include meat processing and the development of competencies in processing all classes of livestock. Prerequisite: ANSC 3421 or approval of department head. Lab fee \$10.

**ANSC 4313. Sheep and Goat Production. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Practical applications of breeding, feeding, management, disease and parasite control with regard to range and farm conditions; fitting and showing. Wool and mohair production; grading; sorting; and marketing. Prerequisites: ANSC 3408; ANSC 3409 or ANSC 4306 or ANSC 3309 or permission of instructor.

**ANSC 4314. Food Quality Assurance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The basis behind food quality control/assurance is discussed along with its application to various food systems to control and improve the quality and safety of our food supply. Credit will not be awarded for ANSC 4341 and ANSC 5314. Lab fee: \$2.

**ANSC 4319. Biotechnology in Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of modern biotechnology in agriculture today. This course will explore important advancements and tools in fields such as genetics, agronomy, and bioinformatics. It will also examine the legal constraints and ethical debates that surround these technologies. Credit will not be awarded for both ANSC 4319 and ANSC 5319. Prerequisites: AGRI 3409, or BIOL 3303 and 3103, or instructor approval.

**ANSC 4320. Stocker Cattle Production and Feedlot Management. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An in-depth examination of nutrition, marketing, consumer relations, and management of beef cattle stocker and feedlot operations. . Prerequisite: ANSC 3421; ANSC 3309 or ANSC 3409, or instructor approval.

**ANSC 4325. Equine Sales Prep and Marketing. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Preparing and marketing horses for sale. Business strategies, marketing, catalog preparation, public relations, product presentation, fitness, and sale preparation of horses. Prerequisite: ANSC 3305 or instructor approval.

**ANSC 4330. Horse Enterprise Management. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Individualized instruction in management techniques for horse enterprises. Record systems, marketing, and business operation procedures. Prerequisite: ANSC 3410 or ANSC 3408; ANSC 3309 OR ANSC 3314 or approval of instructor.

**ANSC 4338. Value-Added Processed Meats. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The application of scientific principles and practices to further processed meat products. Interrelationships among tissue characteristics, ingredients, handling practices, processing technologies and storage conditions as they affect the quality, safety, and stability of muscle foods. Prerequisite: ANSC 3421 Lab fee: \$2.

**ANSC 4350. Feed Analysis. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Analytical techniques for determining the nutrient content of animal feeds. Students will learn to measure moisture, protein, fiber, carbohydrates, fats, and minerals. Different methods for estimating the useable energy content of feeds will be presented. Prerequisite: CHEM 1412 or approval of department head.

**ANSC 4351. Environmental Stewardship in Animal Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Techniques and practices in animal production for good stewardship of land, water, and air. Review of applicable state and federal environmental laws. Prerequisite: AGRI 1419; CHEM 1411 or CHEM 1407; BIOL 1406 or BIOL 1407; or permission of instructor.

**ANSC 4360. Lactation Physiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A systematic overview of lactation physiology using dairy cattle as the primary model. Topics include mammary gland anatomy, milk secretion, mammary gland development, and disease impacts. Prerequisites: ANSC 2350 and ANSC 3408.

**ANSC 4361. Animal Science Study Tour. 3 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

Field course in animal agriculture designed to acquaint students with live animal operations, related businesses, and food/feed facilities. Includes travel to various sites. Prerequisite: Instructor approval.

**ANSC 4390. Special Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected topics in the animal sciences. May be repeated for credit when topics vary, with a maximum of six hours. Prerequisite: approval of department head.

**ANSC 4401. Ethology. 4 Credit Hours (Lecture: 3 Hours, Lab: 4 Hours).**

An introductory course in the behavior of animals, with emphasis on the natural selection, ontogeny, and function of behaviors as they relate to feeding, reproduction, predator-avoidance, and other traits. Both proximate (sensory, hormonal, genetic) and ultimate (ecological and evolutionary) mechanisms are addressed. Prerequisite: C or better in BIOL 1406 and BIOL 1407, and a C or better in either AGRI 1419 or WSES 2322. Lab fee: \$2.

**ANSC 4440. Sustainable Livestock Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Overview of beef, dairy, swine, small ruminant and poultry production systems and their applications. Modern concepts, ideas, and methodology associated with the application of technology to reproduction, breeding, health, nutrition and nutrient utilization, across various management schemes. Prerequisite: non-Animal Science majors only; ANSC 3408 or ANSC 3309 or ANSC 3409; or approval of instructor.

## Veterinary Technology Courses

**VETE 3112. Strengths Based Leadership. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course focuses on the theories, concepts and principles of leadership. Emphasis will be on the development of leadership skills through the four domains of leadership strength: Executing, Influencing, Relationship Building, and Strategic Thinking. Prerequisites: Enrollment in Veterinary Technology program or permission of program Department Head.

**VETE 3313. Radiology & Clinical Imaging. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course teaches veterinary technician students beyond the fundamentals of taking and developing radiographs. Topics include descriptive positioning, digital radiographic techniques and quality calculations, and radiation safety procedures. Other imaging technologies include ultrasound, fluoroscopy, MRI, CT scan, and nuclear scintigraphy. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Department Head.

**VETE 3316. Clinical Cardiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The concepts of cardiology are designed to give veterinary professionals the solid foundation on cardiovascular disorders that represent a substantial portion of diseases seen in veterinary practice. The course will explore the most common cardiology diseases, the diagnostics, and therapeutic principles of veterinary cardiology allowing students to see cardiac disorders in a step-by-step fashion including pathophysiology, history, physical exam, electrocardiography, thoracic radiography, special diagnostic techniques, differential diagnosis, and the therapeutic approach. Prerequisites: Enrollment in the BAS Veterinary Technology Program and upper division standing or approval of the Department Head.

**VETE 3317. Veterinary Microbiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Animal disease etiologies occurring in North America and global trans-boundary diseases. A systematic approach of describing infection and disease states to compare differences and similarities across affected species. Prerequisites: Enrollment in the Veterinary Technology Program; or Biology 1407 and upper division standing; or BIOL 1407 and ANSC 2350; or approval of the Department Head.

**VETE 4086. Veterinary Technology Special Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This is an advanced course in veterinary technology. Problems assigned according to experience, interest, and needs of individual students. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Department Head.



**VETE 4111. Safety & Regulatory Compliance. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course will introduce and heighten awareness of veterinary specific safety hazards and regulatory compliance issues. The course is designed to acquaint veterinary technician learners to the following: (1) personal safety hazards, (2) patient safety hazards, (3) Human Resource issues related to safety, (4) licenses, permits, and registrations, (5) Occupational and Safety Health Administration (OSHA), and (6) reproductive and gender issues. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Department Head .

**VETE 4181. Veterinary Practice: Law & Ethics I. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This first course in veterinary law & ethics is designed to provide students with an understanding of the legal principles required by State and National licensing boards within the scope of veterinary practices. Emphasis is placed on the principles and policies which veterinarians and technicians receive through continuing education in order to maintain license. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Department Head.

**VETE 4182. Veterinary Practice: Law & Ethics II. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This second in a series course in veterinary law & ethics is designed to provide students with a continuing understanding of the legal principles required by State and National licensing boards within the scope of veterinary practices. Emphasis is placed on the principles and policies which veterinarians and technicians receive through continuing education in order to maintain licensure. Prerequisite: VETE 4181.

**VETE 4208. Veterinary Research. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course is collectively designed to provide veterinary technology students an introduction to biomedical research and career opportunities in veterinary medicine. It is centered on supporting veterinarian technicians who are seeking to develop their scientific knowledge and research skills. Unmet needs for veterinary technician expertise exist in sectors of veterinary medicine, such as Biomedical Genomics, Genetics and Bioinformatics, Physiology, Pharmacology, Cardiovascular Sciences, Infectious Diseases, Biodefense and Immunology, Neuroscience, Anatomy and Functional Imaging, Reproductive Biology, Development and Epigenetics, Toxicology, Environmental Health Science, and Food Safety. Prerequisites: Enrollment in the BAS Veterinary Technology Program and upper division standing or approval of the Department Head.

**VETE 4209. Veterinary Technology: Capstone. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The capstone course is an opportunity for students to demonstrate achievement of the goals for learning established by the Veterinary Technology Program . The course is designed to assess cognitive, affective and psychomotor learning and to do so in a student-centered and student-directed manner which requires the command, analysis and synthesis of knowledge and writing skills. The capstone course integrates learning from the courses within the major and the academic experience. This course is highly recommended to be taken in the last semester. Prerequisites: VETE 4208, enrollment in the Veterinary Technology Program, upper division standing or approval of the Department Head.

**VETE 4251. Veterinary Practice: Administrative Tools for Success. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course outlines time tested tools and systems for improving a veterinary practice manager's administrative skills and performance standards. The mind-set need to achieve an important goal is studied through discussions that mark and define progress and setting achievable goals; success mapping! Prerequisite: Enrollment in the BAS Veterinary Technology Program and upper division standing or approval of the Director.

**VETE 4252. Veterinary Practice: Teaching Techniques. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course explores the development and delivery of front office skills, etiquette and medical practices required of veterinary technicians in carrying out their profession. A wide variety of models and exemplars focus on the integration of client, medical supplier, veterinary resources and supportive biomedical technologies that contribute to the veterinary practice and profession. Prerequisite: Enrollment in the BAS Veterinary Technology Program and upper division standing or approval of the Director.

**VETE 4253. Shelter Animal Medicine I. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Evaluate protocols to enhance physical health and well-being of shelter animals, recognition and response to common health threats and infectious disease outbreaks. Medical concepts related to population management, sanitation, facility design, and housing.

**VETE 4254. Shelter Animal Medicine II. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Address animal cruelty in multiple species; investigate critical shelter animal behavior and welfare concepts including behavioral assessments, behavioral modification protocols, diagnosis of common behavioral problems, and medical treatments of selected behavioral disorders; address spay/neuter protocols in shelters. Prerequisite: VETE 4253.

**VETE 4255. Shelter Animal Medicine III. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Study of shelter animal medicine and its role in disaster management. Special considerations for animal shelter management and for animal care and evaluation resulting from natural disasters. FEMA procedures for animal shelters. Prerequisite: VETE 4254.

**VETE 4256. Veterinary Forensics I. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Procedures and protocols used when processing an animal crime scene; the role and responsibility of the veterinarian and veterinary professionals within the legal system; special considerations for animal cruelty.

**VETE 4257. Veterinary Forensics II. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Examination of the animal with special considerations for animal cruelty, postmortem changes, and forensic entomology. Explore areas of trauma and injury of common interest to forensics, such as: blunt force trauma, sharp force injury, burn-, electrical-, and fire-related injuries, and firearm injuries. Prerequisite: VETE 4256.

**VETE 4259. Companion Animal Dermatology. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course will cover the presentation, recognition and diagnostics necessary to identify skin diseases and provide clinical guidelines for the successful management of skin diseases commonly seen in veterinary practice. Consideration of the diagnostic approach toward the dermatology patient, precancerous conditions, zoonoses, and breed predispositions are examined along with dermatologic drugs and toxicities. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Director.

**VETE 4260. Companion Animal Ophthalmology. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course examines clinical canine/feline ophthalmology. Coverage of the most commonly diagnosed and treated neuro-ophthalmology and systemic diseases afflicting the eye are considered. Prerequisites: Enrollment in the BAS Veterinary Technology Program and upper division standing or approval of the Director.

**VETE 4262. Dental Procedures & Techniques. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course covers the 12-step dental cleaning procedure, oral pathology, instrumentation used in cleaning, equipment, dental radiology, interpretation of dental radiographs. digital dental radiography systems, utilization of digital systems to promote client acceptance of treatment plans, dental charting, and implementing a higher level of dental care in a general practice. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Department Head.

**VETE 4270. Integrative Medicine. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Holistic approach to animal examination, diagnosis and treatment modalities considering all aspects of the animal's life and focusing on culturally-alternative aspects of treatment such as: acupuncture, herbal medicine, chiropractics, tui na, and therapeutic nutrition. Prerequisites: Enrollment in the Veterinary Technology Program; or Biology 1407 and upper division standing; or BIOL 1407 and ANSC 2350; or approval of the Department Head.

**VETE 4271. Equine Lameness & Treatment Modalities. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course analyzes the causes, diagnoses, and management of the myriad causes of lameness such as: defining and identifying the lame leg; spotting gait abnormalities and non-muscular causes; physical examinations and evaluations; diagnostic tools and other tests; the role of the veterinarian and farrier in pre-purchase examinations. Physical therapies along with treatment of specific conditions to the foot, pastern and fetlock, cannon and splint bones, knee, upper foreleg, hock, upper hind leg, and back are studied. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Department Head.

**VETE 4272. Equine Forensics: Cruelty. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course focuses on assessment and investigation into large animal (equine) cruelty cases. It covers and describes methods for assessing starvation, body condition scoring, hoof care, dental care, and accidental and non-accidental injuries. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Department Head.

**VETE 4273. Emergency & Critical Care of Horses. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course addresses the role of veterinary technicians in equine emergency and critical care. It covers and describes dozens of common, life-saving protocols and procedures. Patient assessment, equipment, therapies and techniques are discussed along with important drug information. Specific systemic problems such as hematologic, cardiovascular, gastrointestinal emergencies, shock and trauma are covered. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Department Head.

**VETE 4274. Equine Dermatology & Ophthalmology. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course describes the structure and function of the skin, and discusses disorders including bacterial, fungal, parasitic, viral, protozoal, allergic, immune-mediated, endocrine, metabolic, and nutritional diseases. It also covers congenital and hereditary defects, pigmentation abnormalities, keratinization defects, environmental skin diseases, and skin tumors. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Director.

**VETE 4275. Equine Learning & Behavior. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course explains learning theory, and offers practical advice on reward systems, positive and negative reinforcement, and overcoming fears and phobias. and how to apply it in a way that is both efficient and holds the horse's welfare paramount. It also a range of practical tools to employ in solving equine behavior problems, and training tasks and case studies demonstrate these tools in use. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Department Head.

**VETE 4283. Veterinary Practice Management Internship. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

The Technician Manager Internship is designed to expose students to the daily practice-management activities that may be encountered in a veterinary practice, an animal research facility, or other allied animal-health facility. A minimum of 480 hours of participation in a veterinary manager internship position in a faculty-approved facility is required. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Director.

**VETE 4305. Pharmacology & Pharmacy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course deals with pharmacodynamics, pharmacokinetics, clinical/therapeutic uses and toxicology of drugs. Emphasis is given on how a drug works to anticipate outcomes. Nursing responsibilities include administering drugs, calculating medication dosages based on given setting, assessing drug effects, intervening to make a drug more tolerable, and providing teaching about drugs and the drug regimen. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Director.

**VETE 4313. Animal Welfare & Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Course content includes and focuses on the ethics of animal use, physiological and psychological aspects of adverse states, examination of animal environments, the role of the veterinarian and the profession in animal welfare, knowledge and understanding of welfare issues, animal legislation and cruelty law, and further characterization and understanding of the human - animal bond. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Department Head.

**VETE 4321. Companion Animal Diseases & Health Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will focus on the nursing care required by companion animals as the result of disease or neonatal, geriatric, and obstetrical needs. The course objectives are to assess a student's knowledge base and then help him or her gain the knowledge to maintain the health, well-being, and longevity of companion animals. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Department Head.

**VETE 4323. Companion Animal Nutrition & Care. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The essentials of companion animal nutrition including pet food regulation ingredients, labels and guaranteed analysis. Life cycle feeding management of healthy pets and during disease and debilitating injury. Prerequisites: Enrollment in the Veterinary Technology Program; or BIOL 1407 and ANSC 2350; or approval of the Department Head.

**VETE 4325. Companion Animal Anesthesiology & Surgical Nursing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides detailed coverage of the physiological, pharmacological and physical aspects of anesthesia. Detailed case study is utilized to build knowledge and understanding of anesthetic principles. Nursing skills are given emphasis toward pre- and post operative procedures. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Department Head.

**VETE 4326. Companion Animal Emergency-Critical Care & Pain Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will focus on learning and applying emergency care, critical care and pain management techniques appropriate for veterinary technicians. The student will acquire knowledge of the proper use of drugs, fluids, and equipment for emergency and critical care patients. Students will also learn to evaluate these patients through physiological monitoring and life support measures in the intensive care unit (ICU). Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Department Head.

**VETE 4331. Equine Disease & Health Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a comprehensive study of the essential elements necessary to promote good health among horses. Living environments, fencing, pasture, grooming, vaccination protocols, de-worming protocols, hoof care, dental care, etc. are addressed and discussed through case scenarios and models. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Department Head.

**VETE 4333. Equine Nutrition & Care. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides in-depth information on the function and peculiarities of equine gastrointestinal physiology and the importance of the nutrients that are essential for equine well-being. In addition to discussions of common feeds and supplement, topics will include how to read and interpret commercial feed labels, the balancing of rations, and the use of feed analyses and computer analysis programs. Course content is presented entirely online. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Department Head.

**VETE 4335. Equine Anesthesiology & Surgical Nursing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides detailed coverage of the physiological, pharmacological and physical aspects of anesthesia. Detailed case study is utilized to build knowledge and understanding of anesthetic principles. Nursing skills are given emphasis toward pre- and post operative procedures. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Department Head.

**VETE 4337. Equine Colic. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course explores the various etiologies and physiological responses of horse that are afflicted with gastrointestinal insufficiency. Each of the 5 main causative factors of equine colic are discussed and evaluated for health implications and measures necessary for a return to uncomplicated recovery. Prerequisites: Enrollment in the Veterinary Technology Program and upper division standing or approval of the Department Head.

**VETE 4351. Veterinary Practice: Administration and Organization. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Designed for veterinary technicians, this course explores the decision making responsibility within a veterinary practice environment in which to improve its competitive advantage. This course examines how the long-term organizational success of veterinary services can be achieved through effective policies and operating procedures. Prerequisite: Enrollment in the BAS Veterinary Technology Program and upper division standing or approval of the Director.

**VETE 4352. Veterinary Practice: Fiscal Analysis and Planning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the specific financials of veterinary practice and statement analysis that are one of the most challenging areas for practice managers. Also covered are facility additions/improvements, equipment, vehicles, and other capital expenditures that requires the practice manager to proactively conduct a thorough analysis of projected client (statement) income and projections to facilitate sound decision making. Also, under consideration are the variable pricing models - veterinary hospitals have a number of potential pricing models to choose from when setting fees. Prerequisite: Enrollment in the BAS Veterinary Technology Program and upper division standing or approval of the Director.

**VETE 4354. Veterinary Practice: Client/Consumer Behavior and Practice Branding. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will explore the veterinary practice manager's role in facilitating client education directed at the health care needs of their animals' and insuring for health care needs while growing the practice through internal and external promotions and educational programs. This course also examines veterinary wellness and preventative health care plans as well as communicating the benefits of product, place, price, promotion and branding. Prerequisite: Enrollment in the BAS Veterinary Technology Program and upper division standing or approval of the Director.

**VETE 4355. Veterinary Practice: Supervision and Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to identify key interpersonal relationships in veterinary practice that leaders must foster and develop for long term success. Supervision in large and small practices; consisting of administrative, technical and support staff is also covered. A discussion planner (tool) for veterinary technicians/managers to develop interdependency, trust and effective communication will be utilized. Prerequisites: Enrollment in the BAS Veterinary Technology Program and upper division standing or approval of the Director.

## Department of Wildlife and Natural Resources

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Wildlife and Natural Resources is dedicated to the understanding and management of earth's ecosystems. Our mission is to prepare students to confront the environmental challenges of present and future generations by sustainably managing natural resources through multidisciplinary teaching, experiential learning, and research.

Many of our degree plans fulfill the educational requirements for certification by various professional organizations. Examples of professional certifications our graduates are eligible for are:

- Certified Wildlife Biologist -- The Wildlife Society
- Certified Fisheries Professional --The American Fisheries Society
- Certified Ecologist --The Ecological Society of America
- Certified Rangeland Professional --The Society for Range Management
- Certified Ecological Restoration Practitioner --Society for Ecological Restoration
- Certified Professional Soil Scientist -- Soil Science Society of America
- Certified Crop Advisor --The American Society of Agronomy

The Department of Wildlife and Natural Resources administers the following degrees and support areas:

### Bachelor Science in Wildlife, Sustainability, and Ecosystem Sciences

- Wildlife and Ecology Management. Designed to prepare graduates for a career in wildlife conservation and management and fulfills all the educational requirements to become a Certified Wildlife Biologist through The Wildlife Society. Graduates frequently find careers with state and federal wildlife agencies, non-governmental organizations, environmental consulting firms, and private ranches.
- Fisheries Ecology and Management. Combines a basic understanding of fish biology and aquatic sciences with a deep knowledge of applied ecology and fisheries management. Curriculum meets the requirements of the American Fisheries Society for a Certified Fisheries Professional. Graduates find careers in government as well as the private sector managing freshwater and marine fisheries for both recreational and commercial fishing.
- Pre-Veterinary Medicine. Designed to prepare students for admission to a college of veterinary medicine. The curriculum is based on the requirements set forth by the Texas A&M College of Veterinary Medicine. Additional courses prepare students for a career in wildlife science, or for a future specialization in wildlife or zoo medicine. Graduates can pursue any veterinary specialty (small-animal, livestock, or wildlife).
- Zoo Animal and Confined Wildlife Biology and Management. Combines wildlife science and animal science to create a unique educational experience that addresses the special needs of wildlife in confined situations. Graduates are equipped to manage wild animals in zoos, animal parks, game breeding operations, and wildlife rehabilitation facilities.
- Natural Resource Ecology. Encompasses such disciplines as range science and restoration ecology. Provides the required coursework to become Rangeland Management certified by the Society for Range Management, or a Certified Restoration Practitioner endorsed by the Society for Ecological Restoration. Focuses on management of plant communities in range, forest, and other wildland systems. Graduates find careers on private ranches and farms as owners or as professional consultants. They are also prepared for careers with the Natural Resource Conservation Service, Texas A&M AgriLife Extension, the US Forest Service, and The Nature Conservancy.
- Horticultural Science. Firmly grounded in the biology of plant growth, with additional applied courses to give students a well-rounded set of skills to become horticulture scientists. For students with strong interests in science and/or technology opportunities in research related fields, including graduate studies. Graduates may pursue a career as a professor at a university or research scientist for public and private organizations.
- Entomology.

### The Bachelor of Science Degree in Wildlife, Sustainability, and Ecosystem Sciences

#### Field of Study Courses

BIOL 1406 [shared]	Biology for Science Majors
BIOL 1407 [shared]	Biology for Science Majors II
CHEM 1411	College Chemistry I

MATH 2412 [shared]	Precalculus Math	
WSES 2405	Ecology for Natural Resource Managers	4
WSES 2322	Principles of Wildlife Conservation and Management	3
BIOL 3303	Genetics	3
ENTO 3312	General Entomology	3
SOIL 3301	Soil Science	3
WSES 3350	Writing for the Natural Resource and Environmental Sciences	3
WSES 3385 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Fish and Wildlife Laws and Administration	3
Experiential Learning Requirement (choose one):		1
WSES 4084	Internship in the Natural Resource Sciences	
WSES 4088	Undergraduate Research in the Natural Resource Sciences	
WSES 4340	Natural Resource Field Studies	
WSES 4342	Study Abroad	
WSES 4187	Senior Capstone Seminar	1
<b>Other Required Courses</b>		
General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		<b>43</b>
Total Hours		71

### Additional Required Courses for Concentrations

#### Wildlife Ecology and Management

Physical Science Elective (choose one):		2
CHEM 1412	College Chemistry II	
PHYS 1401	College Physics I	
GEOL 1403	Physical Geology	
GEOL 1404	Historical Geology	
GEOL 1407	Introduction to Environmental Science	
GEOL 1408	Natural Disasters	
SOIL 4213	Soil Physical Properties	
PHIL 2303 [shared]	Introduction to Logic	
GEOG 2451	Introduction to Geographic Information Systems	4
MATH 3450	Principles of Bio-Statistics	4
SOIL 3101	Soil Science Laboratory	1
WSES 3310	Wildlife Management Techniques	3
WSES 3311	Wildlife Diseases	3
or WSES 3305	GIS for Natural Resource Scientists	
Choose one of the following:		3
WSES 3308	Analysis of Natural Resource Data	
WSES 4313	Vegetation Measurement, Inventory, and Monitoring	
Choose two of the following (at least one must be BIOL 4430, BIOL 4440, or BIOL 4451):		7
WSES 3403	Natural History of the Vertebrates	
BIOL 4430	Ornithology	
BIOL 4440	Herpetology	
BIOL 4451	Mammalogy	
BIOL 4320	Behavioral Ecology	
NRSC 4303	Animal Behavior	
ANSC 4401	Ethology	
Choose two of the following:		8
WSES 3406	Wildland Plant Identification and Ecology	
WSES 3408	Dendrology and Woody Plant Identification	
BIOL 3415	Plant Taxonomy	
Natural Resource Policy, Administration, and Law Requirement (choose one):		3
WSES 3323	Ethical Issues in Agriculture and the Natural Resources	
WSES/POLS 3315	Sustainability	
WSES 3386	Human Dimensions of Fish and Wildlife Management	
WSES 3387	Natural Resource Conservation Outreach and Interpretation	
POLS 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Policy	
SOIL 3302	Soils, Land Use, and The Environment	
WSES 4301	Population Dynamics, Modeling, and Analysis	3
WSES 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Habitat Management	3
Advanced Ecology and Management Elective (choose one):		3
WSES 3314	Pollinator Ecology and Conservation	
WSES 4326	Big Game Ecology and Management	
WSES 4327	Avian Ecology and Management	

Electives:		2
Choose at least two hours in WSES or SOIL 3XXX or 4XXX, or RNRM 3301		
Total Hours		49
<b>Natural Resource Ecology</b>		
MATH 3450	Principles of Bio-Statistics	4
GEOG 2451	Introduction to Geographic Information Systems	4
PHIL 2303 [shared]	Introduction to Logic	
SOIL 3101	Soil Science Laboratory	1
SOIL 3302	Soils, Land Use, and The Environment	3
SOIL 4212	Soil Ecology	2
WSES 3305	GIS for Natural Resource Scientists	3
WSES 3313	Plant Diversity and Conservation	3
WSES 3314	Pollinator Ecology and Conservation	3
WSES 3406	Wildland Plant Identification and Ecology	4
WSES 3408	Dendrology and Woody Plant Identification	4
WSES 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Habitat Management	3
WSES 4303	Ecological Restoration	3
WSES 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Plant-Animal Interactions	3
WSES 4311	Fire Ecology	3
WSES 4313	Vegetation Measurement, Inventory, and Monitoring	3
Elective:		3
Choose at least three hours from WSES 3XXX or 4XXX, SOIL 3XXX or 4XXX, or BIOL 3436.		
Total Hours		49
<b>Pre-veterinary Medicine</b>		
BIOL 3407	Microbiology	4
BIOL 4374	Biochemistry I	3
CHEM 1412	College Chemistry II	4
CHEM 2323 & CHEM 2123	Organic Chemistry I and Organic Chemistry I Laboratory	4
CHEM 2325 & CHEM 2125	Organic Chemistry II and Organic Chemistry II Laboratory	4
COMM 1315 [shared]	Public Speaking	
MATH 3450	Principles of Bio-Statistics	4
PHYS 1401	College Physics I	4
PHYS 1402	College Physics II	4
PSYC 2301 [shared]	General Psychology	
WSES 3310	Wildlife Management Techniques	3
WSES 3311	Wildlife Diseases	3
WSES 4301	Population Dynamics, Modeling, and Analysis	3
WSES 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Habitat Management	3
ANSC 3308	Principles of Animal Nutrition	3
Choose one of the following:		3
WSES 3340	Fisheries Conservation and Management	
WSES 3403	Natural History of the Vertebrates	
WSES 4326	Big Game Ecology and Management	
WSES 4327	Avian Ecology and Management	
BIOL 4430	Ornithology	
BIOL 4440	Herpetology	
BIOL 4451	Mammalogy	
NRSC 4303	Animal Behavior	
BIOL 4320	Behavioral Ecology	
ANSC 4401	Ethology	
Total Hours		49
<b>Fisheries Ecology and Management</b>		
MATH 3450	Principles of Bio-Statistics	4
Physical Science Elective (choose at least 1 hour):		1
SOIL 3101	Soil Science Laboratory	
CHEM 1412	College Chemistry II	
EASC 3340	Oceanography	
EASC 3370	Biogeography	

GEOL 1403	Physical Geology	
GEOL 1404	Historical Geology	
GEOL 1407	Introduction to Environmental Science	
GEOL 1408	Natural Disasters	
PHYS 1401	College Physics I	
PHIL 2303 [shared]	Introduction to Logic	
GEOG 2451	Introduction to Geographic Information Systems	4
WSES 3309	Aquaponics	3
WSES 3340	Fisheries Conservation and Management	3
WSES 3308	Analysis of Natural Resource Data	3
or MATH 2413	Calculus I	
ENTO 3316	Aquatic Entomology	3
Botany requirement (choose one):		4
WSES 3406	Wildland Plant Identification and Ecology	
WSES 3408	Dendrology and Woody Plant Identification	
BIOL 3415	Plant Taxonomy	
BIOL 3430	Phycology	
Choose two of the following:		6
WSES 3311	Wildlife Diseases	
WSES 3403	Natural History of the Vertebrates	
BIOL 4320	Behavioral Ecology	
BIOL 3449	Animal Diversity	
BIOL 4445	Parasitology	
BIOL 4440	Herpetology	
NRSC 4303	Animal Behavior	
ANSC 4401	Ethology	
Natural Resource Policy, Administration, and Law Requirement (choose one)		3
WSES/POLS 3315	Sustainability	
WSES 3323	Ethical Issues in Agriculture and the Natural Resources	
WSES 3385 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Fish and Wildlife Laws and Administration	
WSES 3386	Human Dimensions of Fish and Wildlife Management	
WSES 3387	Natural Resource Conservation Outreach and Interpretation	
WSES 4306	Water Resources Policy and Management	
POLS 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Policy	
POLS 4310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	International Environmental Issues	
POLS 4311 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Law	
BIOL 3407	Microbiology	4
BIOL 3340	Introduction to Marine Biology	3
or BIOL 4441	Freshwater Biology	
BIOL 4462	Ichthyology	4
WSES 4301	Population Dynamics, Modeling, and Analysis	3
WSES Electives:		1
Choose at least one course from WSES 3XXX or 4XXX.		
Total Hours		49

### Zoo Animal and Confined Wildlife Biology and Management

BIOL 3103	Genetic Techniques	1
BIOL 4325	Conservation Biology	3
PHIL 2303 [shared]	Introduction to Logic	
AGRI 1419	General Animal Science	4
ANSC 2350	Anatomy and Physiology of Domestic Animals	3
ANSC 3308	Principles of Animal Nutrition	3
ANSC 3408	Physiology of Reproduction	4
or ANSC 3410	Principles of Equine Reproduction	
ANSC 4308	Environmental Physiology of Farm Animals	3
WSES 3311	Wildlife Diseases	3
Choose one of the following:		3
WSES 3323	Ethical Issues in Agriculture and the Natural Resources	
WSES 3386	Human Dimensions of Fish and Wildlife Management	
WSES 3387	Natural Resource Conservation Outreach and Interpretation	
Choose one of the following:		3

WSES 4326	Big Game Ecology and Management	
WSES 4327	Avian Ecology and Management	
WSES 3403	Natural History of the Vertebrates	
Choose one of the following:		4
BIOL 4430	Ornithology	
BIOL 4440	Herpetology	
BIOL 4451	Mammalogy	
WSES 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Habitat Management	3
or WSES 4309	Plant-Animal Interactions	
WSES 4310	Zoo Biology and Management	3
NRSC 4303	Animal Behavior	3
or ANSC 4401	Ethology	
<b>Must complete at least 6 hours from one of the Subject Areas below. At least 3 hours must be advanced.</b>		<b>6</b>
<b>Natural Resource Management Subject Area</b>		
MATH 1342	Elementary Statistical Methods	
RNRM 3301	Principles of Range Management	
WSES 3308	Analysis of Natural Resource Data	
WSES 3314	Pollinator Ecology and Conservation	
WSES 3406	Wildland Plant Identification and Ecology	
WSES 3313	Plant Diversity and Conservation	
WSES 3408	Dendrology and Woody Plant Identification	
WSES 4301	Population Dynamics, Modeling, and Analysis	
WSES 4303	Ecological Restoration	
<b>Management and Marketing Subject Area</b>		
BCIS 1315	Principles of Web Design	
BCIS 3315	Web Development	
MGMT 3300	Principles of Management	
MGMT 3302	Human Resource Management	
MGMT 3304	Small Business Management	
MGMT 3350	Organization Behavior	
MKTG 3312	Marketing	
MKTG 3317	Retailing	
MKTG 3318	Promotional Strategy	
Total Hours		49
<b>Horticultural Science</b>		
CHEM 1412	College Chemistry II	4
CHEM 2323 & CHEM 2123	Organic Chemistry I and Organic Chemistry I Laboratory	4
PHIL 2303 [shared]	Introduction to Logic	
BIOL 3407	Microbiology	4
BIOL 3415	Plant Taxonomy	4
BIOL 3420	Plant Pathology	4
BIOL 3436	Plant Physiology	4
MATH 3450	Principles of Bio-Statistics	4
HORT 1301	Horticulture	3
HORT 3300	Plant Propagation	3
HORT 3390	Horticultural Plants	3
HORT 4301	Greenhouse and Nursery Management	3
WSES 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Plant-Animal Interactions	3
AGRI 4350	Retail Merchandising of Agricultural Products	3
Choose at least 3 hours from the following:		3
HORT 3301	Landscape Design	
HORT 3309	Aquaponics	
HORT 3370	Floriculture	
HORT 4323	Vegetable Production	
HORT 4470	Turfgrass Management and Irrigation	
SOIL 3319	Composting	
SOIL 4212	Soil Ecology	
SOIL 4213	Soil Physical Properties	
SOIL 4450	Soil Nutrient Cycling	
WSES 3313	Plant Diversity and Conservation	
WSES 3380	Ecological Pest Management	
WSES 4303	Ecological Restoration	

WSES 4324	Organic Agriculture	
Total Hours		49
<b>Entomology</b>		
CHEM 1412	College Chemistry II	4
PHIL 2303 [shared]	Introduction to Logic	
MATH 3450	Principles of Bio-Statistics	4
BIOL 3103	Genetic Techniques	1
BIOL 3449	Animal Diversity	4
Choose one of the following:		3
WSES 3308	Analysis of Natural Resource Data	
WSES 4313	Vegetation Measurement, Inventory, and Monitoring	
ENTO 3316	Aquatic Entomology	3
ENTO 4402	Insect Taxonomy and Systematics	4
Choose one of the following:		4
WSES 3406	Wildland Plant Identification and Ecology	
WSES 3408	Dendrology and Woody Plant Identification	
BIOL 3415	Plant Taxonomy	
WSES 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Plant-Animal Interactions	3
WSES 3380	Ecological Pest Management	3
ENTO 3112	General Entomology Lab	1
WSES 4301	Population Dynamics, Modeling, and Analysis	3
WSES 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Habitat Management	3
BIOL 4320	Behavioral Ecology	3
or NRSC 4303	Animal Behavior	
WSES 3314	Pollinator Ecology and Conservation	3
Electives:		3
Choose at least three hours in WSES, SOIL, or BIOL 3XXX or 4XXX.		
Total Hours		49
<b>Minor in Fisheries Management</b>		
<b>Required Courses</b>		
WSES 2405	Ecology for Natural Resource Managers	4
or BIOL 4401	Ecology	
WSES 2322	Principles of Wildlife Conservation and Management	3
WSES 3340	Fisheries Conservation and Management	3
BIOL 4462	Ichthyology	4
Choose one of the following:		3-4
BIOL 4441	Freshwater Biology	
ENTO 3316	Aquatic Entomology	
Choose one of the following:		3
BIOL 3340	Introduction to Marine Biology	
WSES 3309	Aquaponics	
WSES 3385 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Fish and Wildlife Laws and Administration	
Total Hours		20-21
<b>Minor in Ecological Restoration</b>		
<b>Required Courses</b>		
WSES 3406	Wildland Plant Identification and Ecology	4
or WSES 3408	Dendrology and Woody Plant Identification	
WSES 3313	Plant Diversity and Conservation	3
WSES 4303	Ecological Restoration	3
WSES 4313	Vegetation Measurement, Inventory, and Monitoring	3
SOIL 3301 & SOIL 3101	Soil Science and Soil Science Laboratory	4
Choose one of the following:		2-3
SOIL 4212	Soil Ecology	
WSES 4311	Fire Ecology	
Total Hours		19-20



**Minor in Soil Science****Required Courses**

SOIL 3301 & SOIL 3101	Soil Science and Soil Science Laboratory	4
SOIL 3302	Soils, Land Use, and The Environment	3
SOIL 3412	Soil Genesis, Morphology, and Classification	4
SOIL 4450	Soil Nutrient Cycling	4
SOIL 4212	Soil Ecology	2
SOIL 4213	Soil Physical Properties	2

Total Hours 19

**Minor in Agroecology****Required Courses**

WSES 2405	Ecology for Natural Resource Managers	4
SOIL 3301 & SOIL 3101	Soil Science and Soil Science Laboratory	4
HORT 1301 or AGRI 1307 & AGRI 1107	Horticulture Agronomy and Agronomy Laboratory	3
WSES 2301 or WSES 3415	General Entomology Weed Management	3
HORT 3300 or SOIL 4450	Plant Propagation Soil Nutrient Cycling	3
Choose one of the following:		3
WSES 4325	Crop Production and Management	
HORT 4303	Greenhouse Crop Production	
WSES 4324	Organic Agriculture	
WSES 4323	Vegetable Production	
WSES 3319	Composting	
WSES 3315	Sustainability	
WSES 3309	Aquaponics	

Total Hours 20

**Minor in Crop Science****Required Courses**

AGRI 1307 & AGRI 1107	Agronomy and Agronomy Laboratory	4
SOIL 3301 & SOIL 3101	Soil Science and Soil Science Laboratory	4
ENTO 3312	General Entomology	3
BIOL 3436	Plant Physiology	4
WSES 4325	Crop Production and Management	3
Choose one of the following:		3-4
FDSC 4408	Sustainable Food Systems	
WSES 3314	Pollinator Ecology and Conservation	
WSES 3380	Integrated Pest Management	
WSES 4324	Organic Agriculture	
HORT 3415	Weed Management	
SOIL 4450	Soil Nutrient Cycling	
SOIL 4212 & SOIL 4213	Soil Ecology and Soil Physical Properties	
BIOL 3420	Plant Pathology	
BIOL 3303 & BIOL 3103	Genetics and Genetic Techniques	
AGRI 3409	Genetics	

Total Hours 21-22

**Minor in Natural Resource Ecology****Required Courses**

Choose one of the following:		3-4
WSES 2405	Ecology for Natural Resource Managers	
BIOL 4401	Ecology	
RNRM 3315	Range Ecology	
WSES 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Plant-Animal Interactions	3
WSES 4311	Fire Ecology	3
SOIL 4212	Soil Ecology	2
BIOL 3353	Ecology and Evolution	3

Choose two of the following:		6
WSES 3314	Pollinator Ecology and Conservation	
WSES 4326	Big Game Ecology and Management	
WSES 4327	Avian Ecology and Management	
BIOL 4320	Behavioral Ecology	
Total Hours		20-21

## Professors

- Breeden, Jeffrey Dr.
- Cummings, Hennen Dr.
- Dottavio, F. Dominic Dr.
- McGahan, Donald Dr.
- Muir, James Dr.

## Associate professors

- Mathewson, Heather Dr.
- Schwertner, T. Wayne Dr.

## Assistant professors

- Kafley, Hemanta Dr.
- Mitchell, Adam Dr.
- Murray, Darrel Dr.
- Weiss, Stuart Dr.

## Agriculture Courses

### **AGRI 1100. Transitioning to University Studies in Environmental and Agricultural Management. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective.

### **AGRI 1107. Agronomy Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

This laboratory-based course accompanies AGRI 1307. Laboratory activities will reinforce the fundamental principles in the development, production, and management of field crops including growth and development, climate, plant requirements, pest management, and production methods. Prerequisite: AGRI 1307 or concurrent enrollment.

### **AGRI 1307. Agronomy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles and practices in the development, production, and management of field crops including growth and development, climate, plant requirements, pest management, and production methods.

### **AGRI 1309. Microcomputer Applications in Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Microcomputer technology applied to management, record keeping, and agribusiness. Emphasis on the application of database, spreadsheet, and other business software in various agricultural environments. Lab fee \$2.

### **AGRI 1311. Dairy Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the dairy industry, dairy breeds, standards for selection and culling, herd replacements, feeding, management, and health maintenance. The food value, composition and quality, utilization, and processing of market milk and dairy products will be discussed.

### **AGRI 1419. General Animal Science. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

The scientific study of animal agriculture involving beef cattle, dairy cattle, swine, sheep, goats, and horses. Topics covered will include general management practices, reproduction, nutrition, health, handling, genetic selection, shelter/housing and marketing strategies and procedures. Lab fee: \$2.

### **AGRI 2301. Agricultural Power Units. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Fundamentals of internal combustion engine operation to include gasoline, diesel, and liquefied petroleum. Preventative maintenance and general servicing of tractor engine systems: intake & exhaust; fuel; lubrication; cooling; electrical; power trains; and hydraulic. Also covered are tractor tune-up; small engine operation maintenance & reconditioning; and plumbing & irrigation power systems. Lab fee: \$2.

### **AGRI 2303. Agricultural Construction I. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

A course designed to acquaint students with principles and application of carpentry, tool maintenance, tool and hardware nomenclature, preparation of drawings and bills of materials, blueprint reading, and the preparation and use of concrete. Also included are maintenance needs for the home and agricultural buildings. Lab fee: \$2.

### **AGRI 2304. Introductory Metals and Welding. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Cold metal work, soldering, pipe fitting, tool conditioning, hardware nomenclature, arc and oxyacetylene welding. Lab fee: \$2.

### **AGRI 2317. Introductory Agricultural Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to economics principles and concepts in agriculture today as they relate to the American economic system. Emphasis will be on management problem-solving techniques under various situations, especially those agricultural in nature, including producing, processing, distributing, and consuming farm and ranch products.

### **AGRI 2330. Wildlife Conservation and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles and practices used in the conservation and management of wildlife resources. Aesthetic, ecological, and recreational uses of public and private lands. Intended for non-wildlife and non-science majors; will not count toward Wildlife Science option in the BS in Wildlife, Sustainability, and Ecosystem Sciences and is not a prerequisite for advanced WSES courses.

### **AGRI 3409. Genetics. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Fundamental principles of genetics: variation, heredity, and interaction of genes, linkage, sex linkage, and mutation. Special emphasis given to breeding of farm crops and domestic animals. Laboratory includes demonstration of Mendelian ratios with field crops and *Drosophila* and an introduction to statistical methods as applied to agricultural research. Prerequisite: BIOL 1406 or 1407 and junior classification. Lab fee \$7.

### **AGRI 4350. Retail Merchandising of Agricultural Products. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

Management of a retail store with emphasis on agricultural products, including meat, produce, live plants, and processed foods. Display, care, merchandising, inventory control, customer relations, and point of sale. Laboratory involves working shifts in the College of Agricultural and Environmental Sciences retail center and associated facilities.

## Entomology Courses

### ENTO 3112. General Entomology Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).

Anatomy, morphology, and identification of select insect taxa conducted in both laboratory and field setting. Use of dichotomous keys to identify insects. Specimen collection required. Prerequisite: Concurrent enrollment in ENTO 3312.

### ENTO 3312. General Entomology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Principal orders of insects; the relation of anatomy and physiology of insects to control methods; insecticides and their uses; development, habits, and economic importance of more common insects with control methods for the injurious species. Prerequisite: C or better in BIOL 1406 or BIOL 1407.

### ENTO 3314. Pollinator Ecology and Conservation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).

Plant-insect interactions concerning floral resources and the conservation of pollinator insects. Floral morphology, coevolution of plant and pollinator, insect ecology and behavior, management of honeybees for commercial purposes, managing pollinators in urban and suburban settings, and conservation of pollinator habitat. Identifications of major pollinator insect groups, and techniques to monitor native pollinators and floral resources. Prerequisites: WSES 2405 or BIOL 4401; and WSES 3312.

### ENTO 3316. Aquatic Entomology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).

Identification of aquatic insects and interactions with their environment. General concepts in limnology and entomology; systematics, ecology, management of aquatic systems for insects, and conservation of freshwater invertebrates. Techniques for the sampling and monitoring of aquatic communities. Collection of immature aquatic insects is required. Prerequisite: ENTO 3312.

### ENTO 3380. Integrated Pest Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Biology and environmentally compatible management of pest insects in agricultural and domestic settings. Pesticide modes of action, applications, toxicology, and social concerns. Prerequisite: CHEM 1411.

### ENTO 4402. Insect Taxonomy and Systematics. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).

Classification of insects and identification of insect orders and families in Texas and the southwestern United States. Systematics, phylogeny, morphology, and natural history of insect families and select taxa of environmental, economic, or medical importance. Identification of insects by sight and through use of dichotomous key. Prerequisite: ENTO 3312.

## Horticulture Courses

### HORT 1301. Horticulture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Introduction to the horticulture industry and the career opportunities that are available. The course includes an introduction to plant classification and structure, greenhouse construction and management, orchard and vegetable crops, and plant propagation.

### HORT 2320. Sustainable Horticultural Practices. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).

Introduction to gardening with a focus on using sustainable methods. Crop choice by season, soil fertility and weed, insect and disease identification and management using conventional and organic practices. Basic landscape design and management. Effects of organic and non-organic practices on the garden ecosystem. Students practice growing a garden using the techniques discussed in lecture. Home landscaping, container gardens, bonsai, herbs and medicinal plants and hobby greenhouse management. In addition to receiving class credit, students will be eligible to complete 50 hours of documented garden-related community service and education on- or off-campus to become a certified Master Gardener (<https://mastergardener.tamu.edu/become/>). Students may also participate in becoming a certified Master Composter to receive bonus credit in the class.

### HORT 2470. Introduction to Turfgrass Science. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).

An introduction to turfgrass history, benefits, and use. Growth and development of various turfgrass species and their culture.

### HORT 3300. Plant Propagation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).

Principles of propagating plants, including vegetables, ornamentals, and fruits. Methods of handling seed; starting plants by the use of cuttings, layers, buds, grafts, and bulbs; ways of propagating specific plants; factors influencing growth of plants after transplanting. Prerequisites: BIOL 1406 and HORT 1301. Lab fee \$2.

### HORT 3301. Landscape Design. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).

Planting design and use of plants in the landscape. Use of drafting instruments, preparation of plans, perspective drawings, and cost estimates. Prerequisite: Prior completion of or concurrent enrollment in HORT 3390.

### HORT 3309. Aquaponics. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).

Students will examine the pros and cons of various aquaponics methods like raft, nutrient film, vertical towers, and media filled beds and their applications for growing fish and plants sustainably for a family/community or for profit. Students will construct a backyard aquaponics system, establish/harvest plants, and prepare a meal in laboratory. Topics covered are plant and fish choices and recommendations; planting/growing techniques; fish biology, stocking rates, and feeds; plant/fish care and health; water quality; system design, filtration and plumbing components; daily operation; greenhouse management/seasonal adjustments; system start up; food preparation; economics and business considerations.

### HORT 3320. Landscaping and Gardening Practices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Principles of landscape, interior, and floral design. Plant identification, environmental requirements, and culture. Prerequisite: HORT 1301 or equivalent. Lab fee: \$2.

### HORT 3333. Mushroom Cultivation and Utilization. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).

Culture techniques, environmental requirements, species selection, and production systems. Current state of mushroom production, innovations, and new opportunities in the field. Intended for majors and non-majors.

### HORT 3370. Floriculture. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).

Principles and basic techniques in floral design and merchandising, introduction to the floral branch of the horticulture industry and floral production.

### HORT 3390. Horticultural Plants. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).

Identification, classification, and characteristics of horticultural plants. Includes the study of trees, shrubs, aroids, cacti, bromeliads, ferns, begonias, and orchids. Prerequisite: HORT 1301 or equivalent or approval of department head. Lab fee \$2.

### HORT 3415. Weed Management. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).

General principles in the development of weed management programs. Common weed ecology and life cycles, land management factors, herbicide selection and performance, and cultural control strategies are presented. Laboratory includes weed identification and herbicide application methods. Prerequisites: AGRI 1307 and AGRI 1107; or WSES 1305; or HORT 1301.

### HORT 4086. Horticultural Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).

Individualized study of current topics in student's major concentration of study or supporting discipline. Specific content and credit dependent upon student's interest, needs, and depth of study.

### HORT 4088. Undergraduate Research in Horticulture. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).

Fundamental research methods will be addressed through a faculty-directed project. Participation in an abbreviated lecture series may be required. Project components may include a literature review, data collection and analysis, testing, planning, project design, and/or computer modeling. Student may be required to prepare a final report and produce a presentation.

### HORT 4090. Special Topics. 6 Credit Hours (Lecture: 6 Hours, Lab: 6 Hours).

Selected topics in horticulture. May be repeated for credit when topics vary.

**HORT 4301. Greenhouse and Nursery Management. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

A study of the variables affecting greenhouse and nursery crop production. Both economic and physical variables will be explored. Particular emphasis will be placed on management techniques used by commercial establishments in producing and marketing ornamental nursery and greenhouse plants. Prerequisites: HORT 1301 and 3300. Lab fee \$2.

**HORT 4320. Landscaping with Native Plants. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Identification, characterization, and utilization of herbaceous and woody plants indigenous to Texas and other areas useful for landscaping purposes. Principles and procedures of xeriscaping will be emphasized. Field trips will be required. Prerequisite: HORT 1301.

**HORT 4323. Vegetable Production. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Vegetable production techniques including site selection, nutritional requirements, insects, diseases and varieties. Emphasizing small scale gardening techniques, crop rotation, and layout and design parameters to maximize production on small land areas. Seasonal variations (spring, summer, fall and winter) that influence crop selection and management. Prerequisite: HORT 1301.

**HORT 4330. Horticultural Enterprises. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Horticultural business and educational enterprises will be visited or explored. Students are required to complete a business portfolio which will include photographs and written documents. Prerequisite: Jr or Sr classification. Lab fee: \$2.

**HORT 4470. Turfgrass Management and Irrigation. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Characteristics and management of turfgrasses used for home lawns, recreational areas and sports fields. Turfgrass irrigation system design. Prerequisites: HORT 2470; or AGRI 1307 and AGRI 1107.

**Soil Science Courses****SOIL 2112. Soil Morphology. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Soil morphology, characterizations of soil, and judging of soils for various uses by field-based assessment. May receive credit for WSES 2112 or SOIL 2112.

**SOIL 2375. Soil as the Basis for Society. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The underpinnings of the scientific principles of soils, how people have harmed them, and why everyone should be concerned with how we treat them. This course may not be used to fulfill the degree requirements for wildlife or ecosystem sciences.

**SOIL 3101. Soil Science Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 4 Hours).**

Basic laboratory techniques used to analyze soil chemical, physical, and biological properties. Hands on examples will demonstrate core soil science principles. Prerequisites: ENVS 3301 or SOIL 3301 (or concurrent enrollment); and CHEM 1411, CHEM 1407, or CHEM 1409.

**SOIL 3301. Soil Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Basic principles of soil science, including physical, biological, and chemical properties. Discussion will include soils applications in wildland, cropland, and developed environments. This course does not include a laboratory section. Credit will not be awarded for both this course and WSES 3401. Prerequisite: CHEM 1411, CHEM 1407, or CHEM 1409.

**SOIL 3302. Soils, Land Use, and The Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Interactions among soil physical, chemical, and biological processes affecting soil, water, and environmental quality. Addressed in relation to land use management practices such as erosion control, soil conservation, soil reclamation, riparian buffers, bioswales, and artificial wetlands. Land use planning tools, including WebSoil Survey and GIS will be used. Prerequisites: WSES/ENVS 3401; or WSES/SOIL 3301 and WSES/SOIL 3101.

**SOIL 3319. Composting. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The art and science of composting of agricultural, municipal, foodservice and household wastes to include composting techniques, waste products and feedstocks, aerobic vs. anaerobic processes, evaluation of composted products and their beneficial uses. Biological processes used to decompose organic materials will be studied. Prerequisites: Junior standing or permission of the instructor.

**SOIL 3412. Soil Genesis, Morphology, and Classification. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Soil development, classification, and mapping. Laboratory work will consist of field-based study of the morphological features of the soil profile and mapping of designated areas using standardized methods. Student may receive credit for either WSES 3412 or SOIL 3412. Prerequisites: SOIL 3301 and SOIL 3101.

**SOIL 4212. Soil Ecology. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Characterizations of organisms in the soil food web, analyses of interrelationships among soil organisms, and assessments of interactions between soil organisms and their environmental conditions. Credit will only be given for WSES 4212 or SOIL 4212. Prerequisites: WSES 2405, SOIL 3301, and SOIL 3101.

**SOIL 4213. Soil Physical Properties. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Soil physical characteristics and their relationship to soil management. Methods of measuring soil and soil conservation. Soil phases, soil water properties, particle size, clay and clay mineralogy, and environmental impacts. Credit will only be given for WSES 4213 or SOIL 4213. Prerequisites: SOIL 3301 and SOIL 3101.

**SOIL 4450. Soil Nutrient Cycling. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Plant nutrition, soil nutrient cycling, and nutrient management. Biological, physical, and chemical soil properties and implications for nutrient availability to crops and nutrient fate in the environment. Plant nutrition and soil fertility problems and corrective action, soil and nutrient management. Credit will only be given for WSES 4450 or SOIL 4450. Prerequisites: SOIL 3301 and SOIL 3101.

**Wildlife, Sustainability, and Ecosystem Sciences Courses****WSES 1100. Transitioning to University Studies in the Natural Resource Sciences. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in development of skills for academic success, promote personal growth and responsibility, encourage active involvement in the learning process from an individual college perspective, and introduce students to the field of wildlife, sustainability, and ecosystem sciences. Prerequisites: Major in WSES or approval of the instructor.

**WSES 1119. Natural Resource Competition I. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course provides an introduction to various natural resource-based competitive events. Competition rules, conduct, and etiquette are discussed. The students are introduced to basic facts regarding their chosen field of study. Prerequisites: Approval of the instructor.

**WSES 1301. Society, Natural Resources, and the Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides a broad overview of the role of the environment and natural resources in human society, with particular emphasis on Texas and the United States. A history of the environmental movement is presented. Students study the importance of natural resources in providing basic human necessities, and how these resources are managed. Various careers in environmental science, natural resource management, and wildlife conservation are also discussed.

**WSES 1307. Concepts and Controversies in Food Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles of food studies and exploration of the role food narratives and exposés play in the consumer's perception of the current food supply. Foundation for understanding the connections among food production, ecology, ethics, cuisine, nutrition and health within the framework of sustainability. Can receive credit for either FDSC 1307 or WSES 1307.

**WSES 2119. Natural Resource Competition II. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Intended for students with basic understanding of the conduct of their chosen natural resource event, this course provides more advanced study of the topic. Students expand upon the introductory material discussed in Natural Resource Competition I to include a wider array of natural resource science related facts and concepts. Prerequisites: WSES 1119 or approval of the instructor.

**WSES 2301. General Entomology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Principal orders of insects; the relation of anatomy and physiology of insects to control methods; insecticides and their uses; development, habits, and economic importance of more common insects with control methods for the injurious species. Prerequisite: C or better in BIOL 1406 or BIOL 1407.

**WSES 2322. Principles of Wildlife Conservation and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in-depth treatment of the fundamental principles of wildlife conservation and management, stressing the application of ecological principles to achieve wildlife management objectives. Topics include conservation, management, and restoration of wildlife habitats; wildlife population assessment and management; human dimensions and human-wildlife interactions; management of wildlife in agricultural, range, and forested ecosystems; and wildlife policy at the local, state, national, and international level. Provides knowledge and understanding required for advancing in the wildlife and natural resource conservation disciplines. Satisfies requirements for Wildlife Science majors. Prerequisite for advanced wildlife science courses. Prerequisites: Grade of C or better in BIOL 1406 and BIOL 1407; grade of C or better in MATH 1316 or MATH 2412; and grade of C or better in WSES 2405, RNRM 3315, or BIOL 4401.

**WSES 2375. Soil as the Basis for Society. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The underpinnings of the scientific principles of soils, how people have harmed them, and why everyone should be concerned with how we treat them. This course may not be used to fulfill the degree requirements for wildlife or ecosystem sciences.

**WSES 2405. Ecology for Natural Resource Managers. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the interactions of plants, animals, and the environment and how these interactions respond to human influence. Emphasis will be placed on terrestrial ecosystems (rangelands, grasslands, deserts, wetlands, and forests), and specific interactions among species which can be manipulated to achieve management outcomes. The laboratory will have a significant outdoor field component. Credit will not be awarded for both WSES 2405 and WSES 3103. Prerequisite: Grade of C or better in BIOL 1406 OR BIOL 1407.

**WSES 2451. Introduction to Geographic Information Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Basic concepts of design, planning and implementation of geographic information systems. Students will learn how to create, manipulate, project, and interpret geographic information. Students are encouraged to take GEOG 1451: Pre-GIS before this course. Can receive credit for either WSES 2451, GEOG 2451, EASC 2451 or ENVS 2451. Lab fee: \$2.

**WSES 3103. Ecological Field Methods Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 4 Hours).**

Field methodologies used in the investigation of ecological systems including terrestrial plant, terrestrial animal, and aquatic systems. For students who have completed an introductory ecology or environmental biology course with no laboratory component. Credit will not be offered for both WSES 3103 and WSES 2405. Prerequisites: Grade of C or better in an approved 1000- or 2000-level ecology or environmental biology course; and a grade of C or better in BIOL 1406; and a grade of C or better in either BIOL 1407 or GEOL 1407; or approval of the department head.

**WSES 3119. Natural Resource Competition III. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course is a more advanced treatment of the student's chosen natural resource event. It is intended for students with experience in the competition, having participated in at least one competitive event. Prerequisite: WSES 2119 and approval of the instructor.

**WSES 3303. Veterinary Entomology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Classification, biology, and control of arthropods associated with livestock and wildlife. Identification will be emphasized in the laboratory. Prerequisites: BIOL 1406 and BIOL 1407, or approval of the instructor.

**WSES 3304. Food Processing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

The world food supply, trends and traditions in diet and food sanitation, safety, security, and biotechnology, and impact of processing on diet quality. Lab fee: \$2.

**WSES 3305. GIS for Natural Resource Scientists. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An intermediate course on the use of geographic information systems (GIS) in natural resource management. Builds on concepts learned in introductory GIS course. Laboratory exercises will apply knowledge learned in lectures to solve real world problems in natural resource management using GIS software. Prerequisite: WSES 2451 or GEOG 2451 Lab fee \$2.

**WSES 3307. Systems Thinking. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course focuses on the examination and analysis of complex systems, particularly in the environmental, natural resources, and sustainability fields. Major topics will include system structure, system behavior, feedback loops, stock and flow models, non-linear and emergent properties, self-organization, and the application of systems thinking to problem-solving. A significant component of the course will be development and analysis of computer models of complex systems. Prerequisite: C or better in MATH 1314 or equivalent, or approval of the instructor. Lab fee: 2.

**WSES 3308. Analysis of Natural Resource Data. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Application of statistical principles to the analysis of natural resource science data. Methods of designing studies, managing and analyzing data, and interpreting results. Descriptive statistics, estimation, inference, tests of significance, measurements of relationship and correlation, and non-parametric analyses. Prerequisite: Grade of C or better in MATH 1342 or MATH 3450.

**WSES 3309. Aquaponics. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Students will examine the pros and cons of various aquaponics methods like raft, nutrient film, vertical towers, and media filled beds and their applications for growing fish and plants sustainably for a family/community or for profit. Students will construct a backyard aquaponics system, establish/harvest plants, and prepare a meal in laboratory. Topics covered are plant and fish choices and recommendations; planting/growing techniques; fish biology, stocking rates, and feeds; plant/fish care and health; water quality; system design, filtration and plumbing components; daily operation; greenhouse management/seasonal adjustments; system start up; food preparation; economics and business considerations.

**WSES 3310. Wildlife Management Techniques. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Field and laboratory techniques used in wildlife management and research. Determining age and food habits, population analysis, habitat analysis, and introduction to research. Modest cost of field trips will be borne by student. Prerequisites: Grades of C or better in WSES 2322, and either MATH 1316 or MATH 2412.

**WSES 3311. Wildlife Diseases. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Basic mechanisms of disease as they occur in wildlife populations; interplay of environmental conditions, individual physiological requirements, and disease agents of various wildlife species. Epidemiology and management of infectious and non-infectious diseases. Prerequisites: Grade of C or better in WSES 2322 or approval of instructor.

**WSES 3313. Plant Diversity and Conservation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Patterns and distribution of plant diversity and threats to plant diversity. Plant communities found in a variety of range, forests, and other systems. Strategies and approaches used in plant conservation will be discussed. Prerequisite: Grade of C or better in WSES 2405, RNRM 3315, or BIOL 4401.

**WSES 3314. Pollinator Ecology and Conservation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Plant-insect interactions concerning floral resources and the conservation of pollinator insects. Floral morphology, coevolution of plant and pollinator, insect ecology and behavior, management of honeybees for commercial purposes, managing pollinators in urban and suburban settings, and conservation of pollinator habitat. Identifications of major pollinator insect groups, and techniques to monitor native pollinators and floral resources. Prerequisites: Grade of C or better in WSES 2405 or BIOL 4401; and ENTO 3312.

**WSES 3315. Sustainability. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explore the varied perspectives of sustainability and analyze factors that contribute to or decrease system sustainability. Investigation of the social, economic, and environmental barriers to achieving sustainable systems and options for overcoming these barriers. Credit will be awarded only for POLS 3315, ENVS 3315, or WSES 3315. Prerequisite: GOVT 2305 or GOVT 2306 or POLS 2304 or approval of the instructor.

**WSES 3319. Composting. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The art and science of composting of agricultural, municipal, foodservice and household wastes to include composting techniques, waste products and feedstocks, aerobic vs. anaerobic processes, evaluation of composted products and their beneficial uses. Biological processes used to decompose organic materials will be studied. Prerequisites: Junior standing or permission of the instructor.

**WSES 3320. Watershed Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Management and planning of range or forest land watersheds for maintenance or improvement of water and soil resources. Effects of vegetation and land management practices on water quality and quantity, erosion, and sedimentation. Prerequisite: Grade of C or better in WSES 2405, RNRM 3315, or BIOL 4401.

**WSES 3323. Ethical Issues in Agriculture and the Natural Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will examine the several major ethical issues facing agriculture and natural resources sciences in our current society. Readings, discussions and lectures will focus on the scientific, capitalistic, and philosophical motivation in common ethical issues. Upon completion of the course, students will be able to construct and dissect ethical arguments and hopefully become more aware of the ethical dilemmas we all face each day.

**WSES 3340. Fisheries Conservation and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Fundamentals of fisheries management population estimation and management, harvest management, habitat management, applicable state and federal laws, invasive species management, and human dimensions. Prerequisites: Grade of C or better in WSES 2322.

**WSES 3350. Writing for the Natural Resource and Environmental Sciences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Use of appropriate strategies to produce written professional and interpretive documents for wildlife and natural resource audiences. Prerequisites: ENGL 1301 and 1302.

**WSES 3375. Population, Pollution, and Resource Depletion. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles and philosophies associated with the development, management, and use of natural resources are studied in the relationship to the ecological and social implications inherent in management alternatives involving the natural environmental and the use of renewable natural resources. Can receive credit for either ENVS 3375 or WSES 3375. Prerequisite: junior classification.

**WSES 3380. Integrated Pest Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Biology and environmentally compatible management of pest insects in agricultural and domestic settings. Pesticide modes of action, applications, toxicology, and social concerns. Prerequisite: CHEM 1411.

**WSES 3385. Fish and Wildlife Laws and Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A review and analysis of state and federal laws and international treaties and conventions affecting fish and wildlife; their application and administration. The organizational structure of state, federal and international agencies; their objectives, policies and practices. Prerequisite: Grade of C or better in WSES 2322.

**WSES 3386. Human Dimensions of Fish and Wildlife Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Today's natural resource scientist must interact with diverse publics and stakeholders to achieve conservation goals. Few professionals receive training to navigate the murky waters of human dimensions of natural resources management. This course will give students an understanding of ways in which elements of human psychology and society shape our perceptions and management of wildlife and fisheries resources, and how to interact with these stakeholders to achieve ecologically-sound management and conservation. Prerequisite: Grade of C or better in WSES 2322.

**WSES 3387. Natural Resource Conservation Outreach and Interpretation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Survey of the history, principles, and content of the Texas Master Naturalist Program as an example of education, public outreach, volunteerism, and interpretation in natural resource conservation and management. Classroom and field instructional modules of foundational concepts and regional specifics about biotic and abiotic natural resources. Principles of interpretation and written analysis of observed teaching and interpretive activities by resource specialists. Students who co-register with the Prairie Oaks Chapter of the Texas Master Naturalist program and complete all class activities can satisfy a portion of the requirements for certification as a Texas Master Naturalist. Attendance at occasional weekend field trips required.

**WSES 3403. Natural History of the Vertebrates. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Survey of vertebrate taxa, including systematics, taxonomy, anatomy, physiology, and ecology. Identification in laboratory and field. Students required to handle preserved and live specimens. Students required to bear the cost of multiple overnight and multi-day field trips. Prerequisites: Grade of C or better in BIOL 1406 and BIOL 1407.

**WSES 3406. Wildland Plant Identification and Ecology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Identification and classification of grasses and other herbaceous plants in the North America, with emphasis on distribution, ecology, and economic value of species found in rangeland, forest, grassland, desert, and wetland systems in Texas. Proficiency in the use of a dichotomous key to identify plant species will be emphasized. Prerequisite: WSES 2405, RNRM 3315, or BIOL 4401.

**WSES 3408. Dendrology and Woody Plant Identification. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Study of woody plants, including trees, shrubs, and vines. Morphological, ecological and phenological traits will be used in field identification. The distribution, habitat, ecology, and importance of these species to wildlife and people will be explored, including community dynamics and the effects of disturbance and succession. Proficiency in the use of a dichotomous key to identify plant species will be stressed. Prerequisite: WSES 2405, RNRM 3315, or BIOL 4401.

**WSES 4084. Internship in the Natural Resource Sciences. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Formally arranged and approved on-the-job training with a cooperating sponsor in government or private sector of the natural resources or environmental field. A minimum of 75 hours of training is required for each hour of academic credit. A maximum of six hours of credit may be earned. Oral and written reports of the experience are required. Prerequisite: Approval of the instructor. Lab fee: \$2.

**WSES 4086. Problems in Natural Resource Sciences. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Individualized study of current topics in wildlife, natural resources, environmental science, or related discipline. Specific content and credit depend upon student's interests, needs, and depth of study. May be repeated as topics vary. Prerequisite: approval of instructor.

**WSES 4088. Undergraduate Research in the Natural Resource Sciences. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Fundamental research methods will be addressed through a faculty-directed project. Participation in an abbreviated lecture series may be required. Project components may include a literature review, data collection and analysis, testing, planning, project design, and/or computer modeling. The student may be required to prepare a final report and produce a presentation. Prerequisites: Approval of the instructor.

**WSES 4090. Special Topics in the Natural Resource Sciences. 1-6 Credit Hours (Lecture: 0-6 Hours, Lab: 0-6 Hours).**

Selected topics in wildlife, natural resources, environmental science, or related discipline. May be repeated for credit when topics vary.

**WSES 4119. Natural Resource Competition IV. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course is intended for highly advanced students who have developed significant experience and competencies in their respective natural resource competition. Students will be expected to take a leadership role on the Tarleton State University Quiz Bowl Team and demonstrate significant ability during practice and competitive events. Prerequisite: WSES 3119 and approval of the instructor.

**WSES 4185. Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Discussions of issues and developments in agriculture, natural resources, or environmental sciences.

**WSES 4187. Senior Capstone Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This one-hour seminar is designed to provide students with skills at synthesizing and presenting the results of lower-division work, specifically applied learning experiences such as internships, undergraduate research, and study abroad. Course will include a writing and public speaking component. Prerequisites: Successful completion of WSES 4084, WSES 4088, WSES 4340, or WSES 4342, or approval of the Department Head.

**WSES 4301. Population Dynamics, Modeling, and Analysis. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An introduction to population biology, including models of simple population growth, competition, and predator-prey interactions; demographic rates; and life tables. Prerequisites: Grade of C or better in WSES 2322; and a grade of C or better in MATH 1342 or MATH 3450; or approval of instructor.

**WSES 4302. Habitat Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Application of ecological principles to the management of native plant communities. Particular focus will be on plant ecology and physiology and their role in the conservation and management of wildlife habitat. Prerequisite: Grade of C or better in WSES 2322, or approval of the instructor.

**WSES 4303. Ecological Restoration. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Landscape-scale, process-oriented approaches to ecological restoration. Enhancing resource capture, techniques in re-vegetation, and restoration of historic vegetation. Prescribed fire and grazing as restoration and management techniques for range and forest systems. Prerequisites: BIOL 3415, RNRM 3300, WSES 3406, or WSES 3408; and a grade of C or better in WSES 2405, RNRM 3315, or BIOL 4401.

**WSES 4304. Population Genetics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An exploration of the principles of population genetics. Lecture will be a discussion of factors affecting the dynamics of allelic frequencies and the population-level consequences of manipulating these factors. Lecture topics will include the effects of selection, mutation, population size and genetic drift, neutral theory, population structure, inbreeding, and linkage disequilibrium. A significant portion of the class will be dedicated to working on problem sets to provide an empirical connection to population genetic theories. Prerequisite: BIOL 3303, BIOL 3403, or AGRI 3409.

**WSES 4305. Urban Wildlife and Fisheries. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course trains students to establish and maintain diverse, self-sustaining urban wildlife and fish populations at levels in harmony with ecological, social, and economic values of the human community and to develop optimal levels of public appreciation and use of urban wildlife and fish resources and associated habitats. Includes discussions on conservation education as a tool for furthering urban wildlife and fisheries appreciation.

**WSES 4306. Water Resources Policy and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will present an overview of water policy, laws and regulations related to ecosystem resource management focusing on water quality, water quantity and water as habitat. Major US and Texas environmental laws regarding water will be covered including the respective agencies involved with regulations. Case studies will facilitate discussion of science-policy interactions with resource management in the implementation of these laws and regulations. Credit for SOCI 4306, WSES 4306, and SOCI 5306 will not be awarded.

**WSES 4308. Horticultural Entomology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Identification, nature of injury, life history, and control of common insects and related arthropods attacking turf grasses, landscape plants, shade, fruit, and nut trees, and greenhouse succulents. Management and control strategies utilizing chemical, cultural, and biological control agents.

**WSES 4309. Plant-Animal Interactions. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Arthropods and vertebrates in aquatic, terrestrial, managed, and natural systems spanning multiple scales and levels of organization. Prerequisite: Grade of C or better in WSES 2405, RNRM 3315, or BIOL 4401.

**WSES 4310. Zoo Biology and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Biology and management of zoo animals, and the management of zoos. Nutrition, reproduction, behavior, care, and welfare of confined wildlife species. Captive breeding, genetics, herd management, record keeping, and conservation biology. History of zoos and their role in conservation. Zoo exhibits and outreach, legal aspects, and ethics of confined wildlife management. Prerequisite: Grade of C or better in WSES 2322.

**WSES 4311. Fire Ecology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Ecological role of fire in natural systems, including rangelands, grasslands, shrublands, woodlands, and forests; adaptations of plants and animals to fire; long-term controls on wild fire; use of fire as an ecosystem management tool, with aspects of wildland firefighting; and prescribed burning, including fire behavior, fuels, weather, politics and policy. Hands-on prescribed burning experiences as circumstances and weather permit. Prerequisite: WSES 2405, RNRM 3315, or BIOL 4401.

**WSES 4313. Vegetation Measurement, Inventory, and Monitoring. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Vegetation sampling, measurement, monitoring, inventory, study design, and quantitative and statistical analysis. Assessment of range condition and forest health based on understanding ecological processes. Hands-on, field-based laboratory. Prerequisite: WSES 3406 or WSES 3408.

**WSES 4316. Pesticides. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of chemical pesticides. Emphasis will be on the chemistry, mode of action, and safe use of insecticides, herbicides, and fungicides. Less common pesticides (rodenticides, piscicides, avicides, etc.) will also be reviewed. The use of chemical pesticides as a part of an integrated pest management program will be discussed. Student's successfully completing the course will be prepared to apply for the Texas Department of Agriculture pesticide applicator's license. Prerequisite: CHEM 1411.

**WSES 4324. Organic Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Organic agriculture will examine a brief history of the industry development, changes in the structure and industry, USDA NOP rules and regulations, and certification to provide a scope of understanding for the course. The majority of the course will focus on the mechanics of crop and vegetable production in an organic system including seed sources, planting considerations, environment, soil fertility, plant nutrition, soil preparation, weed control methods, insect and disease prevention, rules in applications, harvest issues, and marketing.

**WSES 4325. Crop Production and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Current concepts and practices in field crop production with emphasis on the applications of technology. Recognition and discussion of cultural practices, fertilization, irrigation, weed and pest control from economic and environmental perspectives. Review of crop improvement strategies and bio-engineering. Prerequisites: SOIL 3301, SOIL 3101, AGRI 1307, and AGRI 1107.

**WSES 4326. Big Game Ecology and Management. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Survey of the distributions and life histories of North American big game species. Detailed examination of the biology and habitat relationships of several big game species, especially as they relate to management. Other topics include population dynamics, diet, economic significance, and conservation strategies. Modest cost of field trips will be borne by the student. Prerequisite: A grade of C or better in WSES 2322, or approval of the instructor.

**WSES 4327. Avian Ecology and Management. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

A study of major wild bird groups, their interactions with their environment, and how these interactions can be manipulated to achieve management objectives. Course emphasis will be on species of conservation significance, including game, nongame, and vulnerable species. Major topics will include population management of migratory and non-migratory birds, habitat management, and wildlife policy consideration unique to bird conservation. Modest cost of field trips will be borne by the student. Prerequisite: A grade of C or better in WSES 2322, or approval of the instructor.

**WSES 4335. Food and Culture. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

A study of the food beliefs and practices of the major ethnic and religious groups in the U. S. and the nutritional implications of these food practices, a cultural analysis of American food trends; ethnic issues and dietary changes; and research methods in food habits. Lab fee: \$25.

**WSES 4340. Natural Resource Field Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A field course in which students capture, measure, and mark animals; collect descriptive measures of vegetation that characterizes wildlife habitat; and record field observations using a journal. This course requires one or more extended field trips at student's expense. Prerequisite: Grade of C or better in WSES 2322.

**WSES 4341. Southern African Ecology and Culture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Ecology of southern Africa, including climate, soils, vegetation, and wildlife. Ecological interactions with development, agriculture, and tourism. Identification and ecology of bird and large mammal species. Conservation of rare, threatened, and endangered species. Culture, politics, and history from the pre-Colonial Period through today, with emphasis on their effects on management of natural resources. Focuses mainly on South Africa, Botswana, Zambia, and Namibia.

**WSES 4342. Study Abroad. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Conducted at various domestic and international locations for extended periods (frequently outside the United States). Hands-on activities and experiences in agriculture and natural resources. Topics will vary. Enrollment requires a significant study abroad program fee.

**WSES 4401. Ethology. 4 Credit Hours (Lecture: 3 Hours, Lab: 4 Hours).**

An introductory course in the behavior of animals, with emphasis on the natural selection, ontogeny, and function of behaviors as they relate to feeding, reproduction, predator-avoidance, and other traits. Both proximate (sensory, hormonal, genetic) and ultimate (ecological and evolutionary) mechanisms are addressed. Prerequisite: C or better in BIOL 1406 and BIOL 1407, and a C or better in either AGRI 1419 or WSES 2322. Lab fee: \$2.

**WSES 4407. Fermentation and Brewing. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course provides a basic understanding of the history of food safety, sanitation, fermentation, fermented foods, beer brewing, wine and cheese making, along with an introduction to industry organization; from commodities production, to processing, distribution, marketing, and sales. The course provides direct hands-on instruction in small-scale brewing. It combines elements of science (chemistry, biology, and physics), economics, food preparation, aesthetics, preferences, and taste. Modest cost of field trips will be borne by the student. Prerequisites: Senior classification and completion of 8 hours of BIOL and 8 hours of CHEM; or approval of the instructor. Must be 21 years of age or older on the first class day to enroll in this course.

**WSES 4408. Sustainable Food Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course will survey issues surrounding food production and examine the environmental and social impact of current food production systems. Specific emphasis will be placed on emerging trends to increase the sustainability of food production, distribution, and consumption. This course includes a laboratory field component and will require some field work outside normal class times. Lab fee: \$2.

**WSES 4410. Genomics. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An exploration of practical applications for high throughput DNA sequencing technology. Hands-on research projects will provide experience in proper sample collection and preparation, automated robotic DNA library preparation, DNA barcoding, quality control metrics, instrument loading and run initiation, and an overview of data processing for a single instrument run generating hundreds of millions of DNA sequences. Prerequisite: BIOL 3303 or AGRI 3409 Lab fee: \$2.

## College of Business

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### Mission Statement

The College of Business creates a dynamic learning environment for a diverse student population with a broad range of backgrounds, perspectives, and experience, to develop the knowledge and skills needed to become productive contributors to the global business environment.

### Programs

The College of Business offers a baccalaureate program leading to the Bachelor of Business Administration (BBA) degree with majors in Accounting, Computer Information Systems, Finance, Management, Human Resources Management, Marketing, Business Education, General Business, and International Business. The College offers BS degrees in Computer Information Systems, and Economics. The College also offers the Bachelor of Applied Arts and Sciences (BAAS) degree in Business, and Information Technology, and the Bachelor of Science in Applied Science (BSAS) degree with a concentration in Business Administration.

The COB academic program is organized into the following departments:

- Department of Accounting, Finance, and Economics (<https://www.tarleton.edu/cob/departments/accounting-finance-economics.html>)
- Department of Marketing and Computer Information Systems (<https://www.tarleton.edu/cob/departments/marketing-and-computer-information-systems.html>)
- Department of Management (<https://www.tarleton.edu/cob/departments/management.html>)

The Small Business Development Center (<https://www.tsusbdc.org/>) (SBDC) is an outreach program of the Northwest Texas Small Business Development Center. The SBDC provides counseling, technical assistance, training workshops, and reference resources for small businesses and entrepreneurs. Our counselors maintain the highest ethical standards of confidentiality with clients and counseling services are available at no charge. The center is staffed by professionals with proven ability to promote growth, innovation, profitability, increased productivity and improved management of small business.

### Accreditation

Tarleton State University, through its College of Business, is nationally accredited by the ACBSP, the Accreditation Council for Business Schools and Program, for offering the following degree programs:

1. At the graduate level, the Master of Business Administration (MBA) and the Master of of Science in Human Resource Management (MS-HRM)
2. At the undergraduate level, the BAAS in Business and all BBA degrees.

### General Requirements of the BBA/BS/BAAS Degrees

Please consult the section on Requirements for a Baccalaureate Degree for general information on general education requirements and other requirements for Tarleton's undergraduate degree programs. Students must maintain the following to remain in good standing:

- **A GPA of 2.00 or better is required for all upper-level work counted toward a degree.**
- **A grade of C or better is required for all work in the major field of study and counted toward a degree.**

### BBA Common Business Core

The following common body of courses (or their equivalents) is required of all majors seeking the BBA degree:

Select one of the following:

MATH 1316	Plane Trigonometry	3-4
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics) <sup>1</sup>	
MATH 1325	Math for Business & Social Sciences II (Business Calculus)	
MATH 2412	Precalculus Math <sup>1</sup>	
MATH 2413	Calculus I <sup>1</sup>	
ECON 2301	Principles of Macroeconomics <sup>1</sup>	3
ECON 2302	Principles of Microeconomics	3



ACCT 2301	Principles of Accounting I-Financial	3
ACCT 2302	Principles of Accounting II-Managerial	3
FINC 3301	Principles of Financial Management	3
BUSI 1301	Business Principles	3
BUSI 2301	Business Law I	3
BUSI 2311	Business Statistics	3
BUSI 3312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Communication	3
BUSI 4359 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Strategy	3
One of the following as determined by discipline:		3
BCIS 4355	Global Information Systems	
BUSI 4344	Introduction to International Business	
ECON 4301	International Economics	
FINC 4301	International Financial Management	
BCIS 1305	Business Computer Applications	3
BCIS 4350	Management Information Systems	3
MGMT 3300	Principles of Management	3
MKTG 3312	Marketing	3
Total Hours		48-49

<sup>1</sup> A student who counts this course toward university general education requirements must complete an additional 3 hours of electives.

## Transfer Policy

Community/junior college students who plan to transfer to the College of Business are advised to take the courses recommended for the freshman and sophomore years as outlined in this section. The appropriate department in COB should be consulted to resolve questions of transferability. Upper-division 3000/4000-level courses taught by the COB should not be taken at a community/junior college.

Credit for business courses taken at another college or university and transferred to Tarleton to be applied to a BBA, BS, or BAAS degree in business will be awarded on the following bases:

1. Business courses that are equivalent to a 1000-level or 2000-level course at Tarleton will be accepted if the course content is considered by COB to be similar.
2. Business courses that are equivalent to a 3000-level or 4000-level course at Tarleton will be accepted for advanced credit only if they were taken for advanced credit. Some students may petition for credit in upper-level business core requirements by completing a validating examination through either the College Level Examination Program or a departmental examination; such testing requires approval of the appropriate department head and the Dean of the College of Business. If permission is granted for credit by examination, such credit must be completed before taking any classes for which the course is a prerequisite. Validation must be accomplished in the first semester of enrollment at Tarleton.
3. Business courses that are upper level at Tarleton, but are transferred in as lower-level courses, will be accepted for transfer as lower-level electives with no validation exam.
4. The maximum hours that may be transferred from a community or junior college with validation and applied to a specific major in business (Accounting, Business Administration, General Business, Finance, CIS, Management, Marketing, International Business, Human Resource Management or Business Education) is 9 hours.

## Academic Appeals Process

In accordance with Tarleton State University policy, the College of Business hereby adopts the following as its procedure for academic appeals.

Each student encountering a grievance, academic in nature, follow the procedures for filing an academic appeal found in the following policy:

- COB Academic Appeal (<https://www.tarleton.edu/cob/documents/coba-grade-appeal-process-and-form-rev1-1.pdf>)

## Catalog Notes

- **Prior to submitting a degree plan, the student must have completed 60 semester hours toward the degree not including developmental courses.**
- **At least 45 hours of advanced (upper level) credit is required for the degree**
- **A minimum of 30 semester hours of work must be completed with Tarleton, of which at least 24 hours must be advanced.**
- **Not more than 30 semester hours of non-standard credit will be counted toward the degree.**
- **A student may count toward the degree not more than 6 hours of Physical Education credits.**
- **A student may not declare a minor in this degree program.**
- **A student will complete the Writing Intensive Program requirements through successful completion of ENGL 3309 and LBST 4398.**

## Accounting, Finance, and Economics

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The Department of Accounting, Finance, and Economics offers programs of study leading to the Bachelor of Business Administration in Accounting, Finance, and the Bachelor of Science in Economics. The Accounting, Finance, and Economics department also offers courses at Tarleton's outreach sites in Waco, Fort Worth and Midlothian. Information regarding these programs is available on the Tarleton website.

The Department of Accounting, Finance, and Economics offers the Master of Accounting (MAcc) degree, and collectively the departments of the College of Business offer the Master of Business Administration (MBA) degree. Those interested in graduate programs should consult the graduate section of this catalog.

## The Bachelor of Business Administration Degree in Accounting

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )	39
<b>MATHEMATICS:</b>	<b>3</b>
Select one of the following to fulfill the Mathematics General Education Requirement [Shared]:	
MATH 1314 College Algebra	
MATH 1324 Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1332 Contemporary Mathematics I	
MATH 1342 Elementary Statistical Methods	
MATH 2412 Precalculus Math	
MATH 2413 Calculus I	
ADDITIONAL MATHEMATICS REQUIRED FOR MAJOR:	3-4
Select one of the following:	
MATH 1316 Plane Trigonometry	
MATH 1324 Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1325 Math for Business & Social Sciences II (Business Calculus)	
MATH 2412 Precalculus Math	
MATH 2413 Calculus I	
ACCT 2301 Principles of Accounting I-Financial	3
ACCT 2302 Principles of Accounting II-Managerial	3
BCIS 1305 Business Computer Applications	3
BCIS 4350 Management Information Systems	3
ECON 2301 [shared] Principles of Macroeconomics	
ECON 2302 Principles of Microeconomics	3
BUSI 1301 Business Principles	3
BUSI 2301 Business Law I	3
BUSI 2311 Business Statistics	3
BUSI 3312 Business Communication	3
BLAW 4333 Business Law II	3
BUSI 4359 Business Strategy	3
FINC 3301 Principles of Financial Management	3
MGMT 3300 Principles of Management	3
MKTG 3312 Marketing	3
Select one of the following:	3
BCIS 4355 Global Information Systems	
BUSI 4344 Introduction to International Business	
ECON 4301 International Economics	
FINC 4301 International Financial Management	
ACCT 3302 Cost Accounting	3
ACCT 3303 Intermediate Accounting I	3
ACCT 3304 Intermediate Accounting II	3
ACCT 3310 Accounting Information Systems	3
ACCT 4301 Financial Accounting	3
ACCT 4305 Federal Tax Accounting	3
ACCT 4323 Ethics for Accountants	3
ACCT 4324 Auditing Evidence and Report	3
Electives	6
Total Hours	120

## 150 HOUR CPA CERTIFICATION REQUIREMENTS

For those students preparing to become certified public accountants, the Public Accountancy Act of 1991 requires that applicants must have completed at least a baccalaureate degree and not fewer than 150 semester credit hours of recognized courses. Courses included in the BBA program in Accounting are accepted toward this requirement. The BBA in Accounting will count 120 of the 150 hours required to sit for the exam. For the remainder of the 150 semester hours, students may complete the MAcc or MBA degree as described in the graduate section of this catalog. Students with a baccalaureate degree in Accounting will be able to complete the MAcc with the remaining 30 semester credit hours. However, if a student does not wish to take graduate courses, he/she may meet the requirements to sit for the CPA exam by taking additional undergraduate courses to reach the minimum of 150 hours of credit.

A departmental accounting advisor will discuss individualized study programs with each student.

## The Bachelor of Business Administration in Finance

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>	42
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FINC 3301	Principles of Financial Management	3
FINC 3302	Financial Intermediaries	3
FINC 4300	Advanced Financial Management	3
FINC 4301	International Financial Management	3
FINC 4303 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Case Studies in Finance	3
FINC 4304	Principles of Investments I	3
FINC 4307	Investments II	3
FINC 4308	Principles of Insurance and Risk Management	3
ECON 2301 [shared]	Principles of Macroeconomics <sup>2</sup>	
ECON 2302	Principles of Microeconomics	3
ECON 3303 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Money And Banking	3
ECON 4311	Econometrics and Forecasting	3
ACCT 2301	Principles of Accounting I-Financial	3
ACCT 2302	Principles of Accounting II-Managerial	3
ACCT 3303	Intermediate Accounting I	3
ACCT 4305	Federal Tax Accounting	3
MATH 1324 [shared]	Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1325	Math for Business & Social Sciences II (Business Calculus)	3
BUSI 1301	Business Principles	3
BUSI 2301	Business Law I	3
BUSI 2311	Business Statistics	3
BUSI 3312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Communication	3
BUSI 4359 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Strategy	3
MGMT 3300	Principles of Management	3
MKTG 3312	Marketing	3
BCIS 1305	Business Computer Applications	3
BCIS 4350	Management Information Systems	3
Electives		3
Total Hours		120

<sup>1</sup> Please see Academic Information section

<sup>2</sup> If this course is counted toward university general education requirements, student must complete an additional three hours of electives.

## The Bachelor of Science Degree in Economics

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>		42
ECON 2301	Principles of Macroeconomics <sup>2</sup>	3
ECON 2302	Principles of Microeconomics	3
ECON 3301	Intermediate Macroeconomics	3
ECON 3302	Intermediate Microeconomics	3
ECON 3303	Money And Banking	3
ECON 4301	International Economics	3
ECON 4311	Econometrics and Forecasting	3
Advanced ECON		6
ACCT 2301	Principles of Accounting I-Financial	3
ACCT 2302	Principles of Accounting II-Managerial	3
ENGL 3309	Technical writing and Document Design	3
or BUSI 3312	Business Communication	
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics) <sup>2</sup>	3
MATH 1325	Math for Business & Social Sciences II (Business Calculus)	3
Select one of the following:		3
AGEC 3317	Agricultural Statistics	
BUSI 2311	Business Statistics	
ACCT 3301	Business Analysis using Spreadsheets	3
Minor or second major: approved courses (at least 6 hours advanced)		18
Advanced Electives		12
Total Hours		120

<sup>1</sup> Please see Academic Information section

<sup>2</sup> If this course is counted toward university general education requirements, student must complete an additional three hours of electives.

## Professors

- Jafri, Dr. Hussain
- Sankar, Dr. Sundarajan
- Thomas, Dr. Charles (Chuck)

## Associate professors

- Bauer, Dr. Keldon
- Blythe, Dr. Stephen
- Esqueda, Dr. Omar
- Goodpasture, Dr. James
- Leach, Mr. Judd
- Post, Mr. Kyle
- Rogers, Dr. Nina
- Schieck, Ms. Ashley
- Watson, Dr. Derrill
- Young, Dr. Arthur

## Assistant professors

- Atchley, Dr. Curtis W.
- Gordey, Ms. Laura
- Katuwal, Dr. Hari
- Pradhan, Dr. Debejeet
- Tanter, Mr. Alex
- Varnell, Ms. Karen

## Instructor

- Adams, Mr. Mark
- Puhl, Mr. Daniel

## Professor Emeritus

- Collier, Dr. Boyd

## Accounting Courses

### ACCT 2301. Principles of Accounting I-Financial. 3 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).

An introduction to financial accounting concepts and their application in the accounting process for business organizations. Includes financial statement preparation and analysis and communication of financial information. No previous knowledge of accounting required. Prerequisite: MATH 1314, MATH 1332, MATH 1324, MATH 2412, MATH 2413, MATH 1342, or concurrent enrollment, or approval of department head. Lab fee \$2.

### ACCT 2302. Principles of Accounting II-Managerial. 3 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).

An introduction to the use of accounting information as an aid to management decision making. Includes budgeting, the control process, the classification of costs, and financial modeling. Prerequisite: ACCT 2301. Lab fee \$2.

### ACCT 3300. Accounting Concepts. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A survey of basic accounting principles, concepts, and methods to include a review of general purpose financial statements and the accounting process. Financial accounting procedures are presented to support the overall managerial function. This course is provided for students without a previous accounting background. This course is designed to provide non-BBA students with sufficient introductory accounting to prepare them to survive in an introductory finance course. The coverage is not deep enough in either financial or managerial accounting for any recognized Bachelor of Business Administration (BBA) program. The introductory financial accounting (ACCT 2301) and managerial accounting (ACCT 2302) courses are required for all BBA majors anyway, and would better prepare those students for further studies in Finance. Therefore, credit for both ACCT 3300 and ACCT 2301 will not be permitted by the College of Business Administration.

### ACCT 3301. Business Analysis using Spreadsheets. 3 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).

Theory and application of microcomputer technology in the practice of accounting and finance. Emphasis on the utilization of basic spreadsheet and general ledger software. Intended to stimulate creative initiative in performing accounting tasks and to develop the basic skills necessary to efficiently and effectively utilize the microcomputer. Credit for both BCIS 3301 and ACCT 3301 will not be awarded. Prerequisite: ACCT 2301 or ACCT 3300 Lab fee: \$2.

### ACCT 3302. Cost Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

An introductory cost course, emphasizing the accounting for material, labor, and manufacturing expenses in both job order and process cost systems. Special attention to distribution of service department cost and costing of byproducts and joint products. Prerequisite: ACCT 2302 or approval of department head.

### ACCT 3303. Intermediate Accounting I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

The environment of accounting, development of standards, basic theory, financial statements, worksheets, and the application of generally accepted accounting principles for the business enterprise with emphasis on corporations. Prerequisite: ACCT 2301 or approval of department head. Lab fee: \$2.

### ACCT 3304. Intermediate Accounting II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A continuation of Intermediate I with continued emphasis on generally accepted accounting principles as applied to the business enterprise. A study of the theory and application of generally accepted accounting principles. Topics include property, plant, and equipment; intangible assets; investments; current liabilities; long term liabilities; leases; stockholder's equity; and earnings per share. Prerequisite: ACCT 3303 or approval of department head. Lab fee: \$2.

### ACCT 3305. Government and Institutional Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Budgeting, accounting, and financial reporting principles and practices for governmental and other not-for-profit entities. Credit for both ACCT 3305 and ACCT 5307 will not be permitted by the College of Business Administration (the topics covered in these two courses are equivalent from a Texas State Board of Public Accounting standpoint). Prerequisite: ACCT 3303 or approval of department head.

### ACCT 3310. Accounting Information Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Specific study of design and implementation of complex accounting information systems. An understanding of the traditional accounting model and its relationship to each type of accounting information system will be emphasized, including accounts receivable, inventory control, cost accounting, operational budgeting, and capital budgeting. Key elements of a well-designed management control system are included. Prerequisite: ACCT 2302 or approval of department head. Lab fee \$15.

**ACCT 4084. Internship. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-20 Hours).**

Directed real-world learning experience under the supervision of a practicing professional accountant. The internship assignment must be approved by an accounting internship advisor prior to enrollment. The internship must be related to the student's field of study and requires at least 320 hours of supervised work in total, including at least 160 during the semester term. Student maintains a diary of work experience gained and, at semester-end, prepares a written paper reflecting on the work experience. Student also provides to accounting internship advisor the employer's evaluation of performance and maintains records of all the listed documentation. No credit will be given for previous experience or activities. Prerequisites: Must have completed 90 semester credit hours including a minimum of 12 semester credit hours of upper division accounting course work and have at least a 2.5 GPA overall with at least a 3.0 GPA in accounting courses.

**ACCT 4086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A directed study of selected problems in accounting. May be repeated with approval of department head. Prerequisites: Approval of department head.

**ACCT 4090. Special Topics in Accounting. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

An examination of current topics in accounting. Readings required from current accounting publications and other related periodicals. May be repeated for credit when topics vary. Prerequisites: 9 hours in ACCT.

**ACCT 4301. Financial Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of financial statement analysis and accounting topics related to financial statement presentation and disclosure. Prerequisite: ACCT 3304 or approval of department head. Lab fee: \$2.

**ACCT 4303. Advanced Accounting Principles. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Special phases of partnership accounting, joint ventures, consignments, installment sales, statement of affairs and accounting for insolvent concerns, and business combinations. Prerequisite: ACCT 4301 or concurrent registration. Lab fee \$5.

**ACCT 4305. Federal Tax Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The present income tax law and regulations; income tax legislation, treasury and court decisions, departmental rulings; income tax problems and returns, social security, and self-employment taxes. Credit for both ACCT 4305 and 5305 will not be awarded. Prerequisites: ACCT 2302 or approval of department head.

**ACCT 4306. Federal Tax Accounting Advanced. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The tax consequences of doing business by corporations, partnerships, and S corporations from creation, to operating, distribution, and dissolution are discussed. Furthermore, the impact of transactions on corporations and shareholders, the partnership and its partners is emphasized throughout the course. Fiduciary relationships are also discussed. Students who have successfully completed ACCT 4306 cannot receive credit for ACCT 5306.

**ACCT 4315. Estate and Gift Tax. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is intended to provide students with a general understanding of the fundamental principles of the United States estate and gift tax system. Students will (i) learn basic principles and concepts of estate planning, (ii) learn the theoretical basis of the U.S. approach to estate and gift taxation and (iii) gain detailed knowledge of estate and gift tax issues. In addition, the course will prepare students to anticipate, recognize, and manage various issues that arise in the transfer tax system. Prerequisite: ACCT 2302.

**ACCT 4323. Ethics for Accountants. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to auditing and ethical responsibilities for auditors and other accountants in both public and private practice. Topics include generally accepted auditing standards, the standard audit report, legal responsibilities of accountants, the Code of Professional Conduct for accountants, independence, and objectivity. Includes case studies involving ethical reasoning and decision making. Credit for both ACCT 4323 and ACCT 5323 will not be awarded. Prerequisite: ACCT 3304 or concurrent enrollment.

**ACCT 4324. Auditing Evidence and Report. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Procedures used by auditors and accounting practitioners to gather and evaluate information and report on their findings. Includes evaluation of internal control, planning an audit or other engagement, compliance testing, substantive testing, statistical sampling, evaluation of findings, and preparation of reports. Credit for both ACCT 4324 and ACCT 5324 will not be permitted by the College of Business Administration (the topics covered in these two courses are equivalent from a Texas State Board of Public Accounting standpoint). Prerequisite: ACCT 3304 or equivalent.

**ACCT 4385. Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of current issues and developments in accounting. Prerequisite: Approval of department head.

## Economics Courses

**ECON 1301. Introduction To Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In this course students are encouraged to use their common sense to understand economic principles and applications. Topics include scarcity, markets, economic goals, government policy, and international trade. This course is designed for students majoring in fields other than business or economics and for students who need a basic review prior to taking ECON 2301 or 2302. Course cannot be counted toward a degree in economics.

**ECON 2301. Principles of Macroeconomics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the aggregate or overall economy. Topics include the description and measurement of economic aggregates; the basic theories of output, employment and prices; the monetary economy and the role of government. Prerequisites: MATH 1314, MATH 1332, MATH 1324, MATH 2412, MATH 2413, MATH 1342, or concurrent enrollment, or approval of department head.

**ECON 2302. Principles of Microeconomics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The major emphasis of this course is on the understanding of markets. Topics include an in-depth study of supply and demand, cost theory, economic resource markets, international trade, and the determination of foreign exchange rates. Prerequisite: MATH 1314, MATH 1332, MATH 1324, MATH 2412, MATH 2413, MATH 1342, or concurrent enrollment, or approval of department head.

**ECON 3301. Intermediate Macroeconomics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course extends the study of the aggregate economy introduced in Economics 2301 with emphasis on theory. Topics include the Classical and Keynesian systems, general equilibrium theories, economic growth, and public policy in a global setting. Prerequisite: ECON 2301.

**ECON 3302. Intermediate Microeconomics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course represents a more advanced study of microeconomic theory than is possible in Economics 2302. Topics include consumer behavior, production and cost theory, market structure, and factor markets. Prerequisite: ECON 2302, or AGEC/AGRI 2317 or equivalent.

**ECON 3303. Money And Banking. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A study of the structure and functions of financial markets and financial intermediaries; the behavior and pattern of interest rates; the basic concepts of commercial bank management; the nature of money and the role of the Federal Reserve in its creation; the basic structure of the economy and the impact of monetary actions on this structure. Prerequisite: ECON 2301.

**ECON 3304. Environmental Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the economics of the natural environment. Economic tools and issues such as social cost, externalities, cost-benefit analysis, property rights, and state and federal environmental policies will be examined with emphasis on problems associated with water pollution, waste disposal, and society's burden of social costs. Prerequisite: 3 hours ECON or AGRI/AGEC 2317.

**ECON 3305. Economics of Financial Markets. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the aggregate financial system and capital markets and the impact these have on financial intermediaries. Topics to be covered are: flow of funds analysis, interest rate theory, role of financial intermediaries, and management of financial assets. Credit for both FINC 3304 and ECON 3305 will not be awarded. Prerequisites: ECON 2301.

**ECON 3306. Political Economy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the historical, philosophical, and theoretical relationships between the state and the economy. Credit for both POLS 3306 and ECON 3306 will not be awarded. Prerequisite: 3 hours of ECON.

**ECON 4084. Internship. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-20 Hours).**

Preapproved and supervised work experience in a Economics related position with a public or private business organization. May be repeated for a total of 6 hours credit. Prerequisite: Approval of department head.

**ECON 4086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Independent reading, research and discussion. Entry into this course will be arranged with the Economics counselor. Prerequisites: Approval of department head.

**ECON 4090. Special Topics in Economics. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

An examination of current topics in economics. Readings required from current economics publications and other related periodicals. May be repeated for credit when topics vary. Prerequisite: Approval of department head.

**ECON 4301. International Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to international economic theory and policy, the foundations of modern trade theory and its extensions, welfare effects of tariffs and non-tariff barriers, commercial policies of the United States, trade policies of developing countries, multinationals, balance of payments, and foreign exchange markets. Credit for both ECON 4301 and AGECE 4302 will not be awarded. Prerequisite: 3 hours ECON or AGECE/AGRI 2317.

**ECON 4302. Developmental Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to theories of economic development. Much of the course focuses on the sources of economic growth, inequality, and poverty, and what "development" means beyond financial growth. Other topics include population growth, migration, human capital, agriculture, the environment, international trade and finance, and good governance. The twin concepts of market failure and government failure are seen throughout the course Prerequisite: Six hours of economics.

**ECON 4311. Econometrics and Forecasting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Econometrics is the science of using statistics to estimate economic relationships, test economic theories, and evaluate the impacts of government and business policies. Econometrics is also used to forecast or predict how macroeconomics variables, stock prices, and other time-varying economic indicators behave. It is used not only in economics, but in fields as diverse as finance, marketing, political science, sociology, biology, and even comparative literature. Prerequisites: ECON 2301, ECON 2302, and one of the following: BUSI 2311, MATH 3311, AGECE 3317, or MATH 1342.

**ECON 4385. Seminar in Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of selected topics dealing with problems or unique needs of Economics. May be repeated for credit as topics vary. Prerequisite: Approval from department head.

## Finance Courses

**FINC 3301. Principles of Financial Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An analysis of financial decision-making at the corporate level with emphasis on the maximization of stockholder wealth. Topics covered include financial statement analysis, the valuation of stocks and bonds, cost of capital, capital budgeting, dividend policy, leverage and capital structure, methods of firm valuation, working capital management, mergers and acquisitions, and bankruptcy. Prerequisites: ACCT 2301, ACCT 2302 and ECON 2301; or ACCT 3300 and ECON 2301.

**FINC 3302. Financial Intermediaries. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the internal operations of financial intermediaries with major emphasis on organization, source and allocation of funds, supervision, and regulation. Prerequisite: FINC 3301.

**FINC 4084. Internship. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-20 Hours).**

Preapproved and supervised work experience in a Finance related position with a public or private business organization. May be repeated for a total of 6 hours credit. Prerequisite: Approval of department head.

**FINC 4086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A directed study of selected problems in finance. May be repeated with approval department head. Prerequisite: Approval of the department head.

**FINC 4300. Advanced Financial Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced analysis of value-based management techniques with emphasis on the factors affecting the corporation's quest to maximize shareholder wealth. Topics covered include financial statement analysis, cash flow analysis, economic and market valued added, securities valuation, the cost of capital, capital budgeting, capital structure, dividend policy, the use of leverage, working capital management, and corporate governance. Prerequisite: FINC 3301.

**FINC 4301. International Financial Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Issues and questions which concern financial management of international corporations. Analysis of the financing of investment abroad and the management of assets in differing financial environments. The foreign investments decision, cost of capital and financial structure for multinational decision making, management of foreign subsidiary working capital, and financial control of multinational operations. Prerequisite: FINC 3301 or approval of department head.

**FINC 4302. Real Estate Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of monetary systems, primary and secondary money markets, sources of mortgage loans, federal government programs, loan applications, processes and procedures, closing costs, alternative financial instruments, equal credit opportunity acts, community reinvestment act, and state housing agency.

**FINC 4303. Case Studies in Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Capstone course requires students to use fundamental concepts learned in previous finance, accounting, and economics courses to analyze real-world finance problems. Using both structured and unstructured cases, student teams analyze problems and recommend solutions. Argument is presented both orally and in writing. Cases draw from such areas as corporate finance, investments, international finance, and personal finance. Prerequisite: FINC 3301.

**FINC 4304. Principles of Investments I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The development of investment policy; the character of investment risk; a comparison of investment media; description and analysis of security markets and their operations. Prerequisite: FINC 3301.

**FINC 4307. Investments II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course builds on Investments I, adding new assets (e.g. derivatives), new theoretical models (e.g. option valuation), and new techniques (e.g. hedging strategies). In addition, the course will cover asset management theories and measures. Prerequisite: FINC 3301, FINC 4304.

**FINC 4308. Principles of Insurance and Risk Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey course focusing on the theory and practice of private insurance and its economic and social significance. Major types of insurance are examined: life, health, automotive, homeowners, and liability. Various forms of risk management, characteristics of insurance contracts, government regulatory characteristics, and institutional structures are studied.

**FINC 4385. Seminar in Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of selected topics dealing with problems or unique needs of Finance. May be repeated for credit as topics vary. Prerequisite: Approval from department head.

## Management

Dr. Triss Ashton, Department Head  
Department of Management

Business Building, Room 130  
 Box T-0330  
 Stephenville, Texas 76402  
 (254) 968-9098  
 (254) 968-9737  
 ashton@tarleton.edu  
 www.tarleton.edu/mgmt/index.html (<http://www.tarleton.edu/mgmt/>)

The Department of Management offers six undergraduate degree programs. The Bachelor of Business Administration (BBA) degree is available in Human Resource Management, General Business, Management, and International Business. The Department also offers the Bachelor of Applied Arts and Science (BAAS) degree in Business Occupations and the Bachelor of Science in Applied Science (BSAS) degree with a Business Administration emphasis.

The BAAS and BSAS degree programs are designed for students who have completed technical/occupational specializations from community college, technical schools, military schools, among others, and qualify for admission. Additional information regarding these two programs is available in the Management Department. The department also supports a minor in Business and a minor in International Business.

The baccalaureate degree programs provide a broad-based education in the foundation disciplines of the liberal arts and the sciences and a focused development of business knowledge. Each major has a set of required courses and electives that students may choose to enrich their degree programs as well as business core requirements designed to provide a common set of business competencies. All departmental programs are designed to prepare students to meet the demands of today's challenging and competitive workforce and for entrance into graduate school.

At the graduate level, the department offers a Master of Science (MS) degree in Human Resource Management and the MS in Management. The departments of the College of Business Administration also offer the Master of Business Administration (MBA) degree. Those interested in graduate programs should consult the graduate section of this catalog.

The Management Department participates in the University off-campus initiatives. Various degree programs are offered at the Fort Worth Campus, in Waco through our partnership with the McLennan Community College (MCC) University Center and in Midlothian through our partnership with Navarro College. The department also participates in upper-division degree completion programs offered online. Information regarding these initiatives are available on the Tarleton website.

- Academic Advising Guides ([http://catalog.tarleton.edu/advising\\_guides/](http://catalog.tarleton.edu/advising_guides/))

## The Bachelor of Business Administration Degree in Management

### Required Courses

General Education Requirements (<http://catalog.tarleton.edu/undergrad/academicaffairs/>) 42

Choose one of the following [shared]:

COMM 1311	Introduction to Speech Communication	
COMM 1315	Public Speaking	
COMM 2302	Business and Professional Speaking	

### MATHEMATICS:

Select one of the following to fulfill the Mathematics General Education Requirement [Shared]:

MATH 1314	College Algebra	
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1332	Contemporary Mathematics I	
MATH 1342	Elementary Statistical Methods	
MATH 2412	Precalculus Math	
MATH 2413	Calculus I	

ADDITIONAL MATHEMATICS REQUIRED FOR MAJOR: 3-4

Select one of the following:

MATH 1316	Plane Trigonometry	
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1325	Math for Business & Social Sciences II (Business Calculus)	
MATH 2412	Precalculus Math	
MATH 2413	Calculus I	
ACCT 2301	Principles of Accounting I-Financial	3
ACCT 2302	Principles of Accounting II-Managerial	3
BCIS 1305	Business Computer Applications	3
BCIS 4350	Management Information Systems	3
BUSI 1301	Business Principles	3
BUSI 2301	Business Law I	3
BUSI 2311	Business Statistics	3
BUSI 3312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Communication	3
BUSI 4344	Introduction to International Business	3
BUSI 4359 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Strategy	3
ECON 2301 [shared]	Principles of Macroeconomics	
ECON 2302	Principles of Microeconomics	3
FINC 3301	Principles of Financial Management	3
MGMT 3300	Principles of Management	3
MKTG 3312	Marketing	3
PSYC 2301	General Psychology <sup>1</sup>	3
MGMT 3302	Human Resource Management	3
MGMT 3350	Organization Behavior	3

MGMT 4307 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Ethics	3
MGMT 4321	Production and Operations Management	3
Select five of the following:		15
MGMT 4315	Project Management	
MGMT 3304	Small Business Management	
MGMT 3325	Leadership	
MGMT 4312	Entrepreneurship	
MGMT 4308	Negotiation & Conflict Resolution	
MGMT 4323	Innovation and Creativity in Business	
MGMT 4304	Staffing Organizations	
MGMT 4305	Human Resource Development	
MGMT 4303	Strategic Compensation	
MGMT 4320	International Entrepreneurship	
MGMT 4354	International Management	
MGMT 4306	Employee and Labor Relations	
MGMT 4084	Internship	
MGMT 4385	Seminar in Management	
MGMT 4389	Global Management Practices	
Elective		3
Total Hours		120

<sup>1</sup> A student who counts this course toward the university general education requirements must complete 3 hours of electives.

## The Bachelor of Business Administration Degree in Human Resources Management

### Required Courses

General Education <sup>1</sup> 42

### MATHEMATICS:

SELECT ONE OF THE FOLLOWING [Shared]:

MATH 1314	College Algebra	
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1332	Contemporary Mathematics I	
MATH 1342	Elementary Statistical Methods	
MATH 2412	Precalculus Math	
MATH 2413	Calculus I	

ADDITIONAL MATHEMATICS REQUIRED FOR MAJOR: 3-4

MATH 1316	Plane Trigonometry	
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1325	Math for Business & Social Sciences II (Business Calculus)	
MATH 2412	Precalculus Math	
MATH 2413	Calculus I	
ACCT 2301	Principles of Accounting I-Financial	3
ACCT 2302	Principles of Accounting II-Managerial	3
BCIS 1305	Business Computer Applications	3
BCIS 4350	Management Information Systems	3
BUSI 1301	Business Principles	3
BUSI 2301	Business Law I	3
BUSI 2311	Business Statistics	3
BUSI 3312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Communication	3
BUSI 4344	Introduction to International Business	3
BUSI 4359 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Strategy	3
ECON 2301 [shared]	Principles of Macroeconomics	
ECON 2302	Principles of Microeconomics	3
FINC 3301	Principles of Financial Management	3
MGMT 3300	Principles of Management	3
MKTG 3312	Marketing	3
PSYC 2301	General Psychology <sup>2</sup>	3
MGMT 3302	Human Resource Management	3
MGMT 3350	Organization Behavior	3
MGMT 4303	Strategic Compensation	3
MGMT 4304	Staffing Organizations	3
MGMT 4305	Human Resource Development	3
MGMT 4306	Employee and Labor Relations	3
BLAW 4334	Employment Law	3



Select two of the following:		6
MGMT 4308	Negotiation & Conflict Resolution	
MGMT 4307 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Ethics	
MGMT 3325	Leadership	
MGMT 4315	Project Management	
MGMT 4389	Global Management Practices	
MGMT 4354	International Management	
MGMT 4084	Internship	
Elective		3
Total Hours		120

<sup>1</sup> Please see Academic Information section.

<sup>2</sup> A student who counts this course toward university general education requirements must complete an additional 3 hours of electives.

## The Bachelor of Business Administration Degree in General Business

### Required Courses

General Education Requirements (<http://catalog.tarleton.edu/undergrad/academicaffairs/>) 42

#### MATHEMATICS:

Select one of the following to fulfill the Mathematics General Education Requirement [Shared]:

MATH 1314	College Algebra	
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1332	Contemporary Mathematics I	
MATH 1342	Elementary Statistical Methods	
MATH 2412	Precalculus Math	
MATH 2413	Calculus I	

ADDITIONAL MATHEMATICS REQUIRED FOR MAJOR: 3

Select one of the following:

MATH 1316	Plane Trigonometry	
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1325	Math for Business & Social Sciences II (Business Calculus)	
MATH 2412	Precalculus Math	
MATH 2413	Calculus I	
ACCT 2301	Principles of Accounting I-Financial	3
ACCT 2302	Principles of Accounting II-Managerial	3
BCIS 1305	Business Computer Applications	3
BCIS 4350	Management Information Systems	3
BUSI 1301	Business Principles	3
BUSI 2301	Business Law I	3
BUSI 2311	Business Statistics	3
BUSI 3312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Communication	3
BUSI 4344	Introduction to International Business	3
BUSI 4359 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Strategy	3
ECON 2301 [shared]	Principles of Macroeconomics	
ECON 2302	Principles of Microeconomics	3
FINC 3301	Principles of Financial Management	3
MGMT 3300	Principles of Management	3
MGMT 3302	Human Resource Management	3
MKTG 3312	Marketing	3
Advanced Electives		24
Electives		6
Total Hours		120

## The Bachelor of Business Administration Degree in International Business

### Required Courses

General Education Requirements (<http://catalog.tarleton.edu/undergrad/academicaffairs/>) 42

#### MATHEMATICS [shared]:

Select one of the following to fulfill the Mathematics General Education Requirement [Shared]:

MATH 1314	College Algebra	
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1332	Contemporary Mathematics I	
MATH 1342	Elementary Statistical Methods	
MATH 2412	Precalculus Math	
MATH 2413	Calculus I	

ADDITIONAL MATHEMATICS REQUIRED FOR MAJOR:		3
Select one of the following:		
MATH 1316	Plane Trigonometry	
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1325	Math for Business & Social Sciences II (Business Calculus)	
MATH 2412	Precalculus Math	
MATH 2413	Calculus I	
ACCT 2301	Principles of Accounting I-Financial	3
ACCT 2302	Principles of Accounting II-Managerial	3
BCIS 1305	Business Computer Applications	3
BCIS 4350	Management Information Systems	3
BUSI 1301	Business Principles	3
BUSI 2301	Business Law I	3
BUSI 2311	Business Statistics	3
BUSI 3312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Communication	3
BUSI 4359 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Strategy	3
ECON 2301 [shared]	Principles of Macroeconomics	
ECON 2302	Principles of Microeconomics	3
FINC 3301	Principles of Financial Management	3
MGMT 3300	Principles of Management	3
MKTG 3312	Marketing	3
MKTG 4354	International Marketing	3
MGMT 4354	International Management	3
BLAW 4384	International Business Law	3
FINC 4301	International Financial Management	3
ECON 4301	International Economics	3
MKTG 4314	Supply Chain and Logistics Concepts	3
Select from six hours of the following:		6
Foreign Language		
BUSI 4389	Global Business Practices	
MKTG 4389	Global Marketing Practices	
MGMT 4389	Global Management Practices	
MGMT 4084	Internship	
MKTG 4084	Internship	
BUSI 4344	Introduction to International Business	3
Select from six hours of the following:		6
ENGL 3341 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Cultural Studies	
POLS 3301	Political Economy of Globalization	
POLS 3308	International Politics	
POLS 3314	Comparative Politics	
PHIL 3304	World Religions	
Elective		3
Total Hours		120

## The Bachelor of Applied Arts and Sciences Degree in Business

### Required Courses

General Education Requirements (<http://catalog.tarleton.edu/undergrad/academicaffairs/>) 42

**Prior Learning Credit\*** 12-33

Select one of the following [shared]:

MATH 1314	College Algebra	
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1332	Contemporary Mathematics I	
MATH 1342	Elementary Statistical Methods	
MATH 2412	Precalculus Math	
MATH 2413	Calculus I	
BCIS 1305	Business Computer Applications	3
BUSI 2301	Business Law I	3
BUSI 2311	Business Statistics	3
ECON 2301 [shared]	Principles of Macroeconomics	
MGMT 3300	Principles of Management	3
ACCT 3300	Accounting Concepts	3

## 114 Management

BUSI 3312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Communication	3
MKTG 3312	Marketing	3
FINC 3301	Principles of Financial Management	3
BUSI 4344	Introduction to International Business	3
BCIS 4350	Management Information Systems	3
BUSI 4359 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Strategy	3
Advanced Business Electives from: ACCT, ADMS, BCIS, ECON, FINC, BUSI, BLAW, REST, MGMT, MKTG		12
Total Hours		120

\* Students who qualify with Prior Learning Credits of less than 33 hours will need sufficient elective hours to reach the 120 hours required for degree conferral.

## The Bachelor of Science Degree in Applied Science

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )	42
<b>Prior Learning Credit</b>	<b>12-36</b>
Total Hours	78

### Additional Required Courses for Concentrations

#### Business Administration

BUSI 3312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Communication	3
BUSI 4398	Capstone for Applied Science	3
MGMT 3302	Human Resource Management	3
MGMT 3350	Organization Behavior	3
MGMT 4307 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Ethics	3
Electives		6-30
Advanced Business Electives from: ACCT, ADMS, BCIS, ECON, FINC, BUSI, BLAW, REST, MGMT, MKTG		9
Advanced Electives		12
Total Hours		42

#### Psychological Sciences

MATH 1314 [shared]	College Algebra	
PHIL 1301	Introduction to Philosophy	3
PSYC 2301 [shared]	General Psychology	
PSYC 2317	Statistical Methods in Psychology	3
PSYC 3301	Psychology of Learning	3
PSYC 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Writing in Psychology	3
PSYC 3435 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Principles of Research for the Behavioral Sciences	4
PSYC 4320	History of Psychology	3
Elective		0-24
Advanced PSYC electives		11
Advanced Electives		12
Total Hours		42

### Minors

#### Business Minor

##### Required Courses

Coursework from: ADMS, ACCT, BCIS, ECON, FINC, BUSI/BLAW/REST, MGMT or MKTG <sup>1</sup>	12
Advanced hours from: ADMS, ACCT, BCIS, ECON, FINC, BUSI/BLAW/REST, MGMT or MKTG	6
Total Hours	18

<sup>1</sup> Student must select coursework from at least 2 different subject fields.

### International Business

##### Required Courses

##### Required courses:

BUSI 4344	Introduction to International Business	3
MGMT 4354	International Management	3

MKTG 4354	International Marketing	3
BLAW 4384	International Business Law	3
Select two of the following:		6
Foreign Language		
BUSI 4389	Global Business Practices	
MKTG 4389	Global Marketing Practices	
MGMT 4389	Global Management Practices	
MKTG 4314	Supply Chain and Logistics Concepts	
ENGL 3341 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Cultural Studies	
POLS 3301	Political Economy of Globalization	
POLS 3308	International Politics	
POLS 3314	Comparative Politics	
POLS 3320	Terrorism and Political Violence	
PHIL 3304	World Religions	
Total Hours		18

NOTE: It is recommended that non-BBA students interested in the MBA, MS-HRM, or MAcc, should consider taking the following courses (or their equivalents) as their Business Minor to satisfy Graduate Leveling Requirements:

- Any Business MGMT Course
- Any Business MKTG Course
- ACCT 2301: Financial Accounting
- BUSI 2311: Business Statistics
- FINC 3301: Principles of Finance
- ECON 2301: Macro Economics

Additionally, those interested in pursuing their MAcc should also consider taking the following courses (or their equivalents) as they are also required before being able to start the MAcc program:

- ACCT 3303: Intermediate Accounting I
- ACCT 3304: Intermediate Accounting II

## Professors

- Deviney, Dr. David
- Freed, Dr. Rusty
- Heller, Dr. Nathan
- McCamey, Dr. Randy
- Notgrass, Dr. David

## Associate professors

- Ashton, Dr. Triss
- Baeza, Dr. Miguel
- Hall, Dr. Reggie
- Heller, Dr. Jake
- Joiner, Dr. Sue
- Krueger, Dr. Dianna
- Martinson, Dr. Brian
- Mullens, Dr. Drake
- Richardson, Dr. Rick
- Shaw, Dr. Joanna

## Assistant professors

- Brown, Dr. Bryn
- Dinulescu, Dr. Catalin
- Dittfurth, Dr. Ed
- Foster, Ms. Christi
- LeCounte, Dr. John

## Courses

### **MGMT 3300. Principles of Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the basic managerial functions of planning, organizing, leading, and controlling resources to accomplish organizational goals. Management theories and the business environment are also covered.

### **MGMT 3302. Human Resource Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Fundamental functions of human resources management; relationship between personnel management and organizations' emerging role of personnel administration in development of strategic policy for organizations.

### **MGMT 3304. Small Business Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Oriented toward planning for and managing a small business, starting a business, and buying a business franchise. May include computer simulation and consultation for actual small business. Prerequisites: Approval of the instructor and department head to enroll in the course.

**MGMT 3325. Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced studies of contemporary leadership issues; the history of leadership; leadership theories; leadership ethics and values; group dynamics; organizational behavior; methods of effective team building; community activism; the politics of gender, race, disability, and age; the dynamic of power; and the aspect of professional networking. Course will include in depth study of above mentioned topics, as well as extensive discussion and research of related leadership issues.

**MGMT 3350. Organization Behavior. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides a comprehensive analysis of the behavior of people at work in all types of organizations. Topics include fundamentals of organizational behavior: values, ethics, motivation, group dynamics, individual differences, attitudes, decision-making, conflict, power, change, stress, leadership, rewarding behavior, communication, and organizational structure.

**MGMT 3385. Managing Diversity in Organizations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course examines the changing workforce demographics, including multiple demographic groups and areas of difference important to organizational treatment and outcomes. This course examines research on treatment, access, and inclusion. Legislation related to diversity is also reviewed. This course also provides suggestions for individuals and organizations to increase opportunities and outcomes for workers of all backgrounds.

**MGMT 4084. Internship. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-20 Hours).**

Preapproved and supervised work experience in a management related position with a public or private business organization. May be repeated for a total of 6 hours credit. Prerequisite: Approval of Instructor and Department Head.

**MGMT 4086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A directed study of selected problems in management. May be repeated with department head approval. Prerequisites: Approval of Instructor and Department Head.

**MGMT 4090. Special Topics in Management. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

An examination of current topics in management. Readings required from current management publications and other related periodicals. May be repeated for credit when topics vary. Prerequisite: 9 hours in MGMT.

**MGMT 4303. Strategic Compensation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Wage and salary administration in public and private organizations; determinants of general wage and salary levels and structures; total compensation systems, interrelationship among employee performance, intrinsic and extrinsic rewards, perceived equitable payments, employee satisfaction. Prerequisite: MGMT 3302.

**MGMT 4304. Staffing Organizations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Recruitment and selection of human resources for organizations; optimal utilization of human resources within organizations; use of tests and other techniques in human resource management. Prerequisite: MGMT 3302.

**MGMT 4305. Human Resource Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Practical and theoretical approaches to training and development of employees in an organization. Topics include organization, role and scope, training and development functions, philosophies, strategies, need analysis, development of program content, methods, materials and techniques, and evaluation and control of the training and development function.

**MGMT 4306. Employee and Labor Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Collective bargaining, labor market fundamentals, unionism, and related issues of labor economics.

**MGMT 4307. Business Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An analysis and examination of significant contemporary ethical issues and problems existing throughout the professional business arena. Emphasis will be upon the manager's social and environmental responsibilities to employees, customers, and the public.

**MGMT 4308. Negotiation & Conflict Resolution. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to the principles and methods of negotiation and conflict resolution that come about due to interpersonal and inter-group conflict. Explores the major theories, models, and concepts of bargaining and negotiation and introduces the topics of mediation and alternative dispute resolution.

**MGMT 4312. Entrepreneurship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Addresses the process of generating ideas for new business, writing comprehensive business plans. Emphasis on information sources, industry analysis.

**MGMT 4315. Project Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is geared towards teaching students the fundamentals of project management based on the Project Management Body of Knowledge developed by the Project Management Institute. In particular, students will learn about scope, time, cost, quality, human resource, communication and procurement management and develop a comprehensive project plan accordingly.

**MGMT 4320. International Entrepreneurship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Entrepreneurship is a driver of growth, innovation, and wealth creation across developed, developing, and undeveloped nations. Increasingly, entrepreneurship is international from the founding of the venture. Entrepreneurial ventures source inputs from foreign firms and sell goods to foreign markets. Herein, we identify and address global entrepreneurial activities and evaluate the complex environment of global entrepreneurship. The course integrates theory with practical experiences in international entrepreneurship to provide students with the foundation to identify, evaluate and develop global entrepreneurial opportunities. The course is designed to prepare students for careers as founders of, early hires in, investors in, advisors to, or managers in global ventures.

**MGMT 4321. Production and Operations Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics covered include: industrial organization, scientific management, planning and control, building locations and layouts, wage rates, corporation relationships, and research. Prerequisite: BUSI 2311 or concurrent enrollment.

**MGMT 4323. Innovation and Creativity in Business. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course explores the entrepreneurial mindset as it relates to creativity, innovation and creative problem-solving in the current business environment. Students will investigate various perspectives to ground an understanding of creativity, innovation and the uses of creative problem-solving. We will review theoretical and applied models of creativity and innovation as they relate to individuals, groups, and organizations. The materials address the creative process and its complexity as it fuels innovation in both a corporate and entrepreneurial environment through video presentations and discussions.

**MGMT 4354. International Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A global approach to the study of management to include international dimensions of the marketplace and environment, the role of culture, international strategic management, organizational behavior and human resource management.

**MGMT 4385. Seminar in Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Deals with current issues in management. Readings are required from current management publications and other related periodicals. May be repeated for credit when topics vary. Prerequisites: 15 hours in MGMT and approval of department head.

**MGMT 4389. Global Management Practices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of basic international business concepts, cultural literacy, and discipline specific content are then applied to practical experiences and activities in the foreign country visited. A study abroad at the student's expense is required. Student may complete a maximum of six hours of COBA sponsored study abroad toward degree completion.

## Marketing and Computer Information Systems

Dr. Robert Pellegrino  
Department of Marketing and Computer Information Systems  
Business Building, Room 159  
Box T-0170

Stephenville, Texas 76402  
 (254) 968-9047  
 pellegrino@tarleton.edu  
<http://www.tarleton.edu/cis/>

The Department of Marketing and Computer Information Systems (CIS) offers two programs of study leading to various degrees. The Marketing program offers a Bachelor of Business Administration (BBA) in Marketing. The CIS program offers a Bachelor of Business Administration (BBA) in Management Information Systems, Bachelor of Science (BS) in Computer Information Systems, Bachelor of Applied Arts and Sciences (BAAS) in Information Technology, and Master of Science (MS) in Information Systems. For more information about these programs, please visit our website and academic advising guides:

- D (<https://www.tarleton.edu/mcis/>) Departmental Website (<https://www.tarleton.edu/mcis/>)
- Academic Advising Guides ([http://catalog.tarleton.edu/advising\\_guides/](http://catalog.tarleton.edu/advising_guides/))

### **Marketing**

With a focus on entrepreneurship, our BBA in Marketing accredited degree program provides knowledge and skills in all foundational marketing-related disciplines, including advertising, sales and pricing, as well as product design, quality and distribution. Our business core requirements integrated with the marketing degree program curriculum also educate undergraduate students in basic business principles that are highly desired by many industry employers. With hands-on, real-world experience, you'll learn how to make important business decisions to solve problems with innovative, creative solutions. Marketing is a business discipline that involves the process of trying to persuade consumers to use or buy your product or service through promotion. In today's job market, marketing is a fast-growing, exciting and highly sought out business profession. Business administration bachelor's degrees are well-balanced programs for students interested in management in marketing as a career. Our strong curriculum with internship opportunities will help you gain the theoretical knowledge and practical experience you need for marketing as a career.

- BBA-Marketing (<https://www.tarleton.edu/degrees/bachelors/bba-marketing/>)

### **Information Systems/Information Technology**

The BAAS-IT, BBA-MIS, and BS-CIS programs provide students with several options that allow students to augment their degree to make them more competitive in the market place as well as accelerate their path towards completing a masters degree in Information Systems. Each program is designated as a STEM program as defined by the Department of Homeland Security (DHS). This designation has a direct impact on international students interested in these programs as it allows those with F-1 visas to remain in the United States after graduation for an additional 24 months under the optional practical training STEM extension. This extension makes it possible for students to undertake practical training for a total of 36 months. If this is of interest to you, reach out to the International Programs (<https://www.tarleton.edu/common/links/academic/international.html>) office for more detail and enroll today!

- BS-Computer Information Systems (<https://www.tarleton.edu/degrees/bachelors/bs-computer-information-systems/>)
- BBA-Management Information Systems (<https://www.tarleton.edu/degrees/bachelors/mis-information-systems/>)
- BAAS-Information Technology (<https://www.tarleton.edu/degrees/bachelors/information-technology/>)

### **Certificate in Cybersecurity**

The BAAS-IT, BBA-MIS, and BS-CIS all include the opportunity for students to pursue an additional certificate in the field of cybersecurity during their studies at Tarleton State University. Work with your COB Academic Adviser to take advantage of this opportunity.

### **Accelerated Program**

The MS-Information Systems includes an accelerated option, allowing undergraduate students to begin their graduate studies early and shortening their time to graduation. Interested students should identify their interest in pursuing this option early in their program and work with their Academic Adviser (<https://www.tarleton.edu/advising/advisor/outreach-advisors.html>) to select the appropriate degree plan options:

- BS-CIS: Accelerated CIS/MS Information Systems
- BAAS-IT: Accelerated IT/MS Information Technology
- BBA-MIS: Accelerated MIS/MS Information Systems

Students in their final undergraduate semester, should work with the COB Graduate Manager to complete the Graduate Student Provisional Form, enabling them to register for their graduate classes. Students who choose the accelerated option will, in their final semester, take BCIS 5311 plus an additional BCIS graduate elective, to serve as undergraduate electives and also begin work towards their graduate studies. Students should also complete their application to the College of Graduate Studies during their final semester in preparation for admittance into the graduate program.

### **Bachelor of Science Degree in Management Information System**

Through a Bachelor of Science degree in Computer Information Systems (BS-CIS), students will learn cutting-edge programming and networking technology. With faculty and staff members who put your education as their top priority, this degree will provide you with a variety of field-related skills to ensure your success after graduation.

### **Bachelor of Business Administration Degree in Management Information Systems**

Designed for students interested in management of information systems and technology, our BBA-Management Information Systems degree offers a challenging program of study with a business focus and global perspective. Through a combination of management information systems and business courses, you'll learn cutting-edge programming and networking techniques, as well as how to apply knowledge and theory, to solve problems in information technology and enhance businesses.

### **Bachelor of Applied Arts and Sciences in Information Technology**

Designed for working professionals who already have experience in information technology and want to advance their careers, our BAAS in Information Technology is an accelerated pathway to an affordable bachelor's degree. You may receive 12 to 33 hours of prior learning credit, including training or technical certifications, toward degree program requirements that can potentially save you thousands of dollars in tuition and fees and help you earn your bachelor's faster. The two-year bachelor's completion degree program in information technology can be completed fully or mostly online, with just two evening classes on campus, for flexible options that fit your schedule.

## **The Bachelor of Business Administration Degree in Marketing**

### **Required Courses**

General Education Requirements (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)

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### **MATHEMATICS [shared]:**

Select one of the following to fulfill the Mathematics General Education Requirement [Shared]:

MATH 1314	College Algebra
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)
MATH 1332	Contemporary Mathematics I
MATH 1342	Elementary Statistical Methods

MATH 2412	Precalculus Math	
MATH 2413	Calculus I	
<b>ADDITIONAL MATHEMATICS REQUIRED FOR MAJOR:</b>		<b>3-4</b>
Select one of the following:		
MATH 1316	Plane Trigonometry	
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1325	Math for Business & Social Sciences II (Business Calculus)	
MATH 2412	Precalculus Math	
MATH 2413	Calculus I	
ACCT 2301	Principles of Accounting I-Financial	3
ACCT 2302	Principles of Accounting II-Managerial	3
BCIS 1305	Business Computer Applications	3
BCIS 4350	Management Information Systems	3
BUSI 1301	Business Principles	3
BUSI 2301	Business Law I	3
BUSI 2311	Business Statistics	3
BUSI 3312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Communication	3
BUSI 4344	Introduction to International Business	3
BUSI 4359 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Strategy	3
ECON 2301 [shared]	Principles of Macroeconomics	
ECON 2302	Principles of Microeconomics	3
FINC 3301	Principles of Financial Management	3
MGMT 3300	Principles of Management	3
MKTG 3312	Marketing	3
MKTG 3315	Personal Selling	3
MKTG 3316	Consumer Behavior	3
MKTG 4315	Marketing Research	3
MKTG 4316	Marketing Management	3
MKTG 4354	International Marketing	3
Select three of the following:		9
MKTG 3317	Retailing	
MKTG 3318	Promotional Strategy	
MKTG 4302	Services Marketing	
MKTG 4312	Sales Management	
MKTG 4314	Supply Chain and Logistics Concepts	
MKTG 4084	Internship	
MKTG 4086	Problems	
MKTG 4389	Global Marketing Practices	
MKTG 4090	Special Topics in Marketing	
PSYC 2301	General Psychology	3
Select one of the following:		3
BCIS 3315	Web Development	
BCIS 4090	Special Topics in Computer Information Systems	
BCIS 4379	The Technology of E-Business	
Electives		3
Total Hours		120

## Certificate in Cyber Security

### Required Courses

CRIJ 3315	Rules of Criminal Evidence	3
BCIS 4320	Computer Forensics	3
BCIS 4342	Ethical Hacking & Network Defense	3
BCIS 4345	Network and Systems Security	3
CRIJ 4353	Global Cyber-Security	3
Total Hours		15

## The Bachelor of Science Degree in Computer Information Systems

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>		42
BCIS 1305	Business Computer Applications	3
BCIS 1317	Personal Computer Maintenance and Hardware	3
BCIS 3347	Data Communications	3
BCIS 3389 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	System Analysis and Design	3

BCIS 4301	Database Theory and Practice	3
BCIS 4350	Management Information Systems	3
Select one of the following		3
BCIS 3332	Java Programming	
BCIS 3333	C# Programming	
Select one of the following:		3
BCIS 3342	Advanced Java Programming	
BCIS 3343	Advanced C# Programming	
Select one of the following:		3
BUSI 3312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Communication	
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	
Select one of the following:		3
ACCT 3300	Accounting Concepts	
MGMT 3300	Principles of Management	
MKTG 3312	Marketing	
21 Hours of Approved Electives from ACCT, BCIS, BLAW, ECON, FINC, HRMT, MKTG, MGMT, COSC, MATH, ENGT, ENGR		21
Electives		6
Total Hours		99

### Additional Required Courses for Concentrations

#### Information Systems

21 Hours of Approved Advanced Electives from: ACCT, BCIS, BLAW, ECON, FINC, HRMT, MKTG, MGMT, COSC, MATH, ENGT, ENGR	21
Total Hours	21

#### Accelerated CIS/MS Information Systems

15 Hour of Approved Advanced Electives from: ACCT, BCIS, BLAW, ECON, FINC, HRMT, MKTG, MGMT, COSC, MATH, ENGT, ENGR	15	
BCIS 5311	Managing Information Systems	3
BCIS 5000 Level Elective		3
Total Hours		21

<sup>1</sup> Please see Academic Information section. COMM 2302 Business and Professional Speaking is recommended.

### The Bachelor of Applied Arts and Sciences Degree in Information Technology

#### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )	42
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#### Prior Learning Credit 12-33

Choose one of the following:	3
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BUSI 3312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Communication	
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	

Choose one of the following:	3
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BCIS 3332	Java Programming	
BCIS 3333	C# Programming	
BCIS 3347	Data Communications	3
BCIS 3389 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	System Analysis and Design	3

BCIS 4301	Database Theory and Practice	3
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BCIS 4350	Management Information Systems	3
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Advanced BCIS Electives		12
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Electives from BCIS, COSC, ENGT, ENGR, ECON, ACCT, BLAW, FINC, MGMT, BUSI, MKTG <sup>1</sup>		0-21
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Total Hours		105
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### Additional Required Courses for Concentrations

#### Information Technology

Advanced Electives from BCIS, COSC, ENGT, ENGR, ECON, ACCT, BLAW, FINC, MGMT, BUSI, MKTG	15
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Total Hours	15
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#### Accelerated IT/MS Information Technology

Advanced Electives from BCIS, COSC, ENGT, ENGR, ECON, ACCT, BLAW, FINC, MGMT, BUSI, MKTG	9
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BCIS 5311	Managing Information Systems	3
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BCIS 5000 Level Elective	3
Total Hours	15

<sup>1</sup> Number of electives depends on number of credits awarded for prior learning credit. Total hours for degree must total 120 hours minimum.

## The Bachelor of Business Administration Degree in Management Information Systems

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>	42
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### MATHEMATICS:

Select one of the following to fulfill the Mathematics General Education Requirement [Shared]:

MATH 1314	College Algebra	
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1332	Contemporary Mathematics I	
MATH 1342	Elementary Statistical Methods	
MATH 2412	Precalculus Math	
MATH 2413	Calculus I	

### ADDITIONAL MATHEMATICS REQUIRED FOR MAJOR:

3-4

Select one of the following:

MATH 1316	Plane Trigonometry	
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1325	Math for Business & Social Sciences II (Business Calculus)	
MATH 2412	Precalculus Math	
MATH 2413	Calculus I	

ACCT 2301	Principles of Accounting I-Financial	3
ACCT 2302	Principles of Accounting II-Managerial	3
BCIS 4350	Management Information Systems	3
BCIS 4355	Global Information Systems	3
BUSI 1301	Business Principles	3
BCIS 1305	Business Computer Applications	3
BUSI 2301	Business Law I	3
BUSI 2311	Business Statistics	3
BUSI 3312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Communication	3
BUSI 4359 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Strategy	3
ECON 2301 [shared]	Principles of Macroeconomics	
ECON 2302	Principles of Microeconomics	3
FINC 3301	Principles of Financial Management	3
MGMT 3300	Principles of Management	3
MKTG 3312	Marketing	3
Select one of the following:		3
BCIS 3332	Java Programming	
BCIS 3333	C# Programming	
Select one of the following:		3
BCIS 3342	Advanced Java Programming	
BCIS 3343	Advanced C# Programming	
BCIS 3347	Data Communications	3
BCIS 3389 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	System Analysis and Design	3
BCIS 4301	Database Theory and Practice	3
Elective		3
Total Hours		105

### Additional Required Courses for Concentrations

#### Information Systems

BCIS or COSC Electives (12 hours Advanced)	15
Total Hours	15

#### Accelerated MIS/MS Information Systems

BCIS or COSC Electives (6 hours Advanced)	9	
BCIS 5311	Managing Information Systems	3
BCIS 5000 Level Elective	3	
Total Hours	15	

<sup>1</sup> Please see Academic Information section. COMM 2302 Business and Professional Speaking is recommended.

## Professors

- Jones, Dr. Dennis
- Shao, Dr. Chris
- Schuessler, Dr. Joseph H.
- Schultz, Dr. Leah
- Sharp, Dr. Jason

## Associate professors

- Hsu, Dr. Chun-Kai "Tommy"
- Kilic, Dr. Ceyhan
- Wu, Dr. Yi-Chia

## Assistant professors

- Dearing, Mr. Auther
- Chen, Dr. Aray

## Visiting Instructor

- Whitson, Ms. Tara

## Business Computer Information Systems Courses

### **BCIS 1305. Business Computer Applications. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduces and develops foundational skills in applying essential and emerging business productivity information technology tools. The focus of this course is on business productivity software applications, including word processing, spreadsheets, databases, presentation graphics, data analytics, and business-oriented utilization of the internet.

### **BCIS 1315. Principles of Web Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course teaches students how to plan, design, and create professional websites using the latest industry tools. Students will gain a basic understanding of web design and will explore topics such as planning, accessibility, and operational issues surrounding web design.

### **BCIS 1317. Personal Computer Maintenance and Hardware. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An enhanced study of technology and hardware operation of microcomputers, their peripherals, and operating systems. Also considered are hardware configuration and selection, installation, test procedures, and maintenance.

### **BCIS 3300. Computer Technology and Impact. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course explores the relationship between technology and society examining past, present, and future technologies. Many topics are present including hardware and software fundamentals, the relationship between technology and society, technology and values, sociotechnical systems, and future challenges of technology and society. An emphasis is placed on businesses and the place of business in society utilizing information technologies.

### **BCIS 3302. Database and Data Management for Small Businesses. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies relational database packages. In addition, students improve their knowledge and skill with a current personal computer operating system.

### **BCIS 3305. Operating Systems Theory and Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the history, development, and principles of computer operating systems and their variants in mainframe, minicomputer, server, and microcomputer application environments. Topics will include related software issues, programming capabilities, and job control languages. Selected operating systems representing various hardware environments will be studied.

### **BCIS 3315. Web Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will explore the underlying technical foundations of web design and programming. Emphasis will be placed on HTML and CSS coding as well as principles of client side scripting languages such as Javascript.

### **BCIS 3332. Java Programming. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A first course in the Java programming language. Covers the basic structure of Java, all standard features, data representation, and simple I/O. Students will analyze and program several representative programs.

### **BCIS 3333. C# Programming. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A first course in the C# programming language. Covers the basic structure of C#, all standard features, data representation, and simple I/O. Students will analyze and program several representative problems.

### **BCIS 3342. Advanced Java Programming. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced course in the Java programming language. Covers advanced Java capabilities such as class features, error handling, graphical user interfaces, applets, and advanced object-oriented programming techniques. Students will analyze and program several representative problems. Prerequisite: BCIS 3332 or BCIS 3333 or approval of department head.

### **BCIS 3343. Advanced C# Programming. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced programming using the C# programming language to create Windows applications in an Internet and intra-network environment. Explores object-oriented design, client-server interaction, event-driven programming, graphical user interfaces, distributed data, and distributed applications. Prerequisite: BCIS 3332 or BCIS 3333 or approval of department head.

### **BCIS 3347. Data Communications. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of voice and data communications technologies, concepts, and applications, including communications terminology, hardware, software, protocols, and managerial issues in data and voice communications. Topics will include alternatives available in hardware, software, and transmission facilities, design integration, selection and implementation of communications solutions. In addition, students will explore the current and future impact and direction of these technologies.

### **BCIS 3348. Network Architecture Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of network architecture, industry standards and communications protocols, the placement of networking devices and components, transmission media selection, logical and physical topologies, data transmission, and structured cabling for local area networks (LANs) and wide area networks (WANs). Network designs will include required components and address services as specified in an industry specific Request for Proposal (RFP). Application exercises will include preparing and presenting a design proposal in response to an RFP and installation, configuration, testing and troubleshooting of WAN/LAN wiring interface technologies. Prerequisite: BCIS 3347 or the approval of the department head.

### **BCIS 3389. System Analysis and Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A study of the systematic analysis, design, and implementation of software systems with special emphasis on the processes and skills used in the first four stages of the System Development Life Cycle. Traditional and current methodologies, including computer aided analysis and design tools will be considered. Topics will be approached through project-oriented cases and projects, which integrate theory and practical application. Prerequisite: BCIS 3332 or BCIS 3333 or approval of department head.

**BCIS 4084. Internship. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-20 Hours).**

Preapproved and supervised work experience in a Computer Information Systems related position with a public or private business organization. May be repeated for a total of 6 hours credit. Prerequisite: Approval of department head.

**BCIS 4086. Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0-0 Hours).**

Selected individual topics in business on technical computer applications, practicum, field project, or other suitable computer studies. May be repeated for a maximum of 6 semester hours credit. Prerequisites: Approval of instructor and department head.

**BCIS 4090. Special Topics in Computer Information Systems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0-0 Hours).**

An examination of current topics in computer information systems. Readings required from current computer information systems publications and other related periodicals. May be repeated for credit when topics vary. Prerequisite: 9 hours in BCIS.

**BCIS 4301. Database Theory and Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Database concepts and structures. File and data management principles underlying database construction. Fundamental types of database models, with emphasis on relational databases as well as on major non-relational forms. Practice in analysis, design, development, and optimization of working database applications on a variety of problems. Small and large system databases will be considered. Prerequisite: BCIS 3332 or BCIS 3333 or approval of department head.

**BCIS 4308. Advanced Programming Language. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Develops the programming proficiency in a modern programming language. Students complete many programming assignments to achieve necessary knowledge and skills. May be repeated as topics vary. Prerequisite: Approval of instructor or department head.

**BCIS 4315. Interactive and Applied Multimedia. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An exploration of multimedia tools and their relationships to various disciplines of study. A review of the principles of multimedia and the effective uses of multimedia will be conducted. The production and design of multimedia systems will culminate the course of study.

**BCIS 4320. Computer Forensics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine the principles and practice of conducting computer forensics investigations for both criminal and business application. Students will apply investigative methods to properly conduct a computer forensics investigation beginning with a discussion of ethics. Students will examine and use various technologies, software and procedures applicable to forensic investigation. The course will also cover the legal responsibilities and key evidentiary procedures necessary to conduct the computer forensics process. Students should have a working knowledge of hardware and operating systems to maximize their success on projects and exercises in this course. Prerequisite: Junior Standing or the approval of the instructor or department head.

**BCIS 4342. Ethical Hacking & Network Defense. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduces intrusion security testing as a method for improving network defense to computer users with a solid grounding in computer and networking basics. Students will learn how to identify network security vulnerabilities by employing the techniques and software normally used by hackers to compromise networks. Students will then learn the process of determining the best practices in how to secure those vulnerabilities. Topics will include the mission and limitations of security and penetration testers along with the legal ramifications and restrictions involved. Students will be study the various methods of hackers, operating systems threats for Windows and UNIX based systems, cryptography, and modern network protection systems. Prerequisite: Junior standing or approval of instructor or department head.

**BCIS 4343. Advanced Systems Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course concentrates on advanced systems analysis concepts with an emphasis in data and process decomposition and modeling. CASE tools support both the models and the interaction analysis of processes and data. The enterprise-wide view of system analysis stresses the theory behind and the generation of normalized relational database tables. Course includes material on user-centered requirements gathering and analysis. Prerequisites: BCIS 3389, and 4301 or approval of department head.

**BCIS 4344. Advanced System Design and Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This capstone course places a strong emphasis on combining the best practices of system design, including the professional, interpersonal, and technical skills required to analyze, propose, develop, and build modern large-scale business information software systems. The student will apply information engineering principles and theory to the design and development of a complex interactive system using software engineering and data management tools. This approach will involve all the stages of the full system development life cycle, through construction and implementation. This course serves to integrate the skills of the senior CIS student. Prerequisite: BCIS 4343 or approval of the instructor or department head.

**BCIS 4345. Network and Systems Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies the issues of Network and Systems Security as a continuous process involving analysis, implementation, evaluation and maintenance. Topics will include addressing computer-related risks, case analysis, and future trends. The course will provide approaches, techniques, and best practices for securing modern electronic data systems. Areas covered include electronic information and message security, database and file integrity, physical security, security management, security risk analysis, and encryption. Prerequisite: BCIS 3347 or approval of department head.

**BCIS 4347. Advanced Database Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies the theory and practice in the analysis, design, development, implementation, and optimization of working database applications on a variety of problems focusing on topics such as database administration. Prerequisite: BCIS 4301 or approval of instructor or department head.

**BCIS 4350. Management Information Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course investigates management issues related to business information systems designed to meet the informational needs of the various business subsystems. The concepts of systems development, security, privacy and ethics associated with information systems are stressed. Prerequisite: BCIS 1305 or department head approval.

**BCIS 4352. Structured Query Language. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of SQL, including relational database schema in SQL, formulating SQL queries and sub queries of varying complexity, embedding SQL statements in a host language, defining and querying data views in SQL, and other related topics. Prerequisite: BCIS 4301 or approval of instructor or department head.

**BCIS 4355. Global Information Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the international issues surrounding the planning, implementation, and management of global information systems. Topics covered include development and planning of offshoring programs, cultural aspects of information systems development and deployment and legal issues of global information systems. Prerequisite: Junior Standing.

**BCIS 4359. Strategic Application of Information Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A capstone course exploring the strategic alignment between business and information systems, the integration of information systems and other business functions to solve problems and facilitate decision making. Using case studies extensively, this course is designed to be taken by seniors during their last semester so they may demonstrate their ability to synthesize what they have learned over their course of study. Prerequisites: BCIS 3333 (or BCIS 3332), BCIS 3347, BCIS 3389, BCIS 4301, and BCIS 4350 or approval of department head.

**BCIS 4376. Network Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Studies communications architectures, protocols, and interfaces as they relate to network operating systems. Topics will include communications networking techniques such as circuit switching, packet switching, broadcast networking and internetworking. Also included will be installation, configuration, client handling, basic security, and troubleshooting of a network operating system. A modern network operating system will be used to provide extensive hands-on experience in configuring and administrating a network. Prerequisite: BCIS 3347 or approval of instructor or department head Lab fee: \$2.

**BCIS 4378. Comprehensive Networking. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

A comprehensive course requiring the student to plan, analyze, design, install, and configure a working computer network. Application exercises include the installation and configuration of a network operating system, the creation of required user interfaces, establishing network security, and establishing print services for a network. A modern network operating system will be used for extensive hands-on computer exercises to practice and demonstrate network skills. Prerequisite: BCIS 3347 or approval of instructor or department head Lab fee: \$2.

**BCIS 4379. The Technology of E-Business. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the linkage of organizational strategy and electronic methods of delivering products, services and exchanges in inter-organizational, national, and global environments. Information technology strategy and technological solutions for enabling effective business processes within and between organizations in a global environment are considered.

**BCIS 4385. Professional Development Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Professional-level enrichment for CIS majors with activities which may include participation in professional organizations, current events, research and presentations, job market analysis, interviewing and resume preparation. Prerequisite: 24 hours of BCIS/CIS courses or approval of department head.

**Marketing Courses****MKTG 2314. Marketing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examination of the principles and concepts of marketing goods, services, and intangibles by profit and non-profit organizations in a free enterprise and global economy.

**MKTG 3312. Marketing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examination of the principles and concepts of marketing goods, services, and intangibles by profit and non-profit organizations in a free enterprise and global economy.

**MKTG 3315. Personal Selling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the role and function of personal selling as a part of the marketing mix. Techniques in identifying and locating prospective customers, approaching the prospect, presentation, and demonstrations of products and services, closing the sale, and servicing customer accounts are covered in theory and practice. Prerequisite: MKTG 2314 or MKTG 3312.

**MKTG 3316. Consumer Behavior. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Acquaints students with individual and group behavior of people performing in consumer role. Considers such topics as buying motives, social class, and research techniques in consumer behavior. Prerequisite: MKTG 2314 or MKTG 3312.

**MKTG 3317. Retailing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Fundamental operations of retailing, studying of buying practices, pricing, store locations and layout, sales promotions, personnel management, and stock control. Designed to aid the student seeking a general knowledge of the retail field as well as those specializing in Marketing. Prerequisite: MKTG 2314 or MKTG 3312.

**MKTG 3318. Promotional Strategy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of a controlled, integrated program of promotional variables. Designed to present a company and its products to prospective customers; to promote need-satisfying attributes of products toward the end of facilitating sales and long-run performance. Prerequisite: MKTG 2314 or MKTG 3312.

**MKTG 4084. Internship. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-20 Hours).**

Preapproved and supervised work experience in a marketing related position with a public or private business organization. May be repeated for a total of 6 hours credit. Prerequisite: Either MKTG 2314 or MKTG 3312, and approval of Department Head.

**MKTG 4086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A directed study of selected problems in marketing. May be repeated with approval of the department head. Prerequisites: Approval of instructor and Department Head.

**MKTG 4090. Special Topics in Marketing. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

An examination of current topics in marketing. Readings required from current marketing publications and other related periodicals. May be repeated for credit when topics vary. Prerequisite: 9 hours of MKTG.

**MKTG 4302. Services Marketing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduce the student to the service environment. An in-depth analysis of the most successful service-oriented industries and firms within the world's fastest-growing economic sector will be presented. Prerequisite: MKTG 2314 or MKTG 3312.

**MKTG 4312. Sales Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Administration of an effective sales force, including strategy, planning, recruiting, training, motivating, coordinating, leading, and directing sales forces at all levels of marketing enterprises. Prerequisites: Either MKTG 2314 or MKTG 3312, and MKTG 3315.

**MKTG 4314. Supply Chain and Logistics Concepts. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explore key business concepts, issues and decisions required for the organization and management of supply chains within the global marketplace. Supply Chain Management involves planning and coordinating the value-added activities and flow of materials, finished goods and information. Supply chain organizations participate in the product fulfillment process so that products are distributed to customers in the right quantity, time, and at the lowest cost subject to customer expectation and other service requirements. Prerequisite: MKTG 2314 or MKTG 3312.

**MKTG 4315. Marketing Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Familiarizes students with the accurate, objective, and systematic gathering, recording, and analyzing of data about problems relating to marketing goods and services. Prerequisites: Either MKTG 2314 or MKTG 3312, and either BUSI 2311 or BUSI 3311.

**MKTG 4316. Marketing Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The application of strategic planning and management of all functional aspects of the marketing operation of an enterprise using comprehensive analytical methods and an integrated marketing mix. Prerequisites: Either MKTG 2314 or MKTG 3312, and 6 hours of upper level MKTG.

**MKTG 4354. International Marketing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A global approach to the study of comparative marketing systems, including economic, social, technological, governmental, and political environments as they affect international marketing operations. Prerequisite: MKTG 2314 or MKTG 3312.

**MKTG 4385. Seminar in Marketing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of selected topics dealing with problems or unique needs of Marketing. May be repeated for credit as topics vary. Prerequisite: Approval from instructor & department head.

**MKTG 4389. Global Marketing Practices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of basic international business concepts, cultural literacy, and discipline specific content are then applied to practical experiences and activities in the foreign country visited. A study abroad at the student's expense is required. Student may complete a maximum of six hours of COBA sponsored study abroad toward degree completion. Field assignment fee of \$50. Prerequisites: Either MKTG 2314 or MKTG 3312, or approval of instructor and department head.

**College of Education and Human Development**

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The College of Education and Human Development includes the Department of Curriculum and Instruction, the Department of Educational Leadership and Technology, the Department of Psychological Sciences, and the School of Kinesiology, which houses the Department of Health and Human Performance and the Department of Sport Science. The mission of the College of Education and Human Development is to provide students in kinesiology, professional education, and other behavioral sciences with a quality education through academic, cultural, and leadership experiences, and to provide leadership through scholarship and service to the community and professions. Programs in the College of Education and Human Development prepare students for challenging, gratifying, and socially significant careers.

Degree programs offered include the Bachelor of Applied Arts and Sciences in Child Development and Family Studies, Bachelor of Applied Arts and Sciences in Kinesiology, Bachelor of Science in Child Development and Family Studies, Bachelor of Science in Kinesiology, Bachelor of Science in Elementary Teacher Education, Bachelor of Science in Secondary Education, Bachelor of Science in Psychology, Bachelor of Science in Sports Management, the Master of Education degree with majors in Curriculum and Instruction, Educational Administration, and Kinesiology, a Master of Science in Kinesiology, a Master of Science in Applied Psychology, a Master of Science in Child and Family Studies, and a Doctorate of Education in Educational Leadership. Several teaching supplemental and professional certificates are also offered in conjunction with different academic departments.

\* The following graduate degree programs are being phased-out by the University, and no new admissions will be allowed: Master of Science with a major in Counseling Psychology, Master of Education in Kinesiology, and a Master of Education in Professional School Counseling.

## Teacher Education Program

Teacher Education (Interdisciplinary Studies/Elementary Teacher Education, Secondary Education), one of the major programs at Tarleton State University, emphasizes broad general education as a foundation for mastery of teaching skills and specialized knowledge in an academic discipline. The primary purpose of teacher education is to prepare highly qualified teachers for Texas and the nation. The goal of Tarleton State University's Teacher Education Program is to develop teachers who:

1. possess appropriate knowledge and abilities in specific content areas or teaching fields;
2. communicate effectively with students, parents, and other professionals;
3. apply the principles of instructional planning in the development of curriculum;
4. use effective teaching practices;
5. formally and informally evaluate student performance and use results of such assessment in the instructional decision-making process;
6. promote critical thinking and participatory citizenship;
7. are skilled in the use of instructional technology;
8. are proficient in mathematical skills;
9. operate within the legal guidelines and uphold the ethics of the teaching profession;
10. demonstrate concern for students' general welfare; and
11. are committed to continued professional growth and development.

Tarleton State University's Title II Institutional Report may be accessed at <http://www.tarleton.edu/eps/testing/documents/teacher-education-online-report-card.pdf>

## Admission to the Teacher Education Program <sup>1</sup>

[www.tarleton.edu/EPS/TEP/](http://www.tarleton.edu/EPS/TEP/) (<http://www.tarleton.edu/EPS/TEP/>)

### Secondary and All-Level Certification

1. Formal application for admission to the Teacher Education Program should be made by the student during the first semester of the junior year while enrolled in [EDUC 3321 Foundations of Teaching: Middle and Secondary Classrooms](#). Application deadlines are October 15 for the fall semester, February 15 for the spring semester, and July 1 for the summer. Formal admission to this program shall be a prerequisite to taking any professional development courses beyond [EDUC 3321 Foundations of Teaching: Middle and Secondary Classrooms](#). Applications are submitted to Educator Preparation Services, Suite 101, Mathematics Building, or online. Follow instructions found in the application. Applications can be found at <http://www.tarleton.edu/eps/tep/apply-now.html>.
2. The following criteria must be met for admission to the Teacher Education Program:
  - a. Minimum GPA of 2.75 (on a 4.00 scale) on all courses in the following areas: professional development/education and certification field(s);
  - b. Minimum GPA of 2.75 on all courses listed on the secondary certificate plan;

- c. Minimum GPA of 2.75 overall on the transcript or on last 60 hours by the end of application semester. Last 60 hours is calculated using full semesters so hours total may be more than 60.
  - d. No grade lower than a C in professional education course work block;
  - e. No grade lower than a C in certification field(s) block(s);
  - f. Satisfaction of basic skills as determined by admission requirements to Tarleton State University;
  - g. Completion of [EDUC 3321](#) Foundations of Teaching: Middle and Secondary Classrooms and [PSYC 2308](#) Child & Adolescent Psychology, [PSYC 3303](#) Educational Psychology or [CHFS 3300](#) Child Development with a grade of C or better;
  - h. Completion of 9 hours of required English with a grade of C or better in each course;
  - i. Completion of 12 hours in certificate area (15 hours if Math or Science) with a grade of "C" or better and a minimum 2.75 GPA by the end of the application semester;
  - j. Evidence of good moral character and the mental, emotional, and physical ability to function effectively in a classroom;
  - k. Successful completion of a departmental screening instrument;
3. Educator Preparation Program admission and course requirements are developed based on standards developed by the Texas Education Agency (TEA) and the State Board of Educator Certification (SBEC). A student must meet current requirements to obtain certification, which may mean program changes not reflected in the catalog. For the current requirements, see [www.tarleton.edu/eps/tep](http://www.tarleton.edu/eps/tep) (<http://www.tarleton.edu/eps/tep/>).
  4. The applicant will receive email notification from Educator Preparation Services regarding his/her acceptance into the Tarleton Teacher Education Program. The student will have 5 days to either accept or reject the offer of admission into the Teacher Education Program. For the most current admissions requirement, see [www.tarleton.edu/eps/tep](http://www.tarleton.edu/eps/tep) (<http://www.tarleton.edu/eps/tep/>).

<sup>1</sup> Appeals of any admissions requirements must be made in writing to the Director of Teacher Education. Appeals are reviewed by the Educator Preparation Council at the next regular meeting.

**Note:** The State Board for Educator Certification may require disclosure of previous arrest, conviction and/or deferred adjudication and may refuse to issue an educator certificate for a person who has been convicted of a felony or misdemeanor for a moral turpitude crime which relates to the teaching function. Pursuant to §22.082, Texas Education Code, the State Board for Educator Certification may access any criminal history information pertaining to you and held by any law enforcement or criminal justice agency. The State Board for Educator Certification may refuse to confer state certification based on such criminal history information.

Pursuant to §22.083, Texas Education Code, a school district or private school may access any criminal history information pertaining to you and held by any law enforcement or criminal justice agency. A school district or private school may refuse to provide a placement for field experience or employ you based on your criminal history. A school district or private school must report to the State Board for Educator Certification if the school district or private school obtains or has knowledge that an applicant or holder of an educator certificate has a criminal history.

### Elementary Certification (Interdisciplinary Studies/Elementary Teacher Education)

1. Formal application for admission to the Teacher Education Program should be made by the student during the first semester of the junior year while enrolled in [EDUC 3320](#) Foundations of Teaching: Elementary (EC-6) Classrooms. Application deadline dates are October 15 for the fall semester, February 15 for the spring semester, and July 1 for the summer. Formal admission to this program shall be prerequisite to taking any professional development courses beyond [EDUC 3320](#) Foundations of Teaching: Elementary (EC-6) Classrooms. Applications are submitted to Educator Preparation Services, Suite 101, Mathematics Building, or online. Follow instructions found in the application. Applications can be found at <http://www.tarleton.edu/eps/tep/apply-now.html>.
2. The following criteria must be met for admission to the Teacher Education Program as an Elementary Education / Interdisciplinary Studies major:
  - a. Minimum GPA of 2.75 on all courses in the following areas: professional development/education, content block, and reading block;
  - b. Minimum GPA of 2.75 on all courses listed on the certification plan;
  - c. Minimum GPA of 2.75 overall on the transcript or on last 60 hours by the end of application semester. Last 60 hours is calculated using full semesters so hours total may be more than 60;
  - d. No grade lower than a C in professional education course work block; content block, or reading block;
  - e. Satisfaction of basic skills as determined by admission requirements to Tarleton State University;
  - f. Completion of [EDUC 3320](#) Foundations of Teaching: Elementary (EC-6) Classrooms, and [PSYC 2308](#) Child & Adolescent Psychology, [PSYC 3303](#) Educational Psychology or [CHFS 3300](#) Child Development with a grade of C or better;
  - g. Completion of 9 hours of required English with a grade of C or better in each course;
  - h. Completion of 12 hours in certificate area (15 hours if Math or Science) with a grade of "C" or better and a minimum 2.75 GPA by the end of the application semester;
  - i. Successful completion of a departmental screening instrument;
  - j. Completion of [MATH 1314](#) College Algebra or higher with a "C" or better (a departmental requirement for course prerequisites);
  - k. Evidence of good moral character and the mental, emotional, and physical ability to function effectively in a classroom;
  - l. Compliance with the Texas Educator Code of Ethics; and
3. Educator Preparation Program admission and course requirements are developed based on standards developed by the Texas Education Agency (TEA) and the State Board of Educator Certification (SBEC). A student must meet current requirements to obtain certification, which may mean program changes not reflected in the catalog. For the current requirements, see [www.tarleton.edu/eps/tep](http://www.tarleton.edu/eps/tep) (<http://www.tarleton.edu/eps/tep/>).
4. The applicant will receive email notification from Educator Preparation Services regarding his/her acceptance into the Tarleton Teacher Education Program. The student will have 5 days to either accept or reject the offer of admission into the Teacher Education Program. For the most current admissions requirement, see [www.tarleton.edu/eps/tep](http://www.tarleton.edu/eps/tep) (<http://www.tarleton.edu/eps/tep/>).

#### Recommendation for Admission to Teacher Education:

Only those applicants who are selected by the Elementary Education / Interdisciplinary Studies Admissions Committee and have maintained the above academic standards will be recommended for admission to the Tarleton Teacher Education Program. At the beginning of the semester following selection, the Tarleton Educator Preparation Council members will vote on those candidates recommended for admission to the Program. Should limitations on resources require restrictions to be placed on the number of students admitted in a given semester or year, the Educator Preparation Council will admit students based on a total score which is an aggregate of all the above criteria. Students not admitted must reapply.

### Retention in the Teacher Education Program

Retention in the Teacher Education Program requires maintenance of standards required for admission, plus evidence of satisfactory academic progress and professional development. If the above-stated criteria for admission and retention are not maintained, a student will receive written notification from the Certification Officer, and he/she will be placed on probation for one long semester. If the deficiency is not corrected by the end of the probationary period, the student will be removed from the program and must reapply for admission to the Teacher Education Program to be eligible for enrollment in additional professional education courses. A student must be in good standing to clinical teach.

Tarleton State University reserves the right to monitor a student's professional ethics according to those standards specified in the Code of Ethics and Standard Practices for Texas Educators (adopted by the Teachers' Professional Practice Commission, revised December 2010) as it relates to the performance of his or her

role as a clinical teacher, in a field-based activity in the elementary or secondary schools, or in a university classroom. Appropriate disciplinary action, which may include removal from the Teacher Education Program, may be instituted for violations of ethical conduct or professionalism.

## Admission to Clinical Teaching

[www.tarleton.edu/eps/field](http://www.tarleton.edu/eps/field) (<http://www.tarleton.edu/eps/field/>)

Prior to admission to clinical teaching, students must be admitted to the Tarleton Teacher Education Program (see "Admission to the Teacher Education Program" in this section of the catalog). Students are urged to study requirements for admission and retention in the program. Application for clinical teaching must be submitted to Educator Preparation Services no later than September 30 of the fall semester or February 3 of the spring semester prior to the corresponding fall or spring semester in which the student expects to clinical teach. (i.e. Application for clinical teaching must be submitted one year before the semester in which the student expects to clinical teach.)

Candidates for certification who do not satisfactorily complete clinical teaching are automatically dropped from the Teacher Education Program. In order to regain eligibility for clinical teaching and be recommended for certification, a candidate must reapply and be admitted to the Teacher Education Program.

To be admitted to clinical teaching, all admission requirements to the Tarleton Teacher Education Program must be maintained. Moreover, the following requirements must be completed:

### Before being admitted to Clinical Teaching, each candidate must meet the following requirements:

1. Senior classification and prior admission to the Teacher Education Program;
2. All Teacher Education Admission/Retention requirements must be met;
3. Any Teacher Education Program probation must have been rectified and the student returned to good standing;
4. Formal approval of the Tarleton Educator Preparation Council;
5. Removal of all incomplete grades prior to the clinical teaching orientation;
6. All testing requirements completed (vary by semester and certification area)

### In addition, each clinical teacher must meet specific program requirements found below:

#### Elementary Teacher Education/Interdisciplinary Studies majors:

ALL coursework required for degree, with the exception of EDUC 4335 and EDUC 4690, must be completed prior to clinical teaching. Any exception to this requirement will require Department Head approval. (Starts Spring 2021) Year-long residents will follow departmental protocols.

#### Secondary and All Level Certifications:

At least 75% of the hours in each certification field (right-hand side of certificate plan) must be completed prior to clinical teaching; however, it is highly advisable that candidates complete all degree requirements, with the exception of EDUC 4335 and EDUC 4690, prior to clinical teaching.

#### Placement of Clinical Teachers

Educator Preparation Services (EPS) governs the placement of clinical teachers. Clinical teaching must be accomplished under supervision of Tarleton State University in a school approved by EPS.

## Obtaining a Teaching Certificate

The Certification Officer must verify the following before a student will be recommended for certification online:

1. Degree earned;
2. Passing scores on all TExES tests required for initial certification;
3. Completion of all course work on certification plan;
4. Written documentation and advisor approval for course substitutions; and
5. All Teacher Education Program requirements continue to be met.

To apply online, please follow the instructions found at <https://www.tarleton.edu/eps/certifications/tep.html>

## Testing for Certification

[www.tarleton.edu/eps/testing](http://www.tarleton.edu/eps/testing) (<http://www.tarleton.edu/eps/testing/>)

In addition to degree requirements, teacher education candidates must attain passing scores on the Texas Examination of Educator Standards (TExES) which are required by the state for teacher certification. Because Tarleton State University must verify eligibility for the TExES, candidates should consult with their academic advisor, Department Head, Program Director, or the Coordinator for Certification Testing and Program Accountability to determine when they are eligible to begin testing. Detailed information will be provided in designated education courses required for all candidates.

Beginning September 1st, 2019, all new candidates admitted to the Teacher Education Program and those clinical teaching Spring 2021 and beyond, will be required to pass ALL TExES exams (including PPR, Content(s) and any Supplementals - ESL/Bilingual Education/BTLPT - and Science of Teaching Reading for candidates seeking EC-6 and some 4-8 certifications) related to the certification area(s) being sought. Passing scores results must be posted to the testing system by August 1st for fall semester clinical teachers and December 15th for spring semester clinical teachers. Candidates should keep in mind that score report availability typically ranges from 3-5 days from the exam date, but can also take considerably longer depending on the individual exam. It is important to plan accordingly and check each and every exam posting date at the time of registration. Failure to have posted passing scores for all exams by those dates will result in postponement of clinical teaching until a subsequent semester when passing scores have been obtained.

Registration information for the TExES may be obtained by visiting [www.tarleton.edu/eps/testing](http://www.tarleton.edu/eps/testing) (<http://www.tarleton.edu/eps/testing/>), or by contacting the Coordinator for Certification Testing and Program Accountability in Educator Preparation Services, Suite 101, Mathematics Building or by calling 254-968-1908.

## Transfer Students

Tarleton State University welcomes students who transfer credits from other universities or neighboring community colleges. Persons seeking elementary certification will work toward the Bachelor of Science in Elementary Education. Students will be assigned to a specific academic advisor to evaluate transfer credits and plan a course of study. Transfer students should contact the Department of Curriculum and Instruction (E.J. Howell Building Room 320; phone 254-968-9097).

Transfer students working toward secondary and all-level certification will be advised in the academic department of their major. Information about education courses may be obtained in the Department of Curriculum and Instruction (E.J. Howell Building, Room 320; Phone 254-968-9097).

Policies governing the acceptance of transfer course work for credit toward teacher certification include the following:

1. All transfer students are required to submit official transcripts to the University Admissions Office for analysis. The Certification Officer will require official transcripts to develop certification plans for students who already hold a bachelor's degree.
2. Transfer students from other Texas institutions and institutions in other states are expected to meet Tarleton's program requirements for certification.

3. Department Heads reserve the right to accept or decline the use of courses on the certificate plan based on content alignment and currency. Such decisions are based on the background needed to be an effective public school teacher. General Education Requirements (core curriculum courses) do not have an age limitation.
4. Typically, students will not be allowed to transfer more than three hours of professional developmental (education) course work into the program at Tarleton and will be required to meet all institutional requirements for the degree and certification.
5. A minimum of one-third of the semester hours required in each teaching field or areas of emphasis sought must be completed at Tarleton.

Note: Individuals who have a degree and a valid teaching certificate from another state and who seek Texas teacher certification must apply directly to the Texas Education Agency to obtain their credentials.

## Department of Curriculum and Instruction

Dr. Amber Lynn Diaz, Department Head  
Department of Curriculum and Instruction  
E.J. Howell Building, Room 320  
Box T-0290  
Stephenville, Texas 76402  
254-968-0730  
254-968-9947  
adiaz@tarleton.edu  
[www.tarleton.edu/teachered/](http://www.tarleton.edu/teachered/) (<http://www.tarleton.edu/teachered/>)

### Bachelor of Science in Elementary Teacher Education

The Bachelor of Science in Elementary Teacher Education is the degree leading to a variety of teacher certifications. Through this degree students obtain rich content preparation with a strong emphasis in teaching reading and language arts. The Bachelor of Science in Elementary Teacher Education with teacher certification is designed to develop school wide teacher-leaders and educational change agents. The curriculum is grounded in research; educational policy; teaching experiences; theories of teaching and learning; diversity, inclusion, and equity; technology application and digital literacy; effective instruction; and the use of assessment and data to improve education for all. Students in the Department of Curriculum & Instruction are afforded opportunities to collaborate within a professional learning network of diverse educators. The objective is to develop teachers who are reflective, well prepared, effective, and student focused educators ready to become leaders of classrooms in the schools of our state.

All of the teacher certification programs in Curriculum & Instruction include specialized coursework, mentorship, and a myriad of authentic teaching experiences that develop the knowledge, skills, and ethical disposition to effectively meet the current demands of educational careers. Students are allowed opportunities to have authentic field experiences as part of their course work in public schools to increase their understanding of the teaching profession and putting into practice the skills and knowledge they are learning in the college classroom.

### Elementary Certification

The Bachelor of Science in Elementary Teacher Education will help students master teaching skills and specialized knowledge in an academic discipline. All degrees offer Texas Teacher Certification to allow students to teach at the primary levels listed below. Undergraduate students who are seeking initial teacher certification through the Tarleton Teacher Education Program experience a highly structured program from the time they start their application until they complete all field-based experiences, testing, and recommendation for certification.

Application for admission to the Tarleton Teacher Education Program must be made during the junior year while enrolled in EDUC 3320 Foundations of Teaching: Elementary (EC-6) Classrooms/Foundations of Teaching: Elementary (EC-6) Classrooms. Requirements for admission, retention, and admission to student teaching are described in the College of Education section of this catalog. Prior to enrolling in any teacher education course work, students must complete a minimum of 60 hours of coursework, excluding developmental courses.

### Secondary and All-Level Certification

The Department of Curriculum & Instruction also collaborates with other disciplines to provide the necessary coursework and training to obtain Texas Teacher certification at the Secondary level. Students working toward secondary and all-level certification will pursue a Bachelor of Arts or Bachelor of Science degree with a major and minor, if applicable, in academic disciplines. Students will also take professional education courses to meet certification requirements. While not offering a major in secondary education, the Department of Curriculum & Instruction does offer the professional development courses required to obtain secondary and all-level certification.

Students obtain academic advisement for secondary and all-level certification programs in the department of their major. Application for admission to the Tarleton Teacher Education Program must be made during the junior year while enrolled in EDUC 3320. Requirements for admission, retention, and admission to student teaching are described in the College of Education section of this catalog. Prior to enrolling in any teacher education course work, students must complete a minimum of 60 hours of coursework excluding developmental courses.

### Alternative Certification

The Tarleton Model for Accelerated Teacher Education (TMATE) is an alternative teacher certification program offered in Fort Worth. Its purpose is to prepare highly qualified individuals to serve as public school teachers in Texas. TMATE is a collaborative teacher education program between Tarleton State University and public school districts in the Tarleton service area.

TMATE is an alternative certification program designed for persons who have already completed a baccalaureate degree and who have a record of exemplary academic achievement and/or work experience. Certification is earned through a combination of intensive summer course work coupled with a paid, year-long internship in a teaching position with a public school. The internship is jointly sponsored and supervised by Tarleton State University and the participating school district. Interns develop professional teaching skills and values through the combination of University classes and practical classroom experience.

Through TMATE, teaching certificates may be earned in the following certification areas: Early Childhood – Grade 6; Middle School (grades 4 – 8); and High School (grades 8 – 12); ESL and Bilingual. All-level certifications are available in Generic Special Education, Physical Education, Art, and Music.

### TMATE Entry Requirements

TMATE applicants must present a bachelor's degree from a regionally accredited institution with an overall GPA of at least 2.75 in the area of certification. Applicants must meet the requirements for Graduate School and are eligible to apply their TMATE coursework toward a Master of Education degree in Curriculum and Instruction.

Applicants will be evaluated to determine an appropriate level of oral language proficiency and critical thinking ability. Additional evaluation procedures include a structured oral interview, formal writing sample, work evaluations from previous employment, performance on a standardized test of critical thinking, and additional evaluations prescribed by TMATE admission policies.

Concurrent to applying for admission to TMATE, applicants must also apply for a teaching position with a school district within a 125-mile radius of Fort Worth and Stephenville. Thus, applicants are subjected to a dual screening process: one conducted by the University and the other by the school district.



A full description of the TMATE program is provided on the website, [www.tarleton.edu/tmate](http://www.tarleton.edu/tmate) (<http://www.tarleton.edu/tmate/>). Applicants may also contact the TMATE office:

Dr. Laura Estes  
TMATE Director  
10850 Texan Rider Drive  
Fort Worth, TX 76036  
[estes@tarleton.edu](mailto:estes@tarleton.edu) ([rford@tarleton.edu](mailto:rford@tarleton.edu))

## Elementary Teacher Education

The Bachelor of Science Degree in Elementary Teacher Education leads to teacher certification at the Early Childhood through Grade 6 and the Middle School Grades 4 through 8 levels. Standards developed by the State Board of Educator Certification (SBEC), the Texas Education Agency, and the Texas Higher Education Coordinating Board provide the framework for Early Childhood through Grade 6 Generalist and Middle School Grades 4 through 8 Generalist and in Math, Science, Language Arts/Social Studies, and Math/Science certification programs as well as All Level Special Education that have been approved at Tarleton State University.

The typical curriculum for the Bachelor of Science Degree in Elementary Teacher Education requires (1) a minimum of 120 semester hours and (2) a minimum of 45 semester hours of advanced credit (3000 level or above).

## Bachelor of Science Degree in Elementary Teacher Education

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>		43
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
Select one of the following [shared]:		
COMM 1311	Introduction to Speech Communication	
COMM 1315	Public Speaking	
COMM 2302	Business and Professional Speaking	
ENGL Sophomore literature [shared]		
HUMA 1315 [shared]	Fine Arts Appreciation	
Select one of the following:		3
CHFS 3300	Child Development: Theory, Research, and Practice	
PSYC 2308	Child Psychology	
PSYC 3303	Educational Psychology	
CHEM 1302 [shared]	Essential Elements of Chemistry	
PHYS 1302 [shared]	Essential Elements of Physics	
EASC 2310 [shared]	Earth Systems Science	
MATH 1314 [shared]	College Algebra	
Select one of the following:		3
EDUC 1301	Introduction to the Teaching Profession	
TECA 1311	Introduction to Early Childhood Development	
Select one of the following:		3
READ 3356 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Content Area Literacy for Interdisciplinary Studies	
READ 3351 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Content Area Literacy (for Middle School Math/Science Only)	
READ 3311	Literacy for the Early Years	3
EDUC 4335	Issues of Professionalism	3
EDUC 4690	Clinical Teaching	6
Total Hours		64

### Additional Required Courses for Concentrations

#### EC-6 Core Subjects with Bilingual Supplemental

MATH 3303	Concepts of Elementary Mathematics I	3
MATH 3305	Concepts of Elementary Mathematics II	3
MATH 4305	Concepts of Elementary Mathematics III	3
BIOL 2310	Essential Elements of Biology	3
EDUC 2330	Diversity and Culturally Responsive Teaching for the Early Grades	3
Select one of the following [shared]:		
ECON 1301	Introduction To Economics	
ECON 2301	Principles of Macroeconomics	
GEOG 1303	World Regional Geography	
EDUC 2301	Introduction to Special Populations	3
KINE 3352	Principles of Health and Fitness for Children	3
EDSP 4363	Teaching Learners with Learning Disabilities	3
EDUC 3315	Literacy Instruction for Bilingual Classrooms	3
EDUC 4305	Content Area Instruction in Bilingual Classrooms	3

EDUC 3310	Foundations of Bilingual and English as a Second Language Education	3
READ 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Reading and Writing Across the Curriculum	3
EDUC 3320 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Elementary (EC-6) Classrooms	3
EDUC 3385	Science Teaching Implementation	3
EDUC 3395	Social Studies Teaching Implementation	3
EDUC 3331	Methodology Field Implementation	3
EDUC 3304	Early Childhood Curriculum, Instruction and Environments	3
READ 3321	Early Childhood Literacy Field Implementation	3
READ 4384 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Literacy and Reading Problems Assessment for the Middle Years	3
READ 4331	Assessment Field Implementation	3
Total Hours		60

### EC-6 Core Subjects with ESL Supplemental

MATH 3303	Concepts of Elementary Mathematics I	3
MATH 3305	Concepts of Elementary Mathematics II	3
MATH 4305	Concepts of Elementary Mathematics III	3
BIOL 2310	Essential Elements of Biology	3
EDUC 2330	Diversity and Culturally Responsive Teaching for the Early Grades	3
Select one of the following [shared]:		
ECON 1301	Introduction To Economics	
ECON 2301	Principles of Macroeconomics	
GEOG 1303	World Regional Geography	
EDUC 2301	Introduction to Special Populations	3
KINE 3352	Principles of Health and Fitness for Children	3
EDSP 4363	Teaching Learners with Learning Disabilities	3
SPAN 1303	Basic Spanish for Vocations	3
READ 3321	Early Childhood Literacy Field Implementation	3
READ 4384 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Literacy and Reading Problems Assessment for the Middle Years	3
EDUC 3310	Foundations of Bilingual and English as a Second Language Education	3
READ 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Reading and Writing Across the Curriculum	3
READ 4331	Assessment Field Implementation	3
EDUC 3320 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Elementary (EC-6) Classrooms	3
EDUC 3385	Science Teaching Implementation	3
EDUC 3395	Social Studies Teaching Implementation	3
EDUC 3304	Early Childhood Curriculum, Instruction and Environments	3
EDUC 3331	Methodology Field Implementation	3
Total Hours		57

### 4-8 Core Subjects with ESL Supplemental

BIOL 1406	Biology for Science Majors	4
BIOL 1407	Biology for Science Majors II	4
GEOL 1407	Introduction to Environmental Science	4
BIOL 2310	Essential Elements of Biology	3
MATH 1316	Plane Trigonometry	3-4
or MATH 2412	Precalculus Math	
MATH 1342	Elementary Statistical Methods	3
MATH 2413	Calculus I	4
MATH 3302	Principles of Geometry	3
MATH 3303	Concepts of Elementary Mathematics I	3
MATH 3305	Concepts of Elementary Mathematics II	3
ECON 1301 [shared]	Introduction To Economics	
or ECON 2301	Principles of Macroeconomics	
GEOG 1303	World Regional Geography	3
EDUC 2301	Introduction to Special Populations	3
EDSP 4363	Teaching Learners with Learning Disabilities	3
EDUC 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Middle and Secondary Classrooms	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3

READ 3321	Early Childhood Literacy Field Implementation	3
READ 4384 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Literacy and Reading Problems Assessment for the Middle Years	3
EDUC 3310	Foundations of Bilingual and English as a Second Language Education	3
READ 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Reading and Writing Across the Curriculum	3
READ 4331 or EDUC 3331	Assessment Field Implementation Methodology Field Implementation	3

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Total Hours 65

#### 4-8 Math with ESL Supplemental

MATH 1316	Plane Trigonometry	3
MATH 2413	Calculus I	4
MATH 1342 or MATH 3450	Elementary Statistical Methods Principles of Bio-Statistics	3-4
MATH 3302	Principles of Geometry	3
MATH 3303	Concepts of Elementary Mathematics I	3
MATH 3305	Concepts of Elementary Mathematics II	3
MATH 4304	Survey of Mathematical Ideas I	3
MATH 4305	Concepts of Elementary Mathematics III	3
EDUC 2301	Introduction to Special Populations	3
BIOL 2310	Essential Elements of Biology	3
EDSP 4363	Teaching Learners with Learning Disabilities	3
READ 3321	Early Childhood Literacy Field Implementation	3
READ 4384 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Literacy and Reading Problems Assessment for the Middle Years	3
EDUC 3310	Foundations of Bilingual and English as a Second Language Education	3
READ 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Reading and Writing Across the Curriculum	3
READ 4331 or EDUC 3331	Assessment Field Implementation Methodology Field Implementation	3
EDUC 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Middle and Secondary Classrooms	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3

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Total Hours 56

#### 4-8 Science with ESL Supplemental

BIOL 1406	Biology for Science Majors	4
BIOL 1407	Biology for Science Majors II	4
GEOL 1407	Introduction to Environmental Science	4
BIOL 2310	Essential Elements of Biology	3
BIOL 4401	Ecology	4
MATH 3303	Concepts of Elementary Mathematics I	3
MATH 3305	Concepts of Elementary Mathematics II	3
MATH 4305	Concepts of Elementary Mathematics III	3
EDUC 2301	Introduction to Special Populations	3
EDSP 4363	Teaching Learners with Learning Disabilities	3
EDUC 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Middle and Secondary Classrooms	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
EDUC 3385	Science Teaching Implementation	3
READ 3321	Early Childhood Literacy Field Implementation	3
READ 4384 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Literacy and Reading Problems Assessment for the Middle Years	3
EDUC 3310	Foundations of Bilingual and English as a Second Language Education	3
READ 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Reading and Writing Across the Curriculum	3
READ 4331 or EDUC 3331	Assessment Field Implementation Methodology Field Implementation	3

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Total Hours 58

**4-8 Math and Science**

MATH 2412 or MATH 1316	Precalculus Math Plane Trigonometry	3-4
MATH 1342	Elementary Statistical Methods	3
MATH 3302	Principles of Geometry	3
MATH 3303	Concepts of Elementary Mathematics I	3
MATH 3305	Concepts of Elementary Mathematics II	3
MATH 4304 or MATH 4305	Survey of Mathematical Ideas I Concepts of Elementary Mathematics III	3
MATH 2413	Calculus I	4
BIOL 1406	Biology for Science Majors	4
BIOL 1407	Biology for Science Majors II	4
GEOL 1407	Introduction to Environmental Science	4
BIOL 4401	Ecology	4
EDUC 2301	Introduction to Special Populations	3
EDSP 4363	Teaching Learners with Learning Disabilities	3
EDUC 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Middle and Secondary Classrooms	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
EDUC 3385	Science Teaching Implementation	3
READ 3321	Early Childhood Literacy Field Implementation	3
READ 4331 or EDUC 3331	Assessment Field Implementation Methodology Field Implementation	3
Total Hours		60

**4-8 English, Language Arts, Reading, and Social Studies with ESL**

ENGL 3320	Advanced Grammar	3
Advanced ENGL (3000 or 4000 Level)		6
COMM 1342	Voice & Diction	3
ECON 1301 [shared] or ECON 2301	Introduction To Economics Principles of Macroeconomics	3
GEOG 1303	World Regional Geography	3
HIST 2321 or HIST 2322	World Civilizations I World Civilizations II	3
BIOL 2310	Essential Elements of Biology	3
EDUC 2301	Introduction to Special Populations	3
EDSP 4363	Teaching Learners with Learning Disabilities	3
MATH 3303	Concepts of Elementary Mathematics I	3
MATH 3305	Concepts of Elementary Mathematics II	3
EDUC 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Middle and Secondary Classrooms	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
EDUC 3395	Social Studies Teaching Implementation	3
READ 3321	Early Childhood Literacy Field Implementation	3
EDUC 3310	Foundations of Bilingual and English as a Second Language Education	3
READ 4384 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Literacy and Reading Problems Assessment for the Middle Years	3
READ 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Reading and Writing Across the Curriculum	3
READ 4331 or EDUC 3331	Assessment Field Implementation Methodology Field Implementation	3
Total Hours		57

**All Level Special Education EC-6 Generalist with ESL**

Select one of the following [shared]:

ECON 1301	Introduction To Economics	
ECON 2301	Principles of Macroeconomics	
GEOG 1303	World Regional Geography	
EDUC 2301	Introduction to Special Populations	3
EDSP 4363	Teaching Learners with Learning Disabilities	3
EDSP 2362	Special Education Rules and Regulations for Teachers	3
EDSP 4364	Teaching Learners with Developmental Disabilities	3
EDSP 4365	Behavior Management for Exceptional Learners	3
MATH 3303	Concepts of Elementary Mathematics I	3

READ 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Reading and Writing Across the Curriculum	3
MATH 3305	Concepts of Elementary Mathematics II	3
BIOL 2310	Essential Elements of Biology	3
READ 3321	Early Childhood Literacy Field Implementation	3
KINE 3352 or KINE 3380	Principles of Health and Fitness for Children Adapted Physical Activity	3
READ 4384 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Literacy and Reading Problems Assessment for the Middle Years	3
EDUC 3310	Foundations of Bilingual and English as a Second Language Education	3
READ 4331	Assessment Field Implementation	3
EDUC 3320 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Elementary (EC-6) Classrooms	3
EDUC 3385	Science Teaching Implementation	3
EDUC 3304	Early Childhood Curriculum, Instruction and Environments	3
EDUC 3331	Methodology Field Implementation	3
EDUC 3395	Social Studies Teaching Implementation	3
Total Hours		57

#### 4-8 English, Language Arts Reading with ESL

ENGL 3320	Advanced Grammar	3
Advanced ENGL (3000 or 4000 Level)		6
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	3
ENGL 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Editing	3
COMM 1342	Voice & Diction	3
BIOL 2310	Essential Elements of Biology	3
ECON 1301 or ECON 2301	Introduction To Economics Principles of Macroeconomics	3
GEOG 1303	World Regional Geography	3
SPAN 1303	Basic Spanish for Vocations	3
Sophomore Literature		3
EDUC 2301	Introduction to Special Populations	3
EDSP 4363	Teaching Learners with Learning Disabilities	3
READ 3321	Early Childhood Literacy Field Implementation	3
EDUC 3310	Foundations of Bilingual and English as a Second Language Education	3
READ 4384 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Literacy and Reading Problems Assessment for the Middle Years	3
READ 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Reading and Writing Across the Curriculum	3
READ 4331 or EDUC 3331	Assessment Field Implementation Methodology Field Implementation	3
EDUC 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Middle and Secondary Classrooms	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
Total Hours		60

#### 4-8 Social Studies with ESL

HIST 2321	World Civilizations I	3
HIST 2322	World Civilizations II	3
Advanced HIST (3000 or 4000 Level)		3
Advanced Social Science (3000 or 4000 Level)		3
Advanced HIST or Social Science (3000 or 4000 Level)		3
ECON 1301 [shared] or ECON 2301	Introduction To Economics Principles of Macroeconomics	3
BIOL 2310	Essential Elements of Biology	3
GEOG 1303	World Regional Geography	3
GEOG 1320	Introduction to Human Geography	3
EDUC 2301	Introduction to Special Populations	3
EDSP 4363	Teaching Learners with Learning Disabilities	3
EDUC 3310	Foundations of Bilingual and English as a Second Language Education	3
Sophomore ENGL		3

READ 3321	Early Childhood Literacy Field Implementation	3
READ 4384 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Literacy and Reading Problems Assessment for the Middle Years	3
READ 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Reading and Writing Across the Curriculum	3
READ 4331 or EDUC 3331	Assessment Field Implementation Methodology Field Implementation	3
EDUC 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Middle and Secondary Classrooms	3
EDUC 3395	Social Studies Teaching Implementation	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
Total Hours		57

### EC-3 with ESL

KINE 3352	Principles of Health and Fitness for Children	3
MATH 3303	Concepts of Elementary Mathematics I	3
MATH 3305	Concepts of Elementary Mathematics II	3
BIOL 2310	Essential Elements of Biology	3
EDUC 2330	Diversity and Culturally Responsive Teaching for the Early Grades	3
Select one of the following [shared]:		
ECON 1301	Introduction To Economics	
ECON 2301	Principles of Macroeconomics	
GEOG 1303	World Regional Geography	
CHFS 3344 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Creative Arts and Literature for Children	3
EDUC 2301	Introduction to Special Populations	3
EDSP 4367	Programming for Young Children with Disabilities	3
EDUC 3310	Foundations of Bilingual and English as a Second Language Education	3
EDUC 3320 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Elementary (EC-6) Classrooms	3
EDUC 3331	Methodology Field Implementation	3
CHFS 4317	Environments in Early Childhood	3
CHFS 3315	Concept Development in Early Childhood	3
CHFS 4350 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Policies and Ethical Standards	3
READ 3321	Early Childhood Literacy Field Implementation	3
READ 4384 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Literacy and Reading Problems Assessment for the Middle Years	3
READ 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Reading and Writing Across the Curriculum	3
READ 4331	Assessment Field Implementation	3
EDUC 3304	Early Childhood Curriculum, Instruction and Environments	3
Total Hours		57

<sup>1</sup> Please see Academic Information section

<sup>2</sup> One of these courses may be counted toward the social and behavioral sciences general education requirement.

<sup>3</sup> This requirement may also be met by taking both MATH 1314 College Algebra and MATH 1316 Plane Trigonometry. This course satisfies the university general education mathematics requirement.

## Secondary Teacher Education

### Bachelor of Science Degree in Secondary Teacher Education

#### Field of Study Courses

EDUC 1301 or TECA 1311	Introduction to the Teaching Profession Introduction to Early Childhood Development	3
EDUC 2301	Introduction to Special Populations	3

#### Other Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		<b>42-43</b>
ENGL 2320 [shared]	Forms of Literature	
HUMA 1315 [shared]	Fine Arts Appreciation	
SOCI 2303 [shared]	Race and Ethnic Relations	
EDUC 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Middle and Secondary Classrooms	3

EDUC 3341	Culturally Responsive Teaching for Middle and Secondary Educators	3
EDUC 3371	Ethical, Legal, and Technological Issues in Education	3
EDSP 4361	Teaching Strategies for Adolescent Students with Learning Disabilities	3
EDUC 3330	Effective Instruction for Middle and Secondary Educators	3
READ 3351 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Content Area Literacy	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
EDUC 3310	Foundations of Bilingual and English as a Second Language Education	3
EDUC 4335	Issues of Professionalism	3
EDUC 4690	Clinical Teaching	6
Total Hours		81

### Additional Required Courses for Concentrations

#### 7-12 Mathematics

PHYS 2425 [shared]	University Physics I	
CHEM 1411 [shared]	College Chemistry I	
MATH 2413 [shared]	Calculus I	
MATH 2318	Linear Algebra	3
MATH 2414	Calculus II	4
MATH 3301	Number Theory	3
MATH 3311	Probability and Statistics I	3
MATH 3320	Foundations of Mathematics	3
MATH 3433	Calculus III	4
MATH 4302	College Geometry	3
MATH 4304	Survey of Mathematical Ideas I	3
MATH 4308	Survey of Mathematical Ideas II	3
MATH 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Advanced Analysis	3
MATH 4311	Probability and Statistics II	3
MATH 4332 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Abstract Algebra	3
Total Hours		38

#### 7-12 History

GEOG 1303	World Regional Geography	3
GEOG 1320	Introduction to Human Geography	3
GEOG 2301	The Geography of Texas	3
GEOG 3312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Economic Geography	3
ECON 2301	Principles of Macroeconomics	3
ECON 2302	Principles of Microeconomics	3
HIST 2321	World Civilizations I	3
HIST 2322	World Civilizations II	3
HIST 3304	History of Texas	3
HIST 3340 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Historical Methods	3
HIST 4390 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	History Capstone	3
EDUC 3395	Social Studies Teaching Implementation	3
PSYC 3303	Educational Psychology	3
or PSYC 2308	Child Psychology	
Total Hours		39

#### 7-12 Social Studies

ANTH 2351	Cultural Anthropology	3
ECON 2301	Principles of Macroeconomics	3
ECON 2302	Principles of Microeconomics	3
GEOG 1303	World Regional Geography	3
GEOG 1320	Introduction to Human Geography	3
GEOG 2301	The Geography of Texas	3
GEOG 3312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Economic Geography	3
HIST 2321	World Civilizations I	3

HIST 2322	World Civilizations II	3
HIST 3304	History of Texas	3
HIST 3340 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Historical Methods	3
EDUC 3395	Social Studies Teaching Implementation	3
PSYC 3303 or PSYC 2308	Educational Psychology Child Psychology	3
Total Hours		39

### 7-12 English Language Arts

ENGL 3301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	American Literature to 1865	3
ENGL 3302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	American Literature Since 1865	3
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	3
ENGL 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Editing	3
ENGL 3315 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Literary Research and Analysis	3
ENGL 3320	Advanced Grammar	3
ENGL 3330 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Advanced Composition	3
ENGL 3342 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Genre Studies	3
ENGL 4300	Shakespeare	3
ENGL 4301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	British Literature I	3
ENGL 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	British Literature II	3
ENGL 4360 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Advanced Studies in Secondary English	3
PSYC 3303 or PSYC 2308	Educational Psychology Child Psychology	3
Total Hours		39

### 7-12 Science Composite

MATH 2412 [shared]	Precalculus Math	
BIOL 1406 [shared]	Biology for Science Majors	
CHEM 1411 [shared]	College Chemistry I	
BIOL 1407	Biology for Science Majors II	4
BIOL 2300	Cell Biology	3
CHEM 1412	College Chemistry II	4
PHYS 1401	College Physics I	4
PHYS 1402	College Physics II	4
GEOL 1403	Physical Geology	4
GEOL 1404	Historical Geology	4
EASC 3320	Astronomy	3
Advanced EASC or GEOL Electives		2
EDUC 3385	Science Teaching Implementation	3
PSYC 3303 or PSYC 2308	Educational Psychology Child Psychology	3
Total Hours		38

### 7-12 Life Science

MATH 2412 [shared]	Precalculus Math	
BIOL 1406 [shared]	Biology for Science Majors	
CHEM 1411 [shared]	College Chemistry I	
BIOL 1407	Biology for Science Majors II	4
BIOL 2300	Cell Biology	3
BIOL 3303	Genetics	3



BIOL 3103	Genetic Techniques	1
BIOL 4370	Organisms and Ecosystems of Texas	3
BIOL 3353	Ecology and Evolution	3
BIOL 3406	Comparative Vertebrate Anatomy	4
BIOL 3415	Plant Taxonomy	4
BIOL 3449	Animal Diversity	4
BIOL 4320	Behavioral Ecology	3
EDUC 3385	Science Teaching Implementation	3
PSYC 3303	Educational Psychology	3
or PSYC 2308	Child Psychology	
Total Hours		38

## Secondary and All-Level Educator Certificates

The State Board of Educator Certification (SBEC) adopted Standards Based Educator Preparation programs aligned with the Texas Essential Knowledge and Skills (TEKS). Tarleton State University currently offers the following secondary and all-level educator certificates developed within the framework of SBEC 2000 Standards. Degree and certification requirements, as well as departmental contacts are found at this website <http://www.tarleton.edu/eps/TEP/applications/secondcert.html>.

6-12 Agriculture, Food, & Natural Resources

All-Level Art

7-12 Chemistry

7-12 English Language Arts and Reading

6-12 Family & Consumer Sciences

7-12 History

7-12 Life Science

7-12 Math

8-12 Math/Physics

All-Level Music

All-Level Physical Education

6-12 Physical Science

7-12 Science

7-12 Social Studies

All-Level Spanish

7-12 Speech

### Supplemental Certifications <sup>1</sup>

<sup>1</sup> May be added to grade level certificate.

### English as a Second LanguageE (ESL)

ENGL 3320	Advanced Grammar	3
ENGL 3370	An Introduction to Linguistics	3
PSYC 3320	Psycholinguistics	3
EDUC 3310	Foundations of Bilingual and English as a Second Language Education	3
Total Hours		12

### Special Education

#### 4-8:

EDSP 3361	Survey of Exceptional Learners	3
EDSP 4362	Special Education Rules and Regulations for Teachers	3
EDSP 4363	Teaching Learners with Learning Disabilities	3
EDSP 4364	Teaching Learners with Developmental Disabilities	3
EDSP 4365	Behavior Management for Exceptional Learners	3

#### 8-12:

EDSP 3361	Survey of Exceptional Learners	3
EDSP 4362	Special Education Rules and Regulations for Teachers	3
EDSP 4363	Teaching Learners with Learning Disabilities	3
EDSP 4364	Teaching Learners with Developmental Disabilities	3
EDSP 4365	Behavior Management for Exceptional Learners	3

Total Hours 30

### Professors

- Barkley
- Becker
- Gentry

- Lamb
- Taylor

### Associate professors

- Baker
- Cavin
- Colvin
- Estes
- Miller-Levy
- Pate
- Sharp
- Wright

### Assistant professors

- Castaneda
- Diaz
- Fox
- Lumbreras
- McGregor
- Pearce
- Putman
- Schaffer
- Sloan

### Instructor

- Baumgardner
- Hinson
- Rose

## Child Development and Family Studies Courses

### CHFS 1100. Transitioning to University Studies in Child and Family Studies. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).

An introduction to and analysis of the culture child and family studies. Students will examine best practices when working with families and children from diverse backgrounds and needs through directed field experiences. This course also meets the First Year Seminar requirement.

### CHFS 1304. Infant and Toddler Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Emphasis is on the child from conception through younger years with a study of growth and development in the family setting. Directed observation in approved settings is required. Prerequisite: Moved course into CUI department per approval from THECB 2.8.2021.

### CHFS 3300. Child Development: Theory, Research, and Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A survey of the child's physical, mental, social, and emotional development from birth to 18 years old. Emphasis is placed on the three year old to adolescent child and those factors which influence his/her growth. Credit for both CHFS 3300 and FACS 3300 will not be awarded. All CHFS majors must earn a grade of C or better in the course. Prerequisite: Junior classification or approval of department head.

### CHFS 3305. Management of a Licensed Child Care Program. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Basic principles of the management of licensed child care programs are studied. Experience is gained in using guidance techniques, methods and materials appropriate to the pre-school level. The class plans and operates a child care center. Credit for both CHFS 3305 and FACS 3305 will not be awarded.

### CHFS 3306. Application of Management of a Licensed Child Care Program. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

The course is designed for application of the basic principles of the management of licensed child care programs. Experience and skills are gained in using guidance techniques, methods and materials that are developmentally appropriate. Field experience is required. Prerequisite: CHFS 3305.

### CHFS 3310. Methodology of Family Life Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

An understanding of the philosophies and principles of family life education, including knowledge of the family life certification process and content areas. This course will include a survey and critique of various existing family life education programs as well as the development, implementation, and evaluation of new evidence-based programs. Prerequisite: Junior Classification or Approval of Department Head.

### CHFS 3315. Concept Development in Early Childhood. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

An exploration of theory and practice in teaching science, mathematics, social studies/diversity and technology to young children. An emphasis is placed on developmentally appropriate practices that facilitate skill development. This course includes 8 hours of field experience in an early childhood classroom. Prerequisite: CHFS 3300 or approval of Department Head.

### CHFS 3316. Human Intimacy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A functional approach to the understanding of the interpersonal dynamics and choices in primary and secondary relationships such as those with friends, dating partners, and potential mates. The study will include a brief historical and cross-cultural perspective with emphasis on the roots of modern American customs and the rituals of dating and mate selection. Current issues in human sexuality are included. A major component of the class is a study of interpersonal communication. Prerequisite: PSYC 2301.

### CHFS 3333. Family Financial Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Special emphasis is given to the use of family finances in achieving goals. Consideration made for financial protection and financial planning for the family life cycle.

### CHFS 3344. Creative Arts and Literature for Children. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An exploration of theory, practice, and materials for teaching young children music, movement, visual arts, and literacy. An emphasis will be placed on developmentally appropriate practice including process-focused activities and skill development. Direct observation and practice in approved off-campus settings is required. Prerequisites: CHFS 3300.

### CHFS 3353. Child and Youth Guidance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course examines positive guidance strategies for children from birth to eight years. Students will explore theoretical foundations related to child development and the implementation of various models to foster self-control, organize environments and curriculum for pro-social skills, methods for addressing persistent and challenging behaviors. Emphasis will be on behavior management and on guidance strategies for preschool and early elementary children. The course will also explore a wide variety of issues in relation to parenting, child-rearing practices, and child-family relations. Direct observation and practice in approved off-campus settings is required. Prerequisites: CHFS 3300.

**CHFS 4085. Internship Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

This internship includes supervised, field-based activities in licensed daycare facilities. Major emphasis is placed on the developmentally appropriate instructional strategies and professional practices designed to improve teaching and child care performance. Students are required to conduct a reflective analysis of their internship activities. May be repeated for credit. Direct observation and practice in approved off-campus settings is required. Prerequisite: CHFS 3300.

**CHFS 4309. Parenting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A contemporary approach to basic principles and skills needed for effective parenting. Study will include assessment of parenting programs and techniques. Emphasis is placed on creating nurturing home environments through the life cycle. Prerequisite: CHFS 3300.

**CHFS 4317. Environments in Early Childhood. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An exploration of the Early Childhood environments, including plans, procedures, physical environment (use of learning centers) and activities for development and assessment of young children. Additionally, this course will examine current issues facing professionals in early childhood settings. Prerequisites: CHFS 3300.

**CHFS 4320. Early Intervention Services. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the systems of services available in various states around the country that assists infants and toddlers with developmental delays or disabilities. Students will learn what constitutes a developmental delay, developmental milestones, screening and/or evaluations, Individual Family Service Plans, and the personnel and their roles involved in early intervention services.

**CHFS 4340. Play Theory and Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Exploration of historical and contemporary therapeutic play theory and research from infancy through young adulthood. Play environments, learning objectives for various age groups, and play therapy are covered.

**CHFS 4345. Child Life. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A review of the historical and theoretical perspectives on the development of the child life field and information on fundamental skills required to help children and families cope with the stress of the health care experience. Prerequisites: CHFS 1304, 3300.

**CHFS 4350. Policies and Ethical Standards. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]  
A study of moral, ethical, and legal issues faced by professionals working with children and families. Students will learn to assess each situation independently and evaluate alternative approaches to promoting optimal development. Information on the legal aspects of early childhood intervention, working with young children with special needs, and the ethical treatment of families in poverty will be included. Prerequisite: CHFS 3300, Senior Classification or approval of Department Head.

**CHFS 4355. Grief, Loss & Bereavement. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to concepts surrounding the nature of loss, suffering, grief, and issues of death and dying. Historical, current, cultural, spiritual, and religious perspectives will be examined with attention to ethical and moral issues. Theoretical foundations will be explored as related to death and dying, as well as other types of loss to include divorce, adoption, foster care, palliative care, transitions and symbolic loss and how it impacts children and families.

**CHFS 4356. Research Methods in Human Sciences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Current research issues and the importance of research in Human Sciences will be discussed. Main tasks include review of literature, introduction to the scientific method of inquiry, analysis of results, and completion of a research paper. All CHFS majors must earn a grade of C or better in the course. Prerequisite: CHFS 3300.

**CHFS 4360. Preprofessional Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Basic information for professional growth including: information relevant to human sciences careers; business interactions; global business-related social and cultural differences; professional correspondence; development of professional marketing tools such as interview skills, preparation of cover letters and resumes. All CHFS majors must earn a grade of C or better in the course.

## Education Courses

**EDUC 1100. Transitioning to University Studies and the Teaching Profession. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. Includes an introduction to and analysis of the culture of schooling and classrooms. Students will examine teaching as a profession through directed experiences.

**EDUC 1301. Introduction to the Teaching Profession. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An introduction and analysis of the culture of schooling and classrooms. Students will examine teaching as a profession through directed experiences.

**EDUC 2300. Families, School, and Community. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

A study of the child, family, community, and schools, including parent education and involvement, family and community lifestyles, child abuse, and current family life issues. The course includes a service learning component to meet the field experiences requirement. Lab fee: \$2.

**EDUC 2301. Introduction to Special Populations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An enriched, integrated pre-service course and content experience that provides an overview of schooling and classrooms from the perspectives of language, gender, socioeconomic status, ethnic and academic diversity, and equity with an emphasis on factors that facilitate learning. The course provides students with opportunities to participate in early field observations of P-118 12 special populations and should be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards. Must include a minimum of 16 contact hours of field experience in P-12 classrooms with special populations.

**EDUC 2330. Diversity and Culturally Responsive Teaching for the Early Grades. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course offers an introduction to the issues of diversity (e.g. gender, race/ethnicity, culture, class, language, exceptionality) that impact decisions that early educators must make regarding the design and implementation of curriculum, teaching strategies, materials, and communication. This course also offers an examination of different world views to prepare future teachers in the early grades to provide culturally responsive educational opportunities to children of all cultural and economic groups.

**EDUC 3304. Early Childhood Curriculum, Instruction and Environments. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed as a study of all aspects of the early childhood classroom, including developmentally appropriate practices, curriculum, instruction, assessment, classroom management, and the physical environment. Current issues related to early childhood education will be examined. Students will be expected to demonstrate developmentally appropriate effective teaching practices in field-based setting. Prerequisite: Concurrent enrollment in READ 3321.

**EDUC 3310. Foundations of Bilingual and English as a Second Language Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the history, philosophies, theoretical, and legal foundations regarding Bilingual/English as a Second Language. The course also includes a review of program designs. Recommended concurrent enrollment in EDUC 4315 or 4330. Prerequisite: Admission to the Teacher Education Program.

**EDUC 3315. Literacy Instruction for Bilingual Classrooms. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the knowledge and skills required to teach limited English language learners, with an emphasis on program implementation, curriculum, materials, oral language development, literacy development and assessment strategies. Course will be delivered in Spanish and English. Prerequisite: Proficiency in Spanish and EDUC 3310, 3320, and READ 3311.

**EDUC 3320. Foundations of Teaching: Elementary (EC-6) Classrooms. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An examination of techniques in cooperative learning, brain-based learning and motivation in a learner-centered classroom. Field-based experience requires students to apply course content to the real-world classroom. Prerequisites: CHFS 3300, PSYC 2308, or PSYC 3303 or concurrent enrollment (in any of the 3), and a minimum of 60 hours toward certification or degree requirements. Concurrent enrollment in READ 3321 required for EC-6 students.

**EDUC 3321. Foundations of Teaching: Middle and Secondary Classrooms. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An examination of adolescent students and teachers in middle and secondary schools. Documentation of directed field experiences are required. Prerequisite: Either CHFS 3300, PSYC 2308, or PSYC 3303. Concurrent enrollment in any of the three options is allowed. Student must have 60 earned hours toward degree or certification.

**EDUC 3330. Effective Instruction for Middle and Secondary Educators. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on developing strategies that are effective in middle school and secondary classrooms. Candidates will design and plan effective instruction utilizing state standards and best practices. Topics include the lesson planning, assessment, classroom management, instructional models, instructional strategies, instruction methods, and instructional skills. Documented field experience component required. Prerequisites: EDUC 3321 (or Department Head approval) and Admission to the Teacher Education Program.

**EDUC 3331. Methodology Field Implementation. 3 Credit Hours (Lecture: 1 Hour, Lab: 9 Hours).**

This course is designed to examine the relationship between the state adopted curriculum and best practices in the classroom, to include practical experience in developing student learning outcomes, designing lesson plans, and delivering and assessing instruction, as well as incorporating effective classroom management techniques into the classroom. Prerequisites: EDUC 3320 or EDUC 3321 and Admission to the Teacher Education Program.

**EDUC 3341. Culturally Responsive Teaching for Middle and Secondary Educators. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course offers an introduction to culturally response teaching theory and practice in middle and secondary classrooms. The course focuses on issues related to teaching and working with culturally, ethnically, socially, and linguistically diverse student populations including classroom management, effective lesson planning, and student, family, and community communication.

**EDUC 3371. Ethical, Legal, and Technological Issues in Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides educators with an overview of the ethical, legal, and social issues that are unique in the 21st century learning environment. Topics such as learner privacy online, effective application of technology, and issues regarding copyright and intellectual property. Teacher candidates will also examine digital citizenship and contemporary legal issues of the 21st century classrooms. Prerequisite: n/a.

**EDUC 3385. Science Teaching Implementation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will use the Texas Essential Knowledge and Skills (TEKS) as a framework to examine content methodology, skills, and materials necessary to teach science to children in elementary and middle schools. Students will learn how to plan lessons utilizing research-based practices, implement lessons effectively, and reflect on their own science instruction. Course components include hands-on investigations, class discussions, readings, micro-teaching, science notebooks, and field placements with emphasis on developmentally appropriate practices in science instruction. Topics from life science, physical science, earth/space science and nature of science will be covered. Prerequisite: Admission to the Teacher Education Program. Concurrent enrollment in EDUC 3331 or READ 4331.

**EDUC 3394. Curr/Meth EC-Grade Four I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of developmentally appropriate educational strategies and instructional techniques in teaching language arts, social studies, and fine arts to children (preschool - 4th grade). Students will be expected to integrate language arts, social studies, and fine arts within the curriculum as well as evaluate curricula materials. Prerequisites: Junior classification and completion of TASP requirement; READ 3311, SOSC 3301, and FINA 1335.

**EDUC 3395. Social Studies Teaching Implementation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is centered on developing an understanding of historical thinking, and learning new methods to help students examine the purposes, significant issues, and current trends which affect social science and history subject matter EC-6 and 4-8 grades social studies programs. Prerequisite: Admission to the Teacher Education Program. Concurrent enrollment in EDUC 3331 or READ 4331.

**EDUC 3396. Curr/Meth EC-Grade Four II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of developmentally appropriate educational strategies and instructional techniques in teaching mathematics and science to children (preschool - 4th grade) within a problem-based learning approach. Special topics include the appropriate use of technology and cooperative grouping and the integration of curriculum within the content areas of mathematics and science. Prerequisites: MATH 3303 and 3305, GEOL 1401, BIOL 2310, admission to the Teacher Education Program.

**EDUC 4086. Education Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A course featuring independent research, reading, and discussion under personal direction of instructor, topics vary according to student need. Open to students of junior or senior classification who have been admitted to the Teacher Education Program and with approval of department head.

**EDUC 4304. Early Childhood Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of classroom management, including the physical environment and use of centers, for diverse groups of early elementary students. A lab and documentation of directed field experiences are required. Prerequisites: Admission to the Teacher Education Program and concurrent enrollment in READ 4310, EDUC 3310(or completion), and EDUC 4315.

**EDUC 4305. Content Area Instruction in Bilingual Classrooms. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of curriculum requirements as applicable to bilingual education, language concepts and proficiencies needed for teaching language arts, math, science and social studies in bilingual classrooms. Students will evaluate commercial and research-based programs in order to adapt materials for students with varying degrees of language and literacy proficiency. Field experiences required. Prerequisites: Admission to the Tarleton Teacher Education Program, EDUC 3310, EDUC 3315, and READ 3311. Proficiency in Spanish.

**EDUC 4315. EC - 8 Curriculum, Assessment, and Instruction. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Overview of developmentally appropriate curriculum adhering to state and national standards for grades EC - 8. Prerequisites: Admission to the Tarleton Teacher Education Program and EDUC 3330, and concurrent enrollment in READ 4310 and EDUC 3310 (or completion).

**EDUC 4330. Application of Effective Teaching Practices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Documented field-based experiences are provided in school settings where students will plan and deliver units of instruction, examine various models of instruction, analyze classroom management strategies, and demonstrate competencies in effective teaching practices. Prerequisites: EDUC 3330 and READ 3351/READ 3356.

**EDUC 4331. Instructional Strategies for Middle and Secondary Classrooms. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to be an examination of the relationships among local, state, and federal standards to develop instructional strategies derived from research-based practices for middle and secondary classrooms. Field experience required. Prerequisites: EDUC 3321 or EDUC 3320 and Admission to the Teacher Education Program.

**EDUC 4335. Issues of Professionalism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students synthesize and validate concepts encountered during clinical teaching. Prerequisites: Admission to Clinical Teaching and concurrent enrollment in EDUC 4690(or equivalent).

**EDUC 4383. Internship for Classroom Teaching. 3 Credit Hours (Lecture: 1 Hour, Lab: 9 Hours).**

This internship includes supervised, field-based activities in public school classrooms. Major emphasis is placed on the development of instructional strategies and professional practices designed to improve teaching performance. Students are required to conduct a reflective analysis of their teaching performance. May be repeated for credit. Prerequisite: Admission to the Teacher Education Program. Field experience fee \$75.

**EDUC 4690. Clinical Teaching. 6 Credit Hours (Lecture: 0 Hours, Lab: 40 Hours).**

Supervised clinical teaching in the public schools at the appropriate level. Students are required to demonstrate proficiency in content, the application of best practices, and classroom management strategies. Prerequisites: Admission to Clinical Teaching and concurrent enrollment in EDUC 4335(or equivalent). Passing scores on required certification exams.

## Reading Courses

### **READ 0303. Basic Reading. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of ways a student may enhance existing reading and writing skills; evaluate and examine new theories of learning in relation to individual needs; develop problem solving abilities and critical thinking; acquire individual capacities for understanding oneself in relation to college expectations. The class will use relevant, pertinent materials designed to enrich a student's background knowledge.

### **READ 3301. Introduction to Children's Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of literature for children grades EC – 8 focusing on the use of classic and contemporary texts to promote interest, motivation, and critical reading skills for self-selected reading. Credit will not be granted for READ 3301 and ENGL 3350. Prerequisites: ENGL 1301, 1302, and 3 hours of SOPH level ENGL.

### **READ 3311. Literacy for the Early Years. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of research-based competencies essential for effective literacy instruction in the early years. Prerequisites: ENGL 1301, 1302, 3 hours SOPH ENGL and concurrent enrollment in READ 3321.

### **READ 3321. Early Childhood Literacy Field Implementation. 3 Credit Hours (Lecture: 1 Hour, Lab: 9 Hours).**

This course is designed to give students field-based experiences in the early childhood classroom. Students will develop practical lessons and activities to be used in the literacy classroom and apply knowledge and skills about instructional strategies, materials, and best-practices in the early grades classroom. Prerequisite: Concurrent enrollment in EDUC 3320 or EDUC 3321.

### **READ 3351. Content Area Literacy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course provides an understanding of factors which influence learning from content text and teaches specific instructional strategies which promote comprehension, vocabulary development, effective study strategies, and test-taking skills. Prerequisites: ENGL 1301, ENGL 1302 and a Sophomore level English.

### **READ 3356. Content Area Literacy for Interdisciplinary Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course provides an understanding of factors which influence learning from content texts. The course includes specific instructional strategies that promote comprehension, vocabulary development, effective study and test-taking skills, and ways to modify text for diverse learners including English Language Learners, Gifted and Talented, Special Education and other cultural groups. Attention is given to the principles of research-based reading instruction for EC-6 and 4-8 pre-service teachers. Prerequisites: ENGL 1301, ENGL 1302 and a Sophomore level English.

### **READ 3384. Literacy for the Middle Years. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A field-based course surveying research-based competencies essential for effective literacy instruction in the middle years. Prerequisites: READ 3311, Concurrent enrollment in EDUC 3330.

### **READ 4086. Reading Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A course featuring independent research, reading, application and discussion under personal direction of instructor. Topics vary according to student need. Open to students of junior or senior classification who have been admitted to the Teacher Education Program and with approval of the instructor and department head.

### **READ 4309. Reading and Writing Across the Curriculum. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course focuses on theory and instructional strategies for teaching and assess literacy learning with EC-6 and 4-8 learners in a school setting. It includes the writing process, genres of children's literature and writing genres, evaluation of children's literature, teaching with mini-lessons using children's literature as mentor texts to teach writing, stages of writing in relation to early literacy, state and national standards for writing, high stakes writing tests and writing to learn. Prerequisites: READ 3311 and acceptance into the Teacher Education Program.

### **READ 4310. Concepts of Literacy Classrooms. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of literacy initiatives and concepts for grades EC – 8. Prerequisites: Admission to the Tarleton Teacher Education Program and concurrent enrollment in EDUC 4315 or EDUC 4330.

### **READ 4331. Assessment Field Implementation. 3 Credit Hours (Lecture: 1 Hour, Lab: 9 Hours).**

This course is designed to give students field-based experiences in the use of assessment to analyze students' strengths and needs, evaluate teacher effectiveness, and guide instructional planning for individuals and groups. The focus of this course will include the application of technology-based and traditional assessment models to enhance students' literacy achievement, including ELLs and students with special needs. Prerequisite: READ 3321. Admission to the Teacher Education Program.

### **READ 4384. Literacy and Reading Problems Assessment for the Middle Years. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course is a field-based course surveying the characteristics of the middle to upper elementary learner and methods of assessment and instruction in all aspects of literacy including comprehension, vocabulary, and word identification in the context of state learning standards. The course also includes an examination of normal reading development, reading difficulties, including dyslexia, and strategies for assessing/addressing reading differences including diverse learner reading processes and development of literacy of English Language Learners. Prerequisite: READ 3311, Acceptance in the Teacher Education Program.

## Special Education Courses

### **EDSP 2362. Special Education Rules and Regulations for Teachers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Laws and litigation that affect the education of students with disabilities are examined. Includes procedures pertinent to teachers providing special education services such as federal and state regulations, IEPs, and the development of basic instructional plans. Prerequisite: EDSP 2301, equivalent course, or approval of department head.

### **EDSP 3360. Assessment Principles in Special Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to provide an understanding of formal and informal assessment and evaluation procedures. In addition, it will present how to evaluate k-12 student competencies in order to make instructional decisions. A field-based experience is required. Prerequisite: EDSP 2301 or EDSP 3361.

### **EDSP 3361. Survey of Exceptional Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The characteristics of exceptional learners and the educational programs for individuals with disabilities will be surveyed. Additional course content will include the legislation and court cases related to special education and the referral, diagnosis, and placement of exceptional learners. A field experience is required. Prerequisite: TASP/THEA requirement must be met.

### **EDSP 4086. Special Education Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A course featuring independent research, reading, application and discussion under personal direction of instructor. Topics vary according to student need. Open to students of junior or senior classification who have been admitted to the Teacher Education Program and with approval of the instructor and department head.

### **EDSP 4361. Teaching Strategies for Adolescent Students with Learning Disabilities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to be a Survey of exceptional learners and the mandated educational programs for individuals with disabilities in middle and secondary schools. Additional course content will include instructional and communicative strategies that will facilitate appropriate and productive inclusion of middle and secondary age students with diagnosed and undiagnosed disabilities within general education classrooms and other school settings.. A field experience is required. Prerequisites: EDUC 3321 or EDUC 3320 and admission to Teacher Education.

### **EDSP 4362. Special Education Rules and Regulations for Teachers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Laws and litigation that affect the education of students with disabilities are examined. Includes procedures pertinent to teachers providing special education services such as federal and state regulations, IEPs, and the development of basic instructional plans. Field experience required. Prerequisite: EDSP 3361, equivalent course, or approval of department head.

**EDSP 4363. Teaching Learners with Learning Disabilities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Learning disabilities are examined with emphasis on history, definition, causation and characteristics. Content includes teaching methods for language, academic, and social skills as well as effective inclusive practices. Strategies for successful collaboration with parents, guardians, paraprofessionals and general education teachers are studied. Field experience required. Prerequisite: EDSP 2301 or EDUC 2301.

**EDSP 4364. Teaching Learners with Developmental Disabilities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Etiology and characteristics associated with deficits in development are studied. Effects of developmental disabilities in the areas of language acquisition and physical, social and emotional functioning are examined. Course content includes methods for teaching functional academic skills, communication skills and life management skills, working with parents, paraprofessionals and related service personnel, community based instruction and vocational planning. Field experience required. Prerequisite: EDSP 2301 or EDSP 3361.

**EDSP 4365. Behavior Management for Exceptional Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Information is provided on managing a classroom that includes students with disabilities. Topics include creating positive interpersonal relationships in the classroom, increasing student motivation and learning, minimizing disruptive behavior, behavioral management strategies, curriculum adaptations, crisis management and behavior management theories and strategies. Information will also be provided on the typical characteristics associated with emotional disabilities and identification procedures utilized. Field experience required. Prerequisite: EDSP 2301 or EDSP 3361.

**EDSP 4367. Programming for Young Children with Disabilities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of young children with disabilities aged birth to 6 with an emphasis on the techniques for implementing programs to meet the needs of the child and the family. Early intervention, medical intervention, and public school educational programming for infants, toddlers, and young children who are at risk will be addressed as well as parent involvement models to promote optimum parent-child and parent-professional relationships. Emphasis on recent research related to early childhood special education. Field experience required.

**Texas Early Childhood Education Courses****TECA 1303. Families, School, & Community. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the child, family, community, and schools, including parent education and involvement, family and community lifestyles, child abuse, and current family life issues. Course content must be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards and coincide with the National Association for the Education of Young Children position statement related to developmentally appropriate practices for children from birth through age eight. Requires students to participate in field experiences with children from infancy through age 12 in a variety of settings with varied and diverse populations. The course includes a minimum of 16 hours of field experiences.

**TECA 1311. Introduction to Early Childhood Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).**

(TCCNS = TECA 1311) An introduction to the profession of early childhood education, focusing on developmentally appropriate practices, types of programs, historical perspectives, ethics, and current issues. One-hour lab per week in child development laboratory, to include directed observation of young children and teaching experiences.

**TECA 1318. Wellness of the Young Child. 3 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).**

(TCCNS = TECA 1318) A study of nutrition, health, and safety for the child. Skill development in management of issues, guidelines, and practices in nutrition, as well as community health, hygiene, safety, and legal implications will be addressed. Integration of these principles applied to a variety of settings.

**TECA 1354. Child Growth and Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).**

(TCCNS = TECA 1354) Emphasis is on the child from conception through younger years with a study of growth and development in the family setting. Directed observation in approved settings is required.

**Child Development and Family Studies**

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The Bachelor of Science degree in Child in Family Studies is designed for students who want to work with children and families outside of the public school setting. Our program is designed with three concentration tracks to provide students with a strong foundation of knowledge, leadership skills, and cultural competencies to work with children and families. This is a blended program with courses offered face-to-face and online.

- **Early Childhood**- This track provides students with knowledge and experience in working with young children in a classroom setting. Students can obtain a directors licensure for licensed child care programs, or an early intervention specialist certification.
- **Family Life**-Family life education focuses on parenting, family resource management and human intimacy. Students can work in advocacy, adoption, foster care or family life education. Students are eligible to test for a certification in family life education through the National Council on Family Relations.
- **Child Life**-This track prepares students work with children in hospital settings. Upon graduation, students are able to apply to become a certified child life specialist through the Association of Child Life Professionals upon completion of coursework, ALCP practicum, internship and certification exam.

The Bachelor of Applied Arts and Science degree offers a flexible program that allows students to utilize their workforce training and experiences toward obtaining a degree. Up to thirty-three hours of workforce credit can be applied towards the degree through: workforce-based college credit hours, documented work experience at a licensed childcare facility, and documented training hours.

**The Bachelor of Applied Arts Sciences in Child Development and Family Studies****Required Courses**

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
<b>Prior Learning Credit</b>		<b>12-33</b>
SOCI 1301 [shared]	Introductory Sociology	
CHFS 3300	Child Development: Theory, Research, and Practice	3
CHFS 3305	Management of a Licensed Child Care Program	3
CHFS 3315	Concept Development in Early Childhood	3
CHFS 3344 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Creative Arts and Literature for Children	3
CHFS 4309	Parenting	3
CHFS 4350 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Policies and Ethical Standards	3

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CHFS 4356 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Research Methods in Human Sciences	3
CHFS 4317	Environments in Early Childhood	3
CHFS 4360	Preprofessional Development	3
CHFS 4085	Internship Seminar	3
KINE 3380	Adapted Physical Activity	3
SOCW 3303	Social Work with Diverse Populations	3
SOCW 4311	Child Welfare	3
SOCI 3301	Sociology of the Family	3
EDSP 4367	Programming for Young Children with Disabilities	3
Electives		0-21
Total Hours		120

**The Bachelor of Science Degree in Child Development and Family Studies**

**Required Courses**

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
CHFS 1304	Infant and Toddler Development	3
TECA 1311	Introduction to Early Childhood Development	3
PSYC 2308	Child Psychology	3
EDUC 2301	Introduction to Special Populations	3
CHFS 3300	Child Development: Theory, Research, and Practice	3
SOCW 3303	Social Work with Diverse Populations	3
CHFS 4085	Internship Seminar	3
CHFS 4309	Parenting	3
CHFS 4350 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Policies and Ethical Standards	3
CHFS 4356 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Research Methods in Human Sciences	3
CHFS 4360	Preprofessional Development	3
Total Hours		75

**Additional Required Courses for Concentrations**

**Child Life Education**

LAB SCIENCE CORE REQUIREMENT [shared]:

BIOL 1406	Biology for Science Majors	
BIOL 1407	Biology for Science Majors II	
BIOL 2402	Anatomy & Physiology II	
BIOL 2420	Microbiology for Non-Science Majors	
BIOL 2401	Anatomy and Physiology I	
or BIOL 2402	Anatomy & Physiology II	
BIOL 3402	Histology	
BIOL 3406	Comparative Vertebrate Anatomy	
BIOL 3407	Microbiology	
CHEM 1407	Fundamentals of Chemistry	
CHEM 1411	College Chemistry I	
CHEM 1412	College Chemistry II	
GEOL 1403	Physical Geology	
GEOL 1404	Historical Geology	
GEOL 1407	Introduction to Environmental Science	

SOCIAL/BEHAVIORAL SCIENCE CORE REQUIREMENT [shared]:

SOCI 1301	Introductory Sociology	
TECA 1318	Wellness of the Young Child	3
HECO 1322	Nutrition and Diet Therapy	3
PSYC 2301	General Psychology	3
PSYC 2314	Life Span Growth & Development	3
PSYC 2315	Psychology of Adjustment	3
PBHL 2320	Medical Ethics	3
SOCI 3301	Sociology of the Family	3
PSYC 3311	Behavior Analysis and Behavior Management	3
KINE 3380	Adapted Physical Activity	3
SOCW 4311	Child Welfare	3
SOCI 4314	Medical and Health Care Policy	3
SOCW 4315	Social Work Values and Ethics	3
CHFS 4340	Play Theory and Research	3
CHFS 4345	Child Life	3

CHFS 4355	Grief, Loss & Bereavement	3
Total Hours		45

### Early Childhood Education

COMMUNICATIONS CORE REQUIREMENT - Select one of the following [shared]:

COMM 1311	Introduction to Speech Communication	
COMM 1315	Public Speaking	
TECA 1318	Wellness of the Young Child	3
COMM 2302	Business and Professional Speaking	
SOCW 2361	Introduction to Social Work	3
PSYC 3303	Educational Psychology	3
COMM 3304	Interpersonal Communication	3
CHFS 3305	Management of a Licensed Child Care Program	3
CHFS 3306	Application of Management of a Licensed Child Care Program	3
CHFS 3315	Concept Development in Early Childhood	3
CHFS 3344 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Creative Arts and Literature for Children	3
CHFS 3353	Child and Youth Guidance	3
KINE 3380	Adapted Physical Activity	3
SOCW 4315	Social Work Values and Ethics	3
CHFS 4317	Environments in Early Childhood	3
EDSP 4367	Programming for Young Children with Disabilities	3
PSYC 4390	Special Topics (Family and Community Engagement)	3
Elective		3
Total Hours		45

### Family Life Education

COMMUNICATIONS CORE REQUIREMENT - Select one of the following [shared]:

COMM 1311	Introduction to Speech Communication	
COMM 1315	Public Speaking	
COMM 2302	Business and Professional Speaking	
LAB SCIENCE CORE REQUIREMENT [shared]:		
CHEM 1407 or CHEM 1411	Fundamentals of Chemistry College Chemistry I	
SOCIAL/BEHAVIORAL SCIENCE CORE REQUIREMENT [shared]:		
SOCI 1301	Introductory Sociology	
HECO 1322	Nutrition and Diet Therapy	3
PSYC 2301	General Psychology	3
PSYC 2314	Life Span Growth & Development	3
PSYC 2315	Psychology of Adjustment	3
SOCI 3301	Sociology of the Family	3
PSYC 3303	Educational Psychology	3
COMM 3304	Interpersonal Communication	3
PSYC 3307	The Human Lifespan	3
CHFS 3310	Methodology of Family Life Education	3
CHFS 3316	Human Intimacy	3
CHFS 3333	Family Financial Management	3
CHFS 3353	Child and Youth Guidance	3
SOCW 4311	Child Welfare	3
SOCI/SOCW Elective:		3
PSYC 4390	Special Topics (Family and Community Engagement)	3
Total Hours		45

### Minor in Child Development and Family Studies

#### Required Courses

CHFS 3300	Child Development: Theory, Research, and Practice	3
Select 5 of the following:		15
CHFS 3305	Management of a Licensed Child Care Program	
CHFS 3310	Methodology of Family Life Education	
CHFS 3315	Concept Development in Early Childhood	
CHFS 3316	Human Intimacy	
CHFS 3333	Family Financial Management	
CHFS 3344 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Creative Arts and Literature for Children	
CHFS 3353	Child and Youth Guidance	
CHFS 4309	Parenting	



CHFS 4317	Environments in Early Childhood
CHFS 4345	Child Life
CHFS 4350 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Policies and Ethical Standards
CHFS 4356 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Research Methods in Human Sciences

Total Hours

18

## Associate professor

- Deborah Banker

## Assistant professors

- Kristina Higgins
- Lisa Taylor-Cook

## Courses

### CHFS 1100. Transitioning to University Studies in Child and Family Studies. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).

An introduction to and analysis of the culture child and family studies. Students will examine best practices when working with families and children from diverse backgrounds and needs through directed field experiences. This course also meets the First Year Seminar requirement.

### CHFS 1304. Infant and Toddler Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Emphasis is on the child from conception through younger years with a study of growth and development in the family setting. Directed observation in approved settings is required. Prerequisite: Moved course into CUI department per approval from THECB 2.8.2021.

### CHFS 3300. Child Development: Theory, Research, and Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A survey of the child's physical, mental, social, and emotional development from birth to 18 years old. Emphasis is placed on the three year old to adolescent child and those factors which influence his/her growth. Credit for both CHFS 3300 and FACS 3300 will not be awarded. All CHFS majors must earn a grade of C or better in the course. Prerequisite: Junior classification or approval of department head.

### CHFS 3305. Management of a Licensed Child Care Program. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Basic principles of the management of licensed child care programs are studied. Experience is gained in using guidance techniques, methods and materials appropriate to the pre-school level. The class plans and operates a child care center. Credit for both CHFS 3305 and FACS 3305 will not be awarded.

### CHFS 3306. Application of Management of a Licensed Child Care Program. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

The course is designed for application of the basic principles of the management of licensed child care programs. Experience and skills are gained in using guidance techniques, methods and materials that are developmentally appropriate. Field experience is required. Prerequisite: CHFS 3305.

### CHFS 3310. Methodology of Family Life Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

An understanding of the philosophies and principles of family life education, including knowledge of the family life certification process and content areas. This course will include a survey and critique of various existing family life education programs as well as the development, implementation, and evaluation of new evidence-based programs. Prerequisite: Junior Classification or Approval of Department Head.

### CHFS 3315. Concept Development in Early Childhood. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

An exploration of theory and practice in teaching science, mathematics, social studies/diversity and technology to young children. An emphasis is placed on developmentally appropriate practices that facilitate skill development. This course includes 8 hours of field experience in an early childhood classroom. Prerequisite: CHFS 3300 or approval of Department Head.

### CHFS 3316. Human Intimacy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A functional approach to the understanding of the interpersonal dynamics and choices in primary and secondary relationships such as those with friends, dating partners, and potential mates. The study will include a brief historical and cross-cultural perspective with emphasis on the roots of modern American customs and the rituals of dating and mate selection. Current issues in human sexuality are included. A major component of the class is a study of interpersonal communication. Prerequisite: PSYC 2301.

### CHFS 3333. Family Financial Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Special emphasis is given to the use of family finances in achieving goals. Consideration made for financial protection and financial planning for the family life cycle.

### CHFS 3344. Creative Arts and Literature for Children. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An exploration of theory, practice, and materials for teaching young children music, movement, visual arts, and literacy. An emphasis will be placed on developmentally appropriate practice including process-focused activities and skill development. Direct observation and practice in approved off-campus settings is required. Prerequisites: CHFS 3300.

### CHFS 3353. Child and Youth Guidance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course examines positive guidance strategies for children from birth to eight years. Students will explore theoretical foundations related to child development and the implementation of various models to foster self-control, organize environments and curriculum for pro-social skills, methods for addressing persistent and challenging behaviors. Emphasis will be on behavior management and on guidance strategies for preschool and early elementary children. The course will also explore a wide variety of issues in relation to parenting, child-rearing practices, and child-family relations. Direct observation and practice in approved off-campus settings is required. Prerequisites: CHFS 3300.

### CHFS 4085. Internship Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).

This internship includes supervised, field-based activities in licensed daycare facilities. Major emphasis is placed on the developmentally appropriate instructional strategies and professional practices designed to improve teaching and child care performance. Students are required to conduct a reflective analysis of their internship activities. May be repeated for credit. Direct observation and practice in approved off-campus settings is required Prerequisite: CHFS 3300.

### CHFS 4309. Parenting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A contemporary approach to basic principles and skills needed for effective parenting. Study will include assessment of parenting programs and techniques. Emphasis is placed on creating nurturing home environments through the life cycle. Prerequisite: CHFS 3300.

### CHFS 4317. Environments in Early Childhood. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

An exploration of the Early Childhood environments, including plans, procedures, physical environment (use of learning centers) and activities for development and assessment of young children. Additionally, this course will examine current issues facing professionals in early childhood settings. Prerequisites: CHFS 3300.

**CHFS 4320. Early Intervention Services. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the systems of services available in various states around the country that assists infants and toddlers with developmental delays or disabilities. Students will learn what constitutes a developmental delay, developmental milestones, screening and/or evaluations, Individual Family Service Plans, and the personnel and their roles involved in early intervention services.

**CHFS 4340. Play Theory and Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Exploration of historical and contemporary therapeutic play theory and research from infancy through young adulthood. Play environments, learning objectives for various age groups, and play therapy are covered.

**CHFS 4345. Child Life. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A review of the historical and theoretical perspectives on the development of the child life field and information on fundamental skills required to help children and families cope with the stress of the health care experience. Prerequisites: CHFS 1304, 3300.

**CHFS 4350. Policies and Ethical Standards. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A study of moral, ethical, and legal issues faced by professionals working with children and families. Students will learn to assess each situation independently and evaluate alternative approaches to promoting optimal development. Information on the legal aspects of early childhood intervention, working with young children with special needs, and the ethical treatment of families in poverty will be included. Prerequisite: CHFS 3300, Senior Classification or approval of Department Head.

**CHFS 4355. Grief, Loss & Bereavement. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to concepts surrounding the nature of loss, suffering, grief, and issues of death and dying. Historical, current, cultural, spiritual, and religious perspectives will be examined with attention to ethical and moral issues. Theoretical foundations will be explored as related to death and dying, as well as other types of loss to include divorce, adoption, foster care, palliative care, transitions and symbolic loss and how it impacts children and families.

**CHFS 4356. Research Methods in Human Sciences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Current research issues and the importance of research in Human Sciences will be discussed. Main tasks include review of literature, introduction to the scientific method of inquiry, analysis of results, and completion of a research paper. All CHFS majors must earn a grade of C or better in the course. Prerequisite: CHFS 3300.

**CHFS 4360. Preprofessional Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Basic information for professional growth including: information relevant to human sciences careers; business interactions; global business-related social and cultural differences; professional correspondence; development of professional marketing tools such as interview skills, preparation of cover letters and resumes. All CHFS majors must earn a grade of C or better in the course.

## Department of Psychological Sciences

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The Bachelor of Science in Psychology is designed to expand your knowledge about the science of Psychology through research, scholarship, and service opportunities. Psychology is a broad subject that includes the study of how biology and the environment work together to influence human behavior. The field includes disciplines in developmental, social, cognitive, clinical, counseling, human factor engineering, evolutionary, forensic, health, educational, industrial/organizational, and quantitative psychology. Upon completion of this program you will have developed a strong knowledge of human behavior and skills in collecting, analyzing, and interpreting data. Graduates also possess strong writing skills and the ability to think critically.

You will choose between concentrations in the following areas:

- **General**- This option is for an individual who is interested in a variety of options in Psychology.
- **Pre-Clinical**- This option is for an individual who is interested in working with mental health populations.
- **Educational**-This option is for an individual who is interesting in the learning and cognition side of Psychology.

You can also minor in **Neuroscience**, by picking up 18 hours. See the minor options listed below.

## The Bachelor of Science Degree in Psychology

### Required Courses

General Education Requirements (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)

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Select 8 hours from the following [shared]:

BIOL 1406	Biology for Science Majors
BIOL 1407	Biology for Science Majors II
BIOL 2401	Anatomy and Physiology I
BIOL 2402	Anatomy & Physiology II
CHEM 1407	Fundamentals of Chemistry
CHEM 1411	College Chemistry I
CHEM 1412	College Chemistry II
GEOG 1451	Pre-GIS: GPS, VGI and Cartography
GEOL 1403	Physical Geology
GEOL 1404	Historical Geology
GEOL 1407	Introduction to Environmental Science
GEOL 1408	Natural Disasters
PHYS 1401	College Physics I
PHYS 1402	College Physics II
PHYS 1403	Stars and Galaxies
PHYS 1410	Great Ideas of Physics
PHYS 1411	Introductory Astronomy I

PHYS 2425	University Physics I	
PHYS 2426	University Physics II	
Select one of the following [shared]:		
MATH 1314	College Algebra	
MATH 1332	Contemporary Mathematics I	
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1342	Elementary Statistical Methods	
MATH 2412	Precalculus Math	
MATH 2413	Calculus I	
Select one of the following [shared]:		
ANTH 2351	Cultural Anthropology	
SOCI 1301	Introductory Sociology	
SOCI 2303	Race and Ethnic Relations	
PSYC 2301	General Psychology	3
PSYC 2317	Statistical Methods in Psychology	3
PSYC 3301	Psychology of Learning	3
PSYC 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Writing in Psychology	3
PSYC 3435 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Principles of Research for the Behavioral Sciences	4
PSYC 4320	History of Psychology	3
PSYC 4350 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Senior Capstone	3
PHIL 1301	Introduction to Philosophy	3
BCIS Elective		3
Electives		11
Advanced PSYC Elective		3
Advanced Electives		15
Total Hours		99

### Additional Required Courses for Concentrations

#### General Psychology

Choose one of the following:		3
PSYC 2314	Life Span Growth & Development (Summer only course)	
PSYC 2308	Child Psychology	
PSYC 3307	The Human Lifespan	
PSYC 3340	Child Psychopathology	
Choose one of the following:		3
PSYC 3303	Educational Psychology	
PSYC 3305	Human Cognitive Processes	
PSYC 3311	Behavior Analysis and Behavior Management (Summer only course)	
PSYC 3320	Psycholinguistics (Summer only course)	
Choose two of the following courses. (NOTE: At least one MUST be an upper level course)		6
PSYC 2315	Psychology of Adjustment	
PSYC 2345	Biological Psychology	
PSYC 2320	Abnormal Psychology	
PSYC 3350	Personality	
PSYC 4301	Psychological Test and Measurement (Summer only course)	
Choose two of the following:		6
PSYC 2319	Social Psychology	
PSYC 3360	Sport Psychology	
PSYC 4302	Adaptive Psychology	
PSYC 4310	Industrial/Organizational Psychology	
Choose one of the following:		3
PSYC 3332	Neuropsychopharmacology	
PSYC 4303	Animal Behavior	
PSYC 4312	Behavioral Neuroscience	
Total Hours		21

#### Pre-Clinical Psychology

Choose 21 hours out of the following:		21
PSYC 2315	Psychology of Adjustment	
or PSYC 2345	Biological Psychology	
PSYC 2320	Abnormal Psychology	
PSYC 3311	Behavior Analysis and Behavior Management (Summer only course)	
PSYC 3332	Neuropsychopharmacology	

PSYC 3340	Child Psychopathology	
PSYC 4301	Psychological Test and Measurement (Summer only course)	
PSYC 4312	Behavioral Neuroscience	
PSYC 4390	Special Topics (See advisor for special topics approval)	

Total Hours 21

### Educational Psychology

Choose 21 hours out of the following: 21

PSYC 2308	Child Psychology <sup>PSYC 2314 is a summer only course</sup>	
or PSYC 2314	Life Span Growth & Development	
PSYC 2319	Social Psychology	
PSYC 3303	Educational Psychology	
PSYC 3305	Human Cognitive Processes	
PSYC 3320	Psycholinguistics (Summer only course)	
PSYC 3340	Child Psychopathology	
PSYC 4301	Psychological Test and Measurement (Summer only course)	
PSYC 4390	Special Topics (See advisor for special topics approval)	

Total Hours 21

### Minor in Neuroscience of Behavior Learning

#### Required Courses

NRSC/PSYC 2345 Biological Psychology 3

Choose one of the following: 3

BIOL 2300	Cell Biology	
NRSC/PSYC 3332	Neuropsychopharmacology	

Choose one of the following: 3

PSYC 3301	Psychology of Learning	
PSYC 3305	Human Cognitive Processes	

Choose one of the following: 3

PSYC 3311	Behavior Analysis and Behavior Management	
NRSC/PSYC 4303	Animal Behavior	

NRSC/PSYC 4312 Behavioral Neuroscience 3

Choose one of the following: 3

PSYC 4388	Undergraduate Research Experience	
PSYC 4390	Special Topics (Pain)	
PSYC 4390	Special Topics (Cognition and Neuropsychology of Pain)	
PSYC 4390	Special Topics (Pain and Pleasure )	
PSYC 4390	Special Topics (Sensation and Perception)	
PSYC 4390	Special Topics (Galapagos Neuroscience )	

Or any other upper level psych course (3000 & 4000 level) approved by the neuroscience advisor

Courses cannot count in the student major and minor concurrently.

Total Hours 18

### Professors

- Robert Newby
- Kimberly Rynearson

### Associate professors

- Jonali Baruah
- Jamie Borchardt
- Kyle Eichas
- Thomas Faulkenberry

### Assistant professors

- Amber Harris Bozer
- Jennifer Dias
- Trina Geye
- Heather Labansat
- Man'Dee Mason
- Stephanie Robertson

### Neuroscience Courses

#### NRSC 2345. Biological Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

An introductory course in the biological and neuroscientific basis of behavior with emphasis on how the brain influences behavior. The basic chemical, electrical, and functional components of the nervous system that influence behaviors, cognition, and emotion will be examined. Prerequisite: PSYC 2301.

#### NRSC 3332. Neuropsychopharmacology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A study of the neuroscientific basis of the effects of drugs on behavior. Emphasis will be placed on major antipsychotic, antianxiety, and antidepressant drugs and their clinical use and side effects. Drug abuse such as alcohol, marijuana, and cocaine will also be reviewed. Prerequisite: PSYC 2301 AND 8 hours of lab science.

**NRSC 4303. Animal Behavior. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the major areas of animal behavior research from a psychological perspective. Research examining the development and display of behaviors will include subject samples ranging from insects to humans conducted in natural, quasi-experimental, and experimental studies. Prerequisite: PSYC 2301 AND 8 hours of lab science.

**NRSC 4312. Behavioral Neuroscience. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Surveys the biological basis of behavior. Includes an in-depth examination of the physical structure of the human body and the role of chemical and electrical operations within it and how it influences psychological functioning. Emphasis will be placed on the developmental, cognitive, affective and behavioral effects of such operations. Recent research will also be reviewed. Prerequisite: PSYC 2301, 8 hours of lab science (preferably BIOL).

**Psychology Courses****PSYC 1100. Transitioning to University Studies in Psychology. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, and in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. Also included will be the development of skills to promote physical and mental health.

**PSYC 2301. General Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview of psychology, the scientific study of human behavior and mental processes and the variables that influence these processes. Topics covered in the course include motivation, emotions, intelligence, sensory processes, perception, learning, thinking, mental health, and psychotherapy. All psychology majors must earn a C or better in the course.

**PSYC 2308. Child Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of children from infancy through adolescence with emphasis on the analysis of behavior based on experimental evidence and contemporary theory.

**PSYC 2314. Life Span Growth & Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A lifespan study of the development of human beings from conception to death. The growth and developmental patterns of the eight age groups are studied with attention directed to experimental evidence, case studies, and contemporary theories. May not be counted as part of the professional education component for teacher certification.

**PSYC 2315. Psychology of Adjustment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of human behavioral and mental processes that permit us to adjust or to meet the demands of a changing physical or psychological environment with an emphasis upon effective personal-social adjustment. Topics covered include social influence, stress, psychological factors and physical health, health-enhancing behaviors, addictive behaviors, methods of coping, gender roles and differences, and interpersonal attraction.

**PSYC 2317. Statistical Methods in Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of statistical methods used in psychological research, assessment, and testing. Includes the study of measures of central tendency and variability, statistical inference (including analysis of variance), and correlation and regression as these apply to psychology. All psychology majors must earn a C or better in the course. Prerequisites: PSYC 2301 and either MATH 1314, MATH 1316, MATH 1332, MATH 1324, MATH 1325, MATH 1342, MATH 2412, or MATH 2413.

**PSYC 2319. Social Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the theories and topics of social psychology. This course emphasizes the effect of social variables upon the behavior of individuals. Topics covered include socialization, language and communication, prejudice, social attitudes, attitude change, aggression, prosocial behavior, and group behavior. Prerequisite(s): PSYC 2301 or approval of the department head.

**PSYC 2320. Abnormal Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview of the history, causes, and treatments of deviant behavior. Psychological, social, and physiological factors as they relate to the development of abnormal behavior and its subsequent treatment. Prerequisite: PSYC 2301 or approval of the department head.

**PSYC 2345. Biological Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introductory course in the biological and neuroscientific basis of behavior with emphasis on how the brain influences behavior. The basic chemical, electrical, and functional components of the nervous system that influence behaviors, cognition, and emotion will be examined. Prerequisite: PSYC 2301.

**PSYC 3301. Psychology of Learning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An investigation into the major theoretical approaches, concepts and principles, and experimental methods of learning. All psychology majors must earn a C or better in the course. Prerequisites: PSYC 2301 - must pass this course with a C or better, or approval of the department head.

**PSYC 3303. Educational Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the psychology of learning within educational settings. Topics include theories and research on human development, cognition, learning, and motivation, and their application to the processes of teaching and learning. Issues such as cultural diversity, standardized testing, individual differences, exceptionalities, and the learning environment are also considered.

**PSYC 3305. Human Cognitive Processes. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of human cognition and information processing, including perception, attention, memory, reasoning, and problem solving. Also included are the experimental methods and current theories of human cognition. Prerequisite: PSYC 2301 or approval of the department head.

**PSYC 3307. The Human Lifespan. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Surveys development from conception through adulthood with emphasis on social adaptation of individuals and roles in families, groups, and communities. Cognitive, social, personal and biological factors of the stages of development are included.

**PSYC 3309. Writing in Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The study of advanced technical communication in psychology. Involves learning and using the current edition of the Publication Manual of the American Psychological Association for formal research reports, literature reviews, grant proposals, and professional articles. Also involves learning to write professional psychological reports. Psychology majors must pass the course with a C or better. Prerequisite: PSYC 2301 with a C or better.

**PSYC 3311. Behavior Analysis and Behavior Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines the basic principles and methods of behavior analysis and behavior management techniques. Includes a systematic review of behavioral and cognitive-behavioral methodologies for dealing with human problems such as disruptive behavior, personal adjustment difficulties, behavioral deficits, phobias and fears, developmental disorders, stress and maladaptive behavior in a variety of settings. Prerequisite: PSYC 2301 or approval of the department head.

**PSYC 3320. Psycholinguistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course emphasizes the study of language, understanding languages, producing language and speech, language development, and related topics such as reading, language and the brain, linguistic diversity, and universals. Prerequisite: PSYC 2301 or approval of the department head.

**PSYC 3332. Neuropsychopharmacology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the neuroscientific basis of the effects of drugs on behavior. Emphasis will be placed on major antipsychotic, anti-anxiety, and antidepressant drugs and their clinical use and side effects. Drug abuse such as alcohol, marijuana, and cocaine will also be reviewed. Prerequisite: PSYC 2301 AND 8 hours of lab science.

**PSYC 3340. Child Psychopathology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will cover psychological disorders affecting children, the ways in which they differ in presentation from childhood to adulthood, and the developmental impact of childhood psychological disorders. The causes, nature, identification, and treatment of behavioral and emotional disorders in children will be addressed. Prerequisite: PSYC 2301.

**PSYC 3350. Personality. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to personality, which is the unique and relatively stable patterns of behavior, thoughts, and feelings that make human beings different. Various theoretical approaches - psychodynamic, cognitive, behavioral, humanistic, and existential - will be covered and will be related to personality and personality development. Prerequisite: PSYC 2301 or approval of department head.

**PSYC 3360. Sport Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide students with an overview of the theories and research related to sport and exercise behavior. Topics to be covered include the history of sport psychology, behavioral principles, anxiety, motivation, leadership, group dynamics, gender, and personality. The course will also be designed to relate these principles to exercise and sport performance. Prerequisite: PSYC 2301 or approval of department head.

**PSYC 3435. Principles of Research for the Behavioral Sciences. 4 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

The study of various research designs used in the behavioral sciences. Includes laboratory exercises to acquaint and give students hands-on experience with experimental procedures and basic and applied research. Experiences are also provided in developing a research proposal, obtaining approval and consent to conduct research, using statistical computer applications, and writing a research report. Ethical and legal issues in conducting research are also considered. Prerequisite: PSYC 3309 with a C or better and PSYC 2317 with a C or better.

**PSYC 4086. Problems in Psychology. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Independent reading and research on various topics related to Psychology. Entry into the course will be arranged by the director of the Psychology program.

**PSYC 4301. Psychological Test and Measurement. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the principles of psychological testing. Includes the use and critical evaluation of tests of achievement, intelligence, aptitude, and personality. Prerequisites: PSYC 2301, MATH 1314 or higher, and PSYC 2317, or approval of the department head.

**PSYC 4302. Adaptive Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A consideration of how adaptation has influenced social, cognitive and developmental processes in humans. Comparisons between humans and other species, and between different human cultures will be included. Prerequisite: PSYC 2301 or approval of the department head.

**PSYC 4303. Animal Behavior. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the major areas of animal behavior research from a psychological perspective. Research examining the development and display of behaviors will include subject samples ranging from insects to humans conducted in natural, quasi-experimental, and experimental studies. Prerequisite: PSYC 2301 AND 8 hours of lab science.

**PSYC 4310. Industrial/Organizational Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the basic theories and practices of Industrial/Organizational psychology including selection testing, job analysis, performance appraisal training, employment motivation, job satisfaction, leadership and group processes within organizations. Prerequisite: PSYC 2301 or approval of department head.

**PSYC 4312. Behavioral Neuroscience. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Surveys the biological basis of behavior. Includes an in-depth examination of the physical structure of the human body and the role of chemical and electrical operations within it and how it influences psychological functioning. Emphasis will be placed on the developmental, cognitive, affective and behavioral effects of such operations. Recent research will also be reviewed. Prerequisite: PSYC 2301, 8 hours of lab science (preferably BIOL), or approval of the department head.

**PSYC 4320. History of Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Historical analysis of prescientific psychology including philosophical and physiological roots leading to the development of the early schools of psychological thought to current psychological theoretical positions. All psychology majors must earn a C or better in the course. Prerequisites: PSYC 2301 and PHIL 1301 or approval of department head.

**PSYC 4350. Senior Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A focus on the application, integration, and demonstration of knowledge gained throughout psychology major coursework. In this course, students will be expected to demonstrate the following: knowledge base in multiple areas of psychology, knowledge of methods of scientific inquiry and critical thinking, ethical and social responsibility, effective written and oral communication, and professional development. All psychology majors must earn a C or better in the course. Prerequisites: PSYC 3435 and 90 hours completed, or permission of the department head.

**PSYC 4388. Undergraduate Research Experience. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide students the opportunity to engage in research with faculty. Students will have the opportunity to gain experience working in a lab setting, which may include engagement in design, collection, analyzing, interpreting, writing and presenting data. Students must be currently working in a lab and be invited by a faculty member to take this course. Prerequisite: PSYCH 2301.

**PSYC 4390. Special Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Independent reading and research on various topics related to Psychology. Prerequisite: Senior standing.

## School of Kinesiology

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### MISSION

The mission of the **School of Kinesiology** is to prepare our students for careers within the Kinesiology and Sport industry. We seek to provide quality educational opportunities related to sport, exercise science, human performance, and allied health; offer transformative leadership experiences through service; and enhance the students' optimal wellness through a robust professional development program. The **School of Kinesiology** strives to create an atmosphere that embraces a team culture in which we BUILD FEARLESS CHAMPIONS who are prepared to succeed in the diverse field of Kinesiology and Sport. #TeamKinesiology

### VISION

The **School of Kinesiology** will provide tomorrow's leaders with purpose-driven educational experiences that will enhance their knowledge, skills, and confidence related to their chosen career field within the Kinesiology & Sport industry. We will be the premier BUILDER of FEARLESS CHAMPIONS within the academic disciplines of Kinesiology.

### ORGANIZATIONAL STRUCTURE

The **School of Kinesiology** consists of two academic departments - **Department of Health & Human Performance** and the **Department of Sport Science** - which offer undergraduate degrees as well as minors. Three undergraduate academic degrees are offered within the **School of Kinesiology**.

### Bachelor of Science (BS) degree in Kinesiology

- The **Department of Health & Human Performance (HHP)** offers the following **BS degree in Kinesiology** concentrations:
  - Athletic Training (ATRN)** prepares students to complete their BS in Kinesiology and transition into the Master of Science in Athletic Training (MSAT) for completion of both degrees within a five year period. The concentration also leads to state and national credentials in athletic training.
  - Exercise & Allied Health Professions (EAHP)** prepares students for allied health professional schools including physical therapy, occupational therapy, athletic training, chiropractic, and physician assistant. Students may also prepare for careers in clinical exercise working with individuals with chronic conditions including obesity, diabetes, physical disabilities, and cardiac and pulmonary diseases.
  - Fitness, Athletic, and Strength Training (FAST)** prepares students for the fitness industry by providing opportunities to gain credentials in sports nutrition, personal training, group exercise, special populations, corrective exercise, and strength & conditioning.
- The **Department of Sport Science (SPTSCI)** offers the following **BS degree in Kinesiology** concentrations:
  - Coaching, Athletics Administration, and Recreation (CAAR)** prepares students for careers as coaches at the youth sport, high school, collegiate, and professional levels. In addition, students can prepare for careers in athletic administration and recreation.
  - Exercise and Sport Studies (EXSS)** prepares students for the broad career opportunities related to a more general study of the field of Kinesiology. Students in this concentration will work closely with advisors to develop an individualized approach in order to tailor coursework to meet specific needs of the student relative to career goals.
  - Physical Education Teacher Education (PETE)** prepares students to serve as certified teachers (EC-12) to teach and coach in the public schools of Texas.

Students seeking the **BS in Kinesiology** are required to participate in leadership and professional development activities (15 Professional Development points required).

#### Bachelor of Applied Arts and Sciences (BAAS) degree in Kinesiology

- The **Department of Sport Science (SPTSCI)** offers the **BAAS degree in Kinesiology**. This degree is designed to create an expedited pathway to the Bachelor's Degree for students with significant prior learning experiences that do not appear on a traditional academic transcript. Students with documentable workforce education and technical training in related fields should disclose this information to their academic advisers or faculty mentors. The department head may also be contacted regarding questions about the BAAS.

#### Bachelor of Science (BS) degree in Sport Management

- The **Department of Sport Science (SPTSCI)** offers the **BS degree in Sport Management**. This degree is designed to prepare students for careers in the expanding sport marketplace. Students learn and apply concepts and considerations related to the management of sport-related enterprises of varying size and complexity across a spectrum of sub-markets.

Students seeking the **BS in Sport Management** are required to participate in leadership and professional development activities (15 Professional Development points required).

### Minor in Coaching

#### Required Courses

KINE 1308	Sports Officiating	3
KINE 2315	History and Philosophy of Sport, Recreation, and Exercise	3
KINE 2360	Principles of Athletic Coaching	3
KINE 3375	Legal Issues in Sport and Recreation	3
KINE 4302	Psychological Aspects of Sports	3
KINE Elective		3
Total Hours		18

### Minor in Fitness

#### Required Courses

KINE 2356	Prevention and Care of Athletic Injuries	3
KINE 2380	Essentials of Personal Training	3
KINE 2390	Fundamentals of Group Exercise Training	3
Choose 3 from the following:		9
KINE 3320	Theory of Strength Training and Conditioning I	
KINE 3333	Tactical Strength and Conditioning	
KINE 3350	Corrective Exercise Training	
KINE 3385	Program Design for Special Populations	
KINE 4302	Psychological Aspects of Sports	
KINE 4350	Recreational and Sport Facility Management	
Total Hours		18

### Minor in Kinesiology

#### Required Courses

KINE Courses (6 hours must be advanced)	18
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The Minor in Kinesiology (above) is focused on a Generalist perspective which allows the student to build coursework that best fits their career needs. The student must successfully complete 18 hours in Kinesiology of which at least 6 hours must included advanced level KINE courses. NOTE: no more than 6 hours of activity classes can be counted towards a degree.

### Leadership Team-School of Kinesiology

- Dr. Kayla Peak, Head - School of Kinesiology
- Dr. Matt Laurent, Department Head - Health and Human Performance
- Dr. Tom Tallach, Department Head - Sport Science
- Mrs. Melissa Evans, Administrative Coordinator - School of Kinesiology

### Professor emeritus

- Dr. Joe Gillespie

## Department of Health & Human Performance

- Dr. Matt Laurent, Department Head / Professor
- Dr. Joe Priest, Professor
- Dr. Steve Simpson, Professor
- Dr. Jennifer Lancaster, Associate Professor
- Dr. Andrea Green, Assistant Professor
- Ms. Amy McKay, Assistant Professor
- Dr. Andrew Wolfe, Assistant Professor
- Ms. Stephanie Nelson, Instructor

## Department of Sport Science

- Dr. Tom Tallach, Department Head / Associate Professor
- Dr. Chet Martin, Professor
- Dr. Wendell Sadler, Professor
- Dr. Jarrod Schenewark, Associate Professor
- Dr. Sharon Tiffany Bowers, Associate Professor
- Dr. Kelsey McEntyre, Assistant Professor
- Ms. Leticia Carr, Instructor
- Ms. Misti Reisman, Instructor
- Mr. Chuck Stein, Instructor
- Mr. Ronnie Zoch, Instructor

## Administrative Assistant

- Ms. Maria Ross, Department of Health and Human Performance
- Ms. Lacy Carruth, Department of Sport Science

## Athletic Training Courses

### Kinesiology Courses

#### **KINE 1100. Transitioning to University Studies in Kinesiology. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective.

#### **KINE 1210. Archery. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

An introductory study of target archery. This course will include history, skills of shooting, equipment, and safety.

#### **KINE 1218. Golf. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to provide instruction in the basic skills of golf; putting, chipping, pitching, and full swing. An additional fee is required for facility rental and equipment use. Students must provide their own transportation to Legends Golf Course & Driving Range.

#### **KINE 1220. Fitness Walking. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to reduce sedentary lifestyles and enhance overall health & fitness by increasing cardiovascular endurance, muscular strength & endurance, and improve body composition.

#### **KINE 1221. Cardio Fitness. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to enhance overall health & fitness by increasing cardiovascular endurance, muscular strength & endurance, and improve body composition. Students are encouraged to refrain from a sedentary lifestyle. Activities include walking, indoor cycling, indoor rowing, and other aerobic activities.

#### **KINE 1222. Racquet Sports. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course provides students with an opportunity to experience and learn a wide variety of racquet sports such as: racquetball, badminton, pickleball, speedminton, and others. The course is designed to teach the basic rules, regulations and skills of each racquet sport.

#### **KINE 1223. Swimming. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

Basic and advanced swimming technique, water safety procedures, and the development of health-related fitness.

#### **KINE 1224. Scuba Diving. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course teaches the PADI Open Water Diver scuba curriculum through a combination of classroom and water instruction. Students pay a fee directly to a PADI certified instructor for scuba equipment rental, air fills, text book, and ancillary materials. Students provide their own headgear and footwear. Basic swimming skills are required. Upon successful completion of this course, students have up to one year to achieve certification by independently completing their final lake dives through a certified PADI instructor.

#### **KINE 1225. Advanced Scuba Diving. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course teaches the PADI Advanced Open Water Diver scuba curriculum through a combination of classroom and water instruction. Students pay a fee directly to a PADI certified instructor for scuba equipment rental, air fills, text book, and ancillary materials. Students provide their own headgear and footwear. Basic swimming skills are required. Prerequisite: PADI Open Water Diver certification or equivalent from an accredited scuba training organization.

#### **KINE 1226. Lifeguarding. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to meet American Red Cross (ARC) requirements related to lifeguarding and basic water safety skills. Upon successful completion of the course, the student will be awarded the American Red Cross Lifeguard Training certificate and CPR/AED/First Aid certification for Lifeguards. An additional fee is required to cover ARC textbook, ARC ancillary materials, and ARC certification cards. Basic swim skills are required. Prerequisite: Must be 15+ years of age, able to swim 500 yards, able to retrieve an object from under 10 feet of water, and able to tread water for 2 minutes without the use of the hands.

#### **KINE 1230. Powerlifting. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to provide a competitive weight lifting program for both novice and advanced lifters. Instruction will focus on exercise techniques, training principles, programming, and practical strength training application. The course will concentrate on improving the individual's 1-rep max in Squat, Deadlift and Bench Press by using different methods of resistance exercises. An optional fee is necessary for students who want to travel to competitive powerlifting events; the optional fee will be used to cover entry fees and travel to/from event.

#### **KINE 1231. Strength Bootcamp. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to promote the overall health & wellness benefits of strength training by incorporating High Intensity Interval Training (HIIT) in a motivating bootcamp setting. Traditional calisthenics, body weight exercises, speed work, agility drills, power development, reaction time, and balance workout will be designed to address and improved: cardiovascular endurance, muscular strength and endurance, flexibility and body composition.



**KINE 1232. Weight Training. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to teach the beginning weight training student the various types and benefits of strength training.

**KINE 1233. Aerobic Dance. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is design to explore dance as an aerobic exercise option as well as develop an appreciation for wellness by participating in various styles of dance.

**KINE 1235. Aquatic Fitness. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed for students to engage in basic water resistance exercises, shallow water plyometrics, stretching and strength exercises, and deep water muscular endurance exercises. This is an excellent opportunity to engage in a low-impact alternative to land-based fitness activities. No previous experience or aquatic expertise is required for this class.

**KINE 1236. Dance Techniques & Fundamentals. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to provide a basic foundation of dance with an emphasis on the fundamentals of dance. The class will consist of beginner ballet, jazz, hip hop, and modern dance techniques. The artistry and physicality of dance will be emphasized.

**KINE 1237. Innovative Dance. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

Intermediate level course that continues the exploration of ballet, jazz, hip hop, and modern dance techniques. Pom techniques will also be introduced. NOTE: Basic foundation of dance techniques & fundamentals or successful completion of KINE 1236 (Dance Techniques & Fundamentals) is encouraged. Prerequisite: This course is highly recommended for students interested in auditioning to become a member of the Texan Stars dance team or for current members of the Texan Stars dance team.

**KINE 1240. Dance Performance. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed for individuals who are members of the Texan Stars Dance team or Tarleton Cheer teams. It shall serve as a support group for school events/activities and promote school loyalty and spirit. NOTE: This course is intended for students currently participating on the Texan Stars or Texan Cheer teams at Tarleton State University. Prerequisite: Student must submit application, meet fitness and performance standards, and participate in a formal try-out. Please contact the Director of the Texan Stars or the Director of Texan Cheer for more information.

**KINE 1241. Global Sports I - Rugby, Soccer, Sand Volleyball. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed provide a diverse offering of games and sports that are played on an international level. The games and sports taught within this course will include, but are not limited to: Rugby, Soccer, and Sand Volleyball.

**KINE 1242. Global Sports II - Lacrosse, Cricket, Team Handball. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed provide a diverse offering of games and sports that are played on an international level. The games and sports taught within this course will include, but are not limited to: Lacrosse, Cricket, Team Handball.

**KINE 1243. Disc Golf. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course introduces the fundamentals of disc golf. Emphasis is placed on basic throwing techniques, putting, distance driving, scoring, and single and doubles play. Tournament and match play formats will also be introduced. NOTE: Basic equipment will be provided; however, students will be required to purchase specialty discs and carrying bag. Students must provide their own transportation to the Stephenville City Park.

**KINE 1244. Rock Climbing. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course introduces students to top-rope rock climbing and bouldering techniques in both an indoor and outdoor environment. Topics include equipment, knots, belaying, rappelling, anchor systems, and a range of climbing techniques. Risk assessment and safety techniques are thoroughly addressed throughout the course. NOTE: An additional fee is required for facility rental and equipment use. A day trip (1 day) to Mineral Wells State Park will be required; students must provide their own transportation to the park and pay their entry fee.

**KINE 1245. 5K / 10K Training. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

The course is designed for students who are interested in inspirational exercise, goal setting, and personal improvement through social & competitive walking and/or running. The course will begin with low intensity, short distance training before progressing into a more aggressive training scheme. The course will cover proper walking & running mechanics, types of training (5K, 10K, Trail Runs), weather conditions, and the benefits of cardiovascular training. NOTE: Students will be required to register and complete two events (5K, 10K, Color Run, Mud Run, Spartan Run, etc.). The entry fee for each event and transportation to/from the events will be the responsibility of the student.

**KINE 1246. Hunting and Fishing. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed for outdoor enthusiasts. Students will learn fundamental firearm safety, fishing rules and regulations, hunting rules and regulations, environmental recognition (aquatic life, wild-game species and gender identification), license and permit procedures, general outdoors law, seasonal guidelines and conservation methods. The 'Texas Parks and Wildlife Outdoor Annual Hunting and Fishing Regulations' will serve as the foundation for this course. FISHING: Basic fishing gear will be provided; however, students may bring their own fishing gear. Three day trips to area lakes will be required; students must provide their own transportation to the lakes. Students must purchase a Texas fishing license. HUNTING: An additional fee is required to cover ammunition and targets. Students must provide their own transportation to the shooting range. Two day trips to area game ranches will be required; students must provide their own transportation to the ranches. Students must purchase and pass a Hunter Safety course.

**KINE 1247. Trap and Skeet Shooting. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to introduce students to trap and skeet shooting as well as discuss proper firearm and ammunition selection. Firearm safety and range etiquette will be strongly emphasized. An additional fee is required to cover ammunition and targets. Students must provide their own firearm plus ear and eye protection. Students must provide their own transportation to the shooting range.

**KINE 1248. Yoga I. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course explores the asanas (poses) and vinyasa (flow) of yoga intended to target physical postures, breathing, relaxation, and mental concentration.

**KINE 1249. Yoga II. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

Intermediate level course that continues the exploration of mind and body through asana (poses). This course introduces more detailed aspects of the discipline of yoga. Topics include breathing and physical postures, relaxation, and mental concentration. The goal is to improve yoga practice and to develop an overall deeper understanding of yoga methodology through advanced postures, breathing techniques and relaxation practices. NOTE: Previous yoga experience or successful completion of Yoga I (KINE 1248) is encouraged. Prerequisite: Previous yoga experience or successful completion of Yoga I (KINE 1248) is encouraged.

**KINE 1250. Varsity Athletics. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to introduce the student to competitive intercollegiate athletics. The student will be prepared both mentally and physically to participate and to take part in intercollegiate athletic competitions. NOTE: This course is intended for student-athletes currently participating on a NCAA athletic team at Tarleton State University.

**KINE 1301. Foundations of Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introductory course in the field of Kinesiology. Included will be the history of physical education and sport, career opportunities in Kinesiology, and objectives and principles of Kinesiology.

**KINE 1306. First Aid and CPR. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An examination and application of first aid, CPR, and emergency procedures given to victims of accident and illness.

**KINE 1308. Sports Officiating. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A course designed to teach the rules and mechanics of sports officiating in football, basketball, volleyball, and baseball/softball. Students will be required to assist in a variety of officiating activities outside the formal classroom.

**KINE 1338. Concepts of Physical Fitness. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of the principles and techniques needed to promote human health and hygiene. Topics will include but not be limited to: fitness assessment and skills, personal awareness and management techniques, self-motivation, proper nutrition, responsibility, and health choices as related to wellness. Health-related physical fitness labs for testing skills and strategies will be conducted. Lab fee: \$2.

**KINE 2310. Fundamentals of Sport Pedagogy. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Overview of the physical education profession, including: philosophy, professional standards, program outcomes, appropriate practices, and factors impacting the learning environment. Field-based experience applying course content is a course requirement.

**KINE 2315. History and Philosophy of Sport, Recreation, and Exercise. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine the history and philosophy of physical activity, most notably in relation to the United States. Included areas of study are the exercise sciences, as well as physical education, recreation, and organized sport.

**KINE 2319. Medical Terminology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Medical Terminology introduces the language of science and healthcare. Students acquire knowledge and vocabulary by learning prefixes, suffixes, stem and root words, and compound medical terms for appropriate and accurate communication. Other areas include anatomy, physiology, pathology, equipment, diagnosis, and treatment.

**KINE 2320. Anatomical Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Investigation and analysis of human motion in relationship to structure and function according to general mechanical laws and other factors. Prerequisite: BIOL 2401.

**KINE 2330. Individual and Dual Sport Skills. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed to provide quality instruction in individual and dual sports skills and activities. It consists of basic knowledge of rules and strategies, planning and implementing quality instruction, and skills testing in selected lifetime sports. Prerequisite: KINE 1301.

**KINE 2340. Team Sport Skills. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed to provide quality instruction in team sport skills and activities. It consists of basic knowledge of rules and strategies, planning and implementing quality instruction, and skills testing in selected team sports. Prerequisite: KINE 1301.

**KINE 2356. Prevention and Care of Athletic Injuries. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The study and application of skills in the prevention and care of injuries affecting the athlete and physically active. Prerequisite: BIOL 2401 Lab fee: \$2.

**KINE 2360. Principles of Athletic Coaching. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The course is designed to present foundational knowledge essential for coaching any level athlete in any sport. Emphasis is on a comprehensive approach to the foundations and theories of coaching including development of a coaching philosophy, determining coaching objectives, coaching for character, coaching diverse athletes, motivational techniques, as well as, principles of teaching, physical training, and management.

**KINE 2380. Essentials of Personal Training. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed to prepare and qualify students to work as personal trainers. The course bridges the gap between exercise science-related course work and the practical application skills in preparation for a national certification exam in personal training. Topics include guidelines for instructing safe, effective, and purposeful exercise, essentials of the client-trainer relationship, conducting health and fitness assessments, and designing and implementing appropriate exercise programming. An additional fee is required to cover the costs of the national certification exam, textbooks, and ancillary material. BIOL 2401 recommended.

**KINE 2390. Fundamentals of Group Exercise Training. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course is designed to give students the knowledge and understanding necessary to prepare for the ACE Group Fitness Instructor Certification Exam and become effective group fitness instructors. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material.

**KINE 3304. Orthopedic Assessment. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The study and application of principles and techniques for assessment of injuries including signs and symptoms, classification of injuries, and emergency and clinical assessment. Prerequisite: KINE 2356 and BIOL 2401 Lab fee: \$2.

**KINE 3310. Tests and Measurements. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Use and function of tests in Exercise and Sport Studies. Test construction and interpretation will be studied. Statistical techniques will be reviewed. Prerequisites: 12 hours of Kinesiology course work and junior classification. Lab fee: \$2.

**KINE 3314. Therapeutic Exercise and Rehabilitation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The study and application of therapeutic exercise tools and techniques in the rehabilitation of injuries including restoration of flexibility and range of motion, muscular strength, endurance and power, cardiorespiratory endurance, and neuromuscular control and balance. Prerequisites: KINE 2356 and BIOL 2401.

**KINE 3320. Theory of Strength Training and Conditioning I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study and survey of contemporary strength training and conditioning. Successful completion of the course allows the student to sit for the appropriate examinations relative to being certified as a Strength and Conditioning Specialist. Conditioning Specialist. Prerequisite: BIOL 2401 Lab fee: \$2.

**KINE 3325. Theory of Sport Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the theories, concepts, and research associated with sport management including career preparation skills and professional opportunities available in the industry.

**KINE 3326. Outdoor Adventure. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Outdoor resources and adventure activities are utilized as opportunities for experiential learning. Activities can include the Tarleton Challenge Course, hiking, backpacking, camping, mountaineering, rock climbing, biking, canoeing, kayaking, orienteering, safety and first aid. Lab fee: \$2.

**KINE 3330. Motor Behavior. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A study of the behavioral characteristics for skill acquisition due to motor, physical, and neuromuscular development. Prerequisite: approval of the department head. Lab fee: \$2.

**KINE 3333. Tactical Strength and Conditioning. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Built on scientific principles and evidence-based research, the NSCA Tactical Strength and Conditioning (TSAC) Training Course is a foundational strength and conditioning program designed to provide tactical facilitators with the tools to decrease injury risk and increase longevity and effectiveness of tactical professionals. The TSAC Practitioners Course provides the principles of program design, basics of coaching exercise technique and mechanics, and how to lead a physical readiness program. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material. Prerequisite: NA.

**KINE 3345. Sport Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course is designed to give students a foundational understanding of key leadership principles and theories. Students will study concepts such as servant leadership, transformational leadership, and ethics in leadership, among many other important topics.

**KINE 3350. Corrective Exercise Training. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course will present an evidence-based approach to corrective exercise, the components of a comprehensive solution, and the practical know-how to develop and implement integrated strategies to improve common movement impairments. Students completing this course will be prepared to take NASM's Corrective Exercise Specialist credentialing examination. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material. Prerequisite: KINE 2380.

**KINE 3352. Principles of Health and Fitness for Children. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the essential knowledge and skills of health and physical education as they relate to children ages 6-14. Included will be skills related to personal health and safety, physical fitness, motor development, games and sports, gymnastics, and rhythmic activities.

**KINE 3355. Principles of Health and Physical Education In Elementary Schools. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The knowledge, skills, and dispositions for teaching developmentally appropriate health and physical education in elementary schools.

**KINE 3360. Sports Nutrition. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course covers the essentials of human nutrition that improve and sustain optimal performance for sport and exercise. The effects of eating disorders (in both male and female athletes), weight management, sport supplements, and application of nutritional concepts related to the physically active individual seeking improved athletic performance will be addressed. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material.

**KINE 3365. Principles of Health and Physical Education In Secondary Schools. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

The knowledge, skills, and dispositions for teaching developmentally appropriate health and physical education in secondary schools.

**KINE 3370. Physiology of Exercise. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Effects of physical exercise on body processes. Prerequisite: BIOL 2401 Lab fee: \$2.

**KINE 3375. Legal Issues in Sport and Recreation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is designed to examine the legal issues involved in the supervision, management, and business operations of sport and recreation organizations. Students are provided with an introduction to various areas of law including: tort law, contract law, agency law, employment law, constitutional law, and product liability.

**KINE 3380. Adapted Physical Activity. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An introduction to adapted physical activity, including physical education, recreation, leisure, and sport for individuals with disabilities of all ages. Practical application with individuals with special needs is a course requirement.

**KINE 3385. Program Design for Special Populations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in depth study of the positive effects of exercise on the performance and quality of life of specific disease populations. The course teaches the student to design and modify exercise programs to fit the individual's needs. This course is taught using the ISSA Exercise Therapy curriculum. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material.

**KINE 3390. Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Investigation and analysis of human motion in relationship to structure and function according to general mechanical laws and other factors. Prerequisite: BIOL 2401.

**KINE 4085. Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

This course will focus on current topics and issues of interest in exercise and sport studies. It may be repeated for credit as topics change. Prerequisites: Junior-level standing or approval of department head.

**KINE 4086. Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Directed study of selected problems in Kinesiology. May be repeated for credit with approval of department head. Restricted to Kinesiology majors and minors.

**KINE 4302. Psychological Aspects of Sports. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course gives students a basic overview of sports psychology, covering aspects such as confidence, focus, mental training, visualization, peak performance, and the mind-body connection. It also examines the differences between group and individual sports and the mindsets of the prototypical athletes who engage in them. Prerequisite: Junior or higher classification.

**KINE 4305. Capstone in Kinesiology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Applied learning experience for Kinesiology majors. Students will complete capstone experiences within the department including professional development points, health related fitness components, interview and etiquette skills, resume and portfolio. Prerequisites: Senior classification (90 hours, counting in progress hours) REQUIRED.

**KINE 4330. Exercise Testing and Prescription. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Physiology of exercise in the treatment of the degenerative effects of sedentary lifestyles associated with chronic disease and/or disabilities. Prerequisite: KINE 3370 or KINE 4320. Lab fee: \$2.

**KINE 4335. Applications in Clinical Exercise Physiology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Advanced course in clinical exercise testing and prescription in individuals with chronic diseases of cardiovascular, pulmonary, metabolic, musculoskeletal, neuromuscular, and immunologic origin. Students will be actively engaged in testing and prescribing exercise for actual clients in a laboratory setting. Prerequisites: previous or current enrollment in KINE 4330 Lab fee: \$2.

**KINE 4340. Exercise Electrocardiography. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

A study of the rate, rhythm, and axis of the heart obtained during graded exercise testing. Prerequisite: BIOL 2401 and KINE 3370 Lab fee \$2.

**KINE 4350. Recreational and Sport Facility Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to the concepts, theories and practices related to the administration and management of athletic, physical activity, and recreational facilities. The course is designed to familiarize students with the basic concepts of facility planning, construction, facility operations, event planning, security, and finance. Areas under examination include facilities for scholastic, intercollegiate, amateur, professional, international and recreational sport.

**KINE 4355. Sport Governance. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Focused on the fundamental aspects of policy, legal and ethical issues, and administrative decision-making within any sport-related organization. Students are exposed to key industry concepts such as strategic management, ethics and event planning activities, in addition to governance and policy related topics such as scholastic, intercollegiate and amateur sport.

**KINE 4360. Theory of Strength Training and Conditioning II. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An in depth study of the effects of strength and conditioning on performance. This course is designed to be a follow up course to KINE 3320 and will help students further the knowledge and skills expected of a Certified Strength and Conditioning Specialist as defined by the NSCA. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material. Prerequisite: KINE 3320 Lab fee: \$2.

**KINE 4370. Organization and Administration of Sport and Recreation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course designed to study the principles, practices, and procedures in the organization and administration of sport and recreation.

**KINE 4384. Clinical Internship in Kinesiology. 3 Credit Hours (Lecture: 1 Hour, Lab: 10 Hours).**

Supervised internship with selected agencies and organizations.

**KINE 4390. Biomechanics. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed to study the mechanics of human movement. The course design provides insight into the basic laws governing the forces of stability and motion. Interpretation and understanding of biomechanical principles will be addressed to enable coaches, athletic trainers, fitness, and clinical professionals to optimize human performance and rehabilitation. Prerequisite: BIOL 2401, and either KINE 3390 or KINE 2320.

**KINE 4395. Sport Promotion and Public Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course serves as the capstone course for the sport management program. This is a senior-level course focusing on evaluation of promotion and public relations within essential to sport management. Application of sport management theory and sport leadership will serve as the foundation of the capstone course. A case study approach is utilized to develop understanding of the practical challenges of creating viable promotional and public relation strategies within the sport industry.

**KINE 4398. Internship - Professional Development. 3 Credit Hours (Lecture: 1 Hour, Lab: 10 Hours).**

Supervised professional development activities focusing on the synthesis of the hard and soft skills acquired across the curriculum. There will be reflective writings that demonstrate growth relative to professional experiences, problem solving, and other discipline specific exercises to ensure professional readiness.

**KINE 4399. Internship - Field Experience. 3 Credit Hours (Lecture: 1 Hour, Lab: 10 Hours).**

Supervised field experience performed with selected agencies and organizations including but not limited to: rec sports, athletics, schools, parks and rec, YMCA/YWCA, Boys/Girls Clubs, Boy/Girl Scouts, rehabilitation centers, cardiac rehab, etc.

**KINE 4682. Internship in Kinesiology. 6 Credit Hours (Lecture: 1 Hour, Lab: 20 Hours).**

Supervised internship with selected agencies and organizations including: rec sports, athletics, schools, parks and rec, YMCA/YWCA, Boys/Girls Clubs, Boy/Girl Scouts, rehabilitation centers, cardiac rehab, etc.

## Department of Health and Human Performance

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The mission of the **School of Kinesiology** is to prepare our students for careers within the Kinesiology and Sport industry. We seek to provide quality educational opportunities related to sport, exercise science, human performance, and allied health; offer transformative leadership experiences through service; and enhance the students' optimal wellness through a robust professional development program.

The Bachelor of Science degree in Kinesiology is designed to prepare successful professionals in teaching, coaching, athletic administration, athletic training, allied health, exercise science, and recreation.

The **Department of Health and Human Performance** in the **School of Kinesiology** offers the following Undergraduate concentrations:

**Athletic Training (ATRN)** prepares students to complete their BS in Kinesiology and transition into the Master of Science in Athletic Training (MSAT) for completion in five years. The concentration also leads to state and national credentials in athletic training.

**Exercise and Allied Health Professions (EAHP)** prepares students for allied health professional schools including physical therapy, occupational therapy, athletic training, physician assistant, and chiropractic. Students may also prepare for careers in clinical exercise working with individuals with chronic conditions including obesity, diabetes, and cardiac and pulmonary diseases.

**Fitness, Athletic, and Strength Training (FAST)** prepares students for the fitness industry by providing opportunities for credentials in sports nutrition, personal training, group exercise, special populations, corrective exercise, and strength and conditioning.

All undergraduate Kinesiology majors are required to participate in leadership and professional development activities (15 Professional Development points required).

There are several minors in Kinesiology also available and requirements vary for each specific minor. Please contact your advisor if you are interested in minoring within any of these programs.

## The Bachelor of Science Degree in Kinesiology

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>		42
KINE 1200 Activity Course		2
KINE 1338	Concepts of Physical Fitness	3
KINE 1301	Foundations of Kinesiology	3
KINE 3310	Tests and Measurements	3
KINE 3390	Kinesiology	3
KINE 3330 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Motor Behavior	3
KINE 3360 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Sports Nutrition	3
KINE 3370	Physiology of Exercise	3
KINE 3380	Adapted Physical Activity	3
KINE 4305	Capstone in Kinesiology	3
BIOL 2401 [shared]	Anatomy and Physiology I	
Total Hours		71

### Additional Required Courses for Concentrations

#### Physical Education Teacher Education (PETE)

ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
Sophomore ENGL Literature [shared]		
Select one of the following [shared]:		
COMM 1311	Introduction to Speech Communication	
COMM 1315	Public Speaking	
COMM 2302	Business and Professional Speaking	
KINE 2310	Fundamentals of Sport Pedagogy	3

KINE 2330	Individual and Dual Sport Skills	3
KINE 2340	Team Sport Skills	3
KINE 3355	Principles of Health and Physical Education In Elementary Schools	3
KINE 3365 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Principles of Health and Physical Education In Secondary Schools	3
KINE 1306 or KINE 2356	First Aid and CPR Prevention and Care of Athletic Injuries	3
Electives		7
EDUC 3320 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )] or EDUC 3321	Foundations of Teaching: Elementary (EC-6) Classrooms Foundations of Teaching: Middle and Secondary Classrooms	3
EDSP 4361	Teaching Strategies for Adolescent Students with Learning Disabilities	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
EDUC 4335	Issues of Professionalism	3
EDUC 4690	Clinical Teaching	6
Select one of the following:		3
PSYC 2308	Child Psychology	
PSYC 3303	Educational Psychology	
READ 3351 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Content Area Literacy	3
BIOL 2402 [shared]	Anatomy & Physiology II (recommended but other Lab Science may be counted for this course) <sup>2</sup>	
Total Hours		49

**Exercise and Allied Health Professions (EAHP)**

KINE 1306	First Aid and CPR	3
KINE 2356	Prevention and Care of Athletic Injuries	3
Select four of the following:		12
KINE 2319	Medical Terminology	
KINE 3304	Orthopedic Assessment	
KINE 3314	Therapeutic Exercise and Rehabilitation	
KINE 4330	Exercise Testing and Prescription	
KINE 4340	Exercise Electrocardiography	
KINE 4390	Biomechanics	
KINE 4398	Internship - Professional Development	3
KINE 4399	Internship - Field Experience	3
BIOL 2402 [shared]	Anatomy & Physiology II <sup>2</sup>	
PSYC 2301 [shared]	General Psychology	
Professional School Electives (9 hrs advanced)		25
KINE 3320	Theory of Strength Training and Conditioning I	
KINE 3375	Legal Issues in Sport and Recreation	
KINE 4302	Psychological Aspects of Sports	
KINE 4350	Recreational and Sport Facility Management	
KINE 4360	Theory of Strength Training and Conditioning II	
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	
BIOL 1406	Biology for Science Majors	
BIOL 1407	Biology for Science Majors II	
BIOL 3407	Microbiology	
CHEM 1411	College Chemistry I	
CHEM 1412	College Chemistry II	
CHEM 4374	Biochemistry I	
HPTC 4349	Pharmacology for the Allied Health Professionals	
HPTC 4350	Pathophysiology for the Health Professionals	
MATH 1342	Elementary Statistical Methods	
MATH 2412	Precalculus Math	
MATH 3450	Principles of Bio-Statistics	
PHIL 3301	Ethics in the Professions	
PHYS 1401	College Physics I	
PHYS 1402	College Physics II	
PHYS 1410	Great Ideas of Physics	
PHYS 3350	Medical Physics I	
PSYC 2314	Life Span Growth & Development	
PSYC 2317	Statistical Methods in Psychology	
PSYC 3307	The Human Lifespan	
PSYC 2320	Abnormal Psychology	

SOCI 1301	Introductory Sociology	
Total Hours		49

**Athletic Training (ATRN)**

KINE 1306	First Aid and CPR	3
KINE 2356	Prevention and Care of Athletic Injuries	3
KINE 3304	Orthopedic Assessment	3
KINE 3314	Therapeutic Exercise and Rehabilitation	3
KINE 4302	Psychological Aspects of Sports	3
KINE 4390	Biomechanics	3
Choose one of the following:		3
PHYS 1401	College Physics I	
PHYS 1410	Great Ideas of Physics	
PHYS 3350	Medical Physics I	
Choose one of the following:		3
PSYC 2317	Statistical Methods in Psychology	
MATH 1342	Elementary Statistical Methods	
Select one of the following:		3
KINE 3320	Theory of Strength Training and Conditioning I	
KINE 3333	Tactical Strength and Conditioning	
KINE 3375	Legal Issues in Sport and Recreation	
KINE 4330	Exercise Testing and Prescription	
KINE 4340	Exercise Electrocardiography	
BIOL 2402 [shared]	Anatomy & Physiology II <sup>2</sup>	
KINE 4399	Internship - Field Experience	3
CHEM 1411	College Chemistry I	4
ATRN 5191	Clinical I <sup>3</sup>	1
ATRN 5351	Athletic Training Techniques <sup>3</sup>	3
ATRN 5452	Therapeutic Interventions <sup>3</sup>	4
ATRN 5453	Orthopedic Assessment I <sup>3</sup>	4
Select One of the Following [shared]		3
MATH 1314	College Algebra	
MATH 2412	Precalculus Math	
MATH 2413	Calculus I	

Total Hours		49
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**Fitness, Athletic, and Strength Training (FAST)**

KINE 1200 Activity Course		4
KINE 1306	First Aid and CPR	3
KINE 2380	Essentials of Personal Training	3
KINE 2390	Fundamentals of Group Exercise Training	3
KINE 3320	Theory of Strength Training and Conditioning I	3
KINE 3385	Program Design for Special Populations	3
KINE 4330	Exercise Testing and Prescription	3
KINE 4360	Theory of Strength Training and Conditioning II	3
KINE 4390	Biomechanics	3
Select one of the following:		3
KINE 3333	Tactical Strength and Conditioning	
KINE 4302	Psychological Aspects of Sports	
KINE 4398	Internship - Professional Development	3
KINE 4399	Internship - Field Experience	3
Electives (6 hrs advanced)		12
BIOL 2402 [shared]	Anatomy & Physiology II <sup>2</sup>	

Total Hours		49
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**Coaching, Athletic Administration, and Recreation (CAAR)**

KINE 1200 Activity Course		2
KINE 2360	Principles of Athletic Coaching	3
KINE 3320	Theory of Strength Training and Conditioning I	3
KINE 3375	Legal Issues in Sport and Recreation	3
KINE 4350	Recreational and Sport Facility Management	3
KINE 1306	First Aid and CPR	3
or KINE 2356	Prevention and Care of Athletic Injuries	
Select one of the following:		3
KINE 1308	Sports Officiating	
KINE 2330	Individual and Dual Sport Skills	
KINE 2340	Team Sport Skills	

Select two of the following:		6
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KINE 3326	Outdoor Adventure	
KINE 3355 or KINE 3352	Principles of Health and Physical Education In Elementary Schools Principles of Health and Fitness for Children	
KINE 3365 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Principles of Health and Physical Education In Secondary Schools	
KINE 4302	Psychological Aspects of Sports	
KINE 4398	Internship - Professional Development	3
KINE 4399	Internship - Field Experience	3
Electives (3 hrs advanced)		17
BIOL 2402 [shared]	Anatomy & Physiology II (recommended but other Lab Science may be counted for this course) <sup>2</sup>	
Total Hours		49

### Exercise and Sport Studies (EXSS)

Advanced KINE elective		18
Advanced elective		6
Electives		25
Total Hours		49

<sup>1</sup> Please see Academic Information section.

<sup>2</sup> Course may be counted toward general education requirement.

<sup>3</sup> Students in the BS/MSAT 5 YR concentration must apply for and be accepted into the MSAT program in order to complete this degree concentration. The application process will occur during year 3 of the BS program. Students in the BS/MSAT 5 YR concentration must maintain a 3.0 undergraduate cumulative GPA. Transfer students must complete a minimum of two full-time semesters and 24 hours at Tarleton State University. If students decide that they do not want to complete or are not accepted into the MSAT program, they can transition to the BS degree in Kinesiology.

### Minor in Fitness

#### Required Courses

KINE 2356	Prevention and Care of Athletic Injuries	3
KINE 2380	Essentials of Personal Training	3
KINE 2390	Fundamentals of Group Exercise Training	3
Choose 3 from the following:		9
KINE 3320	Theory of Strength Training and Conditioning I	
KINE 3333	Tactical Strength and Conditioning	
KINE 3350	Corrective Exercise Training	
KINE 3385	Program Design for Special Populations	
KINE 4302	Psychological Aspects of Sports	
KINE 4350	Recreational and Sport Facility Management	
Total Hours		18

### Minor in Kinesiology

#### Required Courses

KINE Courses (6 hours must be advanced)		18
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### Professor emeritus

- Dr. Joe Gillespie

### Professors

- Dr. Matt Laurent, Department Head
- Dr. Kayla Peak
- Dr. Joe Priest
- Dr. Steve Simpson

### Assistant professors

- Dr. Andi Green
- Ms. Amy McKay
- Dr. Andy Wolfe

### Instructor & Clinical Coordinator

- Ms. Stephanie Nelson

### Courses

#### KINE 1100. Transitioning to University Studies in Kinesiology. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective.

#### KINE 1210. Archery. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).

An introductory study of target archery. This course will include history, skills of shooting, equipment, and safety.

#### KINE 1218. Golf. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).

This course is designed to provide instruction in the basic skills of golf; putting, chipping, pitching, and full swing. An additional fee is required for facility rental and equipment use. Students must provide their own transportation to Legends Golf Course & Driving Range.

**KINE 1220. Fitness Walking. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to reduce sedentary lifestyles and enhance overall health & fitness by increasing cardiovascular endurance, muscular strength & endurance, and improve body composition.

**KINE 1221. Cardio Fitness. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to enhance overall health & fitness by increasing cardiovascular endurance, muscular strength & endurance, and improve body composition. Students are encouraged to refrain from a sedentary lifestyle. Activities include walking, indoor cycling, indoor rowing, and other aerobic activities.

**KINE 1222. Racquet Sports. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course provides students with an opportunity to experience and learn a wide variety of racquet sports such as: racquetball, badminton, pickleball, speedminton, and others. The course is designed to teach the basic rules, regulations and skills of each racquet sport.

**KINE 1223. Swimming. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

Basic and advanced swimming technique, water safety procedures, and the development of health-related fitness.

**KINE 1224. Scuba Diving. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course teaches the PADI Open Water Diver scuba curriculum through a combination of classroom and water instruction. Students pay a fee directly to a PADI certified instructor for scuba equipment rental, air fills, text book, and ancillary materials. Students provide their own headgear and footwear. Basic swimming skills are required. Upon successful completion of this course, students have up to one year to achieve certification by independently completing their final lake dives through a certified PADI instructor.

**KINE 1225. Advanced Scuba Diving. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course teaches the PADI Advanced Open Water Diver scuba curriculum through a combination of classroom and water instruction. Students pay a fee directly to a PADI certified instructor for scuba equipment rental, air fills, text book, and ancillary materials. Students provide their own headgear and footwear. Basic swimming skills are required. Prerequisite: PADI Open Water Diver certification or equivalent from an accredited scuba training organization.

**KINE 1226. Lifeguarding. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to meet American Red Cross (ARC) requirements related to lifeguarding and basic water safety skills. Upon successful completion of the course, the student will be awarded the American Red Cross Lifeguard Training certificate and CPR/AED/First Aid certification for Lifeguards. An additional fee is required to cover ARC textbook, ARC ancillary materials, and ARC certification cards. Basic swim skills are required. Prerequisite: Must be 15+ years of age, able to swim 500 yards, able to retrieve an object from under 10 feet of water, and able to tread water for 2 minutes without the use of the hands.

**KINE 1230. Powerlifting. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to provide a competitive weight lifting program for both novice and advanced lifters. Instruction will focus on exercise techniques, training principles, programming, and practical strength training application. The course will concentrate on improving the individual's 1-rep max in Squat, Deadlift and Bench Press by using different methods of resistance exercises. An optional fee is necessary for students who want to travel to competitive powerlifting events; the optional fee will be used to cover entry fees and travel to/from event.

**KINE 1231. Strength Bootcamp. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to promote the overall health & wellness benefits of strength training by incorporating High Intensity Interval Training (HIIT) in a motivating bootcamp setting. Traditional calisthenics, body weight exercises, speed work, agility drills, power development, reaction time, and balance workout will be designed to address and improved: cardiovascular endurance, muscular strength and endurance, flexibility and body composition.

**KINE 1232. Weight Training. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to teach the beginning weight training student the various types and benefits of strength training.

**KINE 1233. Aerobic Dance. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is design to explore dance as an aerobic exercise option as well as develop an appreciation for wellness by participating in various styles of dance.

**KINE 1235. Aquatic Fitness. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed for students to engage in basic water resistance exercises, shallow water plyometrics, stretching and strength exercises, and deep water muscular endurance exercises. This is an excellent opportunity to engage in a low-impact alternative to land-based fitness activities. No previous experience or aquatic expertise is required for this class.

**KINE 1236. Dance Techniques & Fundamentals. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to provide a basic foundation of dance with an emphasis on the fundamentals of dance. The class will consist of beginner ballet, jazz, hip hop, and modern dance techniques. The artistry and physicality of dance will be emphasized.

**KINE 1237. Innovative Dance. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

Intermediate level course that continues the exploration of ballet, jazz, hip hop, and modern dance techniques. Pom techniques will also be introduced. NOTE: Basic foundation of dance techniques & fundamentals or successful completion of KINE 1236 (Dance Techniques & Fundamentals) is encouraged. Prerequisite: This course is highly recommended for students interested in auditioning to become a member of the Texan Stars dance team or for current members of the Texan Stars dance team.

**KINE 1240. Dance Performance. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed for individuals who are members of the Texan Stars Dance team or Tarleton Cheer teams. It shall serve as a support group for school events/activities and promote school loyalty and spirit. NOTE: This course is intended for students currently participating on the Texan Stars or Texan Cheer teams at Tarleton State University. Prerequisite: Student must submit application, meet fitness and performance standards, and participate in a formal try-out. Please contact the Director of the Texan Stars or the Director of Texan Cheer for more information.

**KINE 1241. Global Sports I - Rugby, Soccer, Sand Volleyball. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed provide a diverse offering of games and sports that are played on an international level. The games and sports taught within this course will include, but are not limited to: Rugby, Soccer, and Sand Volleyball.

**KINE 1242. Global Sports II - Lacrosse, Cricket, Team Handball. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed provide a diverse offering of games and sports that are played on an international level. The games and sports taught within this course will include, but are not limited to: Lacrosse, Cricket, Team Handball.

**KINE 1243. Disc Golf. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course introduces the fundamentals of disc golf. Emphasis is placed on basic throwing techniques, putting, distance driving, scoring, and single and doubles play. Tournament and match play formats will also be introduced. NOTE: Basic equipment will be provided; however, students will be required to purchase specialty discs and carrying bag. Students must provide their own transportation to the Stephenville City Park.

**KINE 1244. Rock Climbing. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course introduces students to top-rope rock climbing and bouldering techniques in both an indoor and outdoor environment. Topics include equipment, knots, belaying, rappelling, anchor systems, and a range of climbing techniques. Risk assessment and safety techniques are thoroughly addressed throughout the course. NOTE: An additional fee is required for facility rental and equipment use. A day trip (1 day) to Mineral Wells State Park will be required; students must provide their own transportation to the park and pay their entry fee.



**KINE 1245. 5K / 10K Training. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

The course is designed for students who are interested in inspirational exercise, goal setting, and personal improvement through social & competitive walking and/or running. The course will begin with low intensity, short distance training before progressing into a more aggressive training scheme. The course will cover proper walking & running mechanics, types of training (5K, 10K, Trail Runs), weather conditions, and the benefits of cardiovascular training. NOTE: Students will be required to register and complete two events (5K, 10K, Color Run, Mud Run, Spartan Run, etc.). The entry fee for each event and transportation to/from the events will be the responsibility of the student.

**KINE 1246. Hunting and Fishing. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed for outdoor enthusiasts. Students will learn fundamental firearm safety, fishing rules and regulations, hunting rules and regulations, environmental recognition (aquatic life, wild-game species and gender identification), license and permit procedures, general outdoors law, seasonal guidelines and conservation methods. The 'Texas Parks and Wildlife Outdoor Annual Hunting and Fishing Regulations' will serve as the foundation for this course. FISHING: Basic fishing gear will be provided; however, students may bring their own fishing gear. Three day trips to area lakes will be required; students must provide their own transportation to the lakes. Students must purchase a Texas fishing license. HUNTING: An additional fee is required to cover ammunition and targets. Students must provide their own transportation to the shooting range. Two day trips to area game ranches will be required; students must provide their own transportation to the ranches. Students must purchase and pass a Hunter Safety course.

**KINE 1247. Trap and Skeet Shooting. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to introduce students to trap and skeet shooting as well as discuss proper firearm and ammunition selection. Firearm safety and range etiquette will be strongly emphasized. An additional fee is required to cover ammunition and targets. Students must provide their own firearm plus ear and eye protection. Students must provide their own transportation to the shooting range.

**KINE 1248. Yoga I. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course explores the asanas (poses) and vinyasa (flow) of yoga intended to target physical postures, breathing, relaxation, and mental concentration.

**KINE 1249. Yoga II. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

Intermediate level course that continues the exploration of mind and body through asana (poses). This course introduces more detailed aspects of the discipline of yoga. Topics include breathing and physical postures, relaxation, and mental concentration. The goal is to improve yoga practice and to develop an overall deeper understanding of yoga methodology through advanced postures, breathing techniques and relaxation practices. NOTE: Previous yoga experience or successful completion of Yoga I (KINE 1248) is encouraged. Prerequisite: Previous yoga experience or successful completion of Yoga I (KINE 1248) is encouraged.

**KINE 1250. Varsity Athletics. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to introduce the student to competitive intercollegiate athletics. The student will be prepared both mentally and physically to participate and to take part in intercollegiate athletic competitions. NOTE: This course is intended for student-athletes currently participating on a NCAA athletic team at Tarleton State University.

**KINE 1301. Foundations of Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introductory course in the field of Kinesiology. Included will be the history of physical education and sport, career opportunities in Kinesiology, and objectives and principles of Kinesiology.

**KINE 1306. First Aid and CPR. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An examination and application of first aid, CPR, and emergency procedures given to victims of accident and illness.

**KINE 1308. Sports Officiating. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A course designed to teach the rules and mechanics of sports officiating in football, basketball, volleyball, and baseball/softball. Students will be required to assist in a variety of officiating activities outside the formal classroom.

**KINE 1338. Concepts of Physical Fitness. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of the principles and techniques needed to promote human health and hygiene. Topics will include but not be limited to: fitness assessment and skills, personal awareness and management techniques, self-motivation, proper nutrition, responsibility, and health choices as related to wellness. Health-related physical fitness labs for testing skills and strategies will be conducted. Lab fee: \$2.

**KINE 2310. Fundamentals of Sport Pedagogy. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Overview of the physical education profession, including: philosophy, professional standards, program outcomes, appropriate practices, and factors impacting the learning environment. Field-based experience applying course content is a course requirement.

**KINE 2315. History and Philosophy of Sport, Recreation, and Exercise. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine the history and philosophy of physical activity, most notably in relation to the United States. Included areas of study are the exercise sciences, as well as physical education, recreation, and organized sport.

**KINE 2319. Medical Terminology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Medical Terminology introduces the language of science and healthcare. Students acquire knowledge and vocabulary by learning prefixes, suffixes, stem and root words, and compound medical terms for appropriate and accurate communication. Other areas include anatomy, physiology, pathology, equipment, diagnosis, and treatment.

**KINE 2320. Anatomical Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Investigation and analysis of human motion in relationship to structure and function according to general mechanical laws and other factors. Prerequisite: BIOL 2401.

**KINE 2330. Individual and Dual Sport Skills. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed to provide quality instruction in individual and dual sports skills and activities. It consists of basic knowledge of rules and strategies, planning and implementing quality instruction, and skills testing in selected lifetime sports. Prerequisite: KINE 1301.

**KINE 2340. Team Sport Skills. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed to provide quality instruction in team sport skills and activities. It consists of basic knowledge of rules and strategies, planning and implementing quality instruction, and skills testing in selected team sports. Prerequisite: KINE 1301.

**KINE 2356. Prevention and Care of Athletic Injuries. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The study and application of skills in the prevention and care of injuries affecting the athlete and physically active. Prerequisite: BIOL 2401 Lab fee: \$2.

**KINE 2360. Principles of Athletic Coaching. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The course is designed to present foundational knowledge essential for coaching any level athlete in any sport. Emphasis is on a comprehensive approach to the foundations and theories of coaching including development of a coaching philosophy, determining coaching objectives, coaching for character, coaching diverse athletes, motivational techniques, as well as, principles of teaching, physical training, and management.

**KINE 2380. Essentials of Personal Training. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed to prepare and qualify students to work as personal trainers. The course bridges the gap between exercise science-related course work and the practical application skills in preparation for a national certification exam in personal training. Topics include guidelines for instructing safe, effective, and purposeful exercise, essentials of the client-trainer relationship, conducting health and fitness assessments, and designing and implementing appropriate exercise programming. An additional fee is required to cover the costs of the national certification exam, textbooks, and ancillary material. BIOL 2401 recommended.

**KINE 2390. Fundamentals of Group Exercise Training. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course is designed to give students the knowledge and understanding necessary to prepare for the ACE Group Fitness Instructor Certification Exam and become effective group fitness instructors. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material.

**KINE 3304. Orthopedic Assessment. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The study and application of principles and techniques for assessment of injuries including signs and symptoms, classification of injuries, and emergency and clinical assessment. Prerequisite: KINE 2356 and BIOL 2401 Lab fee: \$2.

**KINE 3310. Tests and Measurements. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Use and function of tests in Exercise and Sport Studies. Test construction and interpretation will be studied. Statistical techniques will be reviewed. Prerequisites: 12 hours of Kinesiology course work and junior classification. Lab fee: \$2.

**KINE 3314. Therapeutic Exercise and Rehabilitation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The study and application of therapeutic exercise tools and techniques in the rehabilitation of injuries including restoration of flexibility and range of motion, muscular strength, endurance and power, cardiorespiratory endurance, and neuromuscular control and balance. Prerequisites: KINE 2356 and BIOL 2401.

**KINE 3320. Theory of Strength Training and Conditioning I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study and survey of contemporary strength training and conditioning. Successful completion of the course allows the student to sit for the appropriate examinations relative to being certified as a Strength and Conditioning Specialist. Conditioning Specialist. Prerequisite: BIOL 2401 Lab fee: \$2.

**KINE 3325. Theory of Sport Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the theories, concepts, and research associated with sport management including career preparation skills and professional opportunities available in the industry.

**KINE 3326. Outdoor Adventure. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Outdoor resources and adventure activities are utilized as opportunities for experiential learning. Activities can include the Tarleton Challenge Course, hiking, backpacking, camping, mountaineering, rock climbing, biking, canoeing, kayaking, orienteering, safety and first aid. Lab fee: \$2.

**KINE 3330. Motor Behavior. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A study of the behavioral characteristics for skill acquisition due to motor, physical, and neuromuscular development. Prerequisite: approval of the department head. Lab fee: \$2.

**KINE 3333. Tactical Strength and Conditioning. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Built on scientific principles and evidence-based research, the NSCA Tactical Strength and Conditioning (TSAC) Training Course is a foundational strength and conditioning program designed to provide tactical facilitators with the tools to decrease injury risk and increase longevity and effectiveness of tactical professionals. The TSAC Practitioners Course provides the principles of program design, basics of coaching exercise technique and mechanics, and how to lead a physical readiness program. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material. Prerequisite: NA.

**KINE 3345. Sport Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course is designed to give students a foundational understanding of key leadership principles and theories. Students will study concepts such as servant leadership, transformational leadership, and ethics in leadership, among many other important topics.

**KINE 3350. Corrective Exercise Training. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course will present an evidence-based approach to corrective exercise, the components of a comprehensive solution, and the practical know-how to develop and implement integrated strategies to improve common movement impairments. Students completing this course will be prepared to take NASM's Corrective Exercise Specialist credentialing examination. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material. Prerequisite: KINE 2380.

**KINE 3352. Principles of Health and Fitness for Children. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the essential knowledge and skills of health and physical education as they relate to children ages 6-14. Included will be skills related to personal health and safety, physical fitness, motor development, games and sports, gymnastics, and rhythmic activities.

**KINE 3355. Principles of Health and Physical Education In Elementary Schools. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The knowledge, skills, and dispositions for teaching developmentally appropriate health and physical education in elementary schools.

**KINE 3360. Sports Nutrition. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course covers the essentials of human nutrition that improve and sustain optimal performance for sport and exercise. The effects of eating disorders (in both male and female athletes), weight management, sport supplements, and application of nutritional concepts related to the physically active individual seeking improved athletic performance will be addressed. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material.

**KINE 3365. Principles of Health and Physical Education In Secondary Schools. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

The knowledge, skills, and dispositions for teaching developmentally appropriate health and physical education in secondary schools.

**KINE 3370. Physiology of Exercise. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Effects of physical exercise on body processes. Prerequisite: BIOL 2401 Lab fee: \$2.

**KINE 3375. Legal Issues in Sport and Recreation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is designed to examine the legal issues involved in the supervision, management, and business operations of sport and recreation organizations. Students are provided with an introduction to various areas of law including: tort law, contract law, agency law, employment law, constitutional law, and product liability.

**KINE 3380. Adapted Physical Activity. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An introduction to adapted physical activity, including physical education, recreation, leisure, and sport for individuals with disabilities of all ages. Practical application with individuals with special needs is a course requirement.

**KINE 3385. Program Design for Special Populations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in depth study of the positive effects of exercise on the performance and quality of life of specific disease populations. The course teaches the student to design and modify exercise programs to fit the individual's needs. This course is taught using the ISSA Exercise Therapy curriculum. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material.

**KINE 3390. Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Investigation and analysis of human motion in relationship to structure and function according to general mechanical laws and other factors. Prerequisite: BIOL 2401.

**KINE 4085. Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

This course will focus on current topics and issues of interest in exercise and sport studies. It may be repeated for credit as topics change. Prerequisites: Junior-level standing or approval of department head.

**KINE 4086. Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Directed study of selected problems in Kinesiology. May be repeated for credit with approval of department head. Restricted to Kinesiology majors and minors.

**KINE 4302. Psychological Aspects of Sports. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course gives students a basic overview of sports psychology, covering aspects such as confidence, focus, mental training, visualization, peak performance, and the mind-body connection. It also examines the differences between group and individual sports and the mindsets of the prototypical athletes who engage in them. Prerequisite: Junior or higher classification.

**KINE 4305. Capstone in Kinesiology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Applied learning experience for Kinesiology majors. Students will complete capstone experiences within the department including professional development points, health related fitness components, interview and etiquette skills, resume and portfolio. Prerequisites: Senior classification (90 hours, counting in progress hours) REQUIRED.

**KINE 4330. Exercise Testing and Prescription. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Physiology of exercise in the treatment of the degenerative effects of sedentary lifestyles associated with chronic disease and/or disabilities. Prerequisite: KINE 3370 or KINE 4320. Lab fee: \$2.

**KINE 4335. Applications in Clinical Exercise Physiology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Advanced course in clinical exercise testing and prescription in individuals with chronic diseases of cardiovascular, pulmonary, metabolic, musculoskeletal, neuromuscular, and immunologic origin. Students will be actively engaged in testing and prescribing exercise for actual clients in a laboratory setting. Prerequisites: previous or current enrollment in KINE 4330 Lab fee: \$2.

**KINE 4340. Exercise Electrocardiography. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

A study of the rate, rhythm, and axis of the heart obtained during graded exercise testing. Prerequisite: BIOL 2401 and KINE 3370 Lab fee \$2.

**KINE 4350. Recreational and Sport Facility Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to the concepts, theories and practices related to the administration and management of athletic, physical activity, and recreational facilities. The course is designed to familiarize students with the basic concepts of facility planning, construction, facility operations, event planning, security, and finance. Areas under examination include facilities for scholastic, intercollegiate, amateur, professional, international and recreational sport.

**KINE 4355. Sport Governance. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Focused on the fundamental aspects of policy, legal and ethical issues, and administrative decision-making within any sport-related organization. Students are exposed to key industry concepts such as strategic management, ethics and event planning activities, in addition to governance and policy related topics such as scholastic, intercollegiate and amateur sport.

**KINE 4360. Theory of Strength Training and Conditioning II. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An in depth study of the effects of strength and conditioning on performance. This course is designed to be a follow up course to KINE 3320 and will help students further the knowledge and skills expected of a Certified Strength and Conditioning Specialist as defined by the NSCA. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material. Prerequisite: KINE 3320 Lab fee: \$2.

**KINE 4370. Organization and Administration of Sport and Recreation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course designed to study the principles, practices, and procedures in the organization and administration of sport and recreation.

**KINE 4384. Clinical Internship in Kinesiology. 3 Credit Hours (Lecture: 1 Hour, Lab: 10 Hours).**

Supervised internship with selected agencies and organizations.

**KINE 4390. Biomechanics. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed to study the mechanics of human movement. The course design provides insight into the basic laws governing the forces of stability and motion. Interpretation and understanding of biomechanical principles will be addressed to enable coaches, athletic trainers, fitness, and clinical professionals to optimize human performance and rehabilitation. Prerequisite: BIOL 2401, and either KINE 3390 or KINE 2320.

**KINE 4395. Sport Promotion and Public Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course serves as the capstone course for the sport management program. This is a senior-level course focusing on evaluation of promotion and public relations within essential to sport management. Application of sport management theory and sport leadership will serve as the foundation of the capstone course. A case study approach is utilized to develop understanding of the practical challenges of creating viable promotional and public relation strategies within the sport industry.

**KINE 4398. Internship - Professional Development. 3 Credit Hours (Lecture: 1 Hour, Lab: 10 Hours).**

Supervised professional development activities focusing on the synthesis of the hard and soft skills acquired across the curriculum. There will be reflective writings that demonstrate growth relative to professional experiences, problem solving, and other discipline specific exercises to ensure professional readiness.

**KINE 4399. Internship - Field Experience. 3 Credit Hours (Lecture: 1 Hour, Lab: 10 Hours).**

Supervised field experience performed with selected agencies and organizations including but not limited to: rec sports, athletics, schools, parks and rec, YMCA/YWCA, Boys/Girls Clubs, Boy/Girl Scouts, rehabilitation centers, cardiac rehab, etc.

**KINE 4682. Internship in Kinesiology. 6 Credit Hours (Lecture: 1 Hour, Lab: 20 Hours).**

Supervised internship with selected agencies and organizations including: rec sports, athletics, schools, parks and rec, YMCA/YWCA, Boys/Girls Clubs, Boy/Girl Scouts, rehabilitation centers, cardiac rehab, etc.

## Department of Sport Science

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The mission of the **School of Kinesiology** is to prepare our students for careers within the Kinesiology and Sport industry. We seek to provide quality educational opportunities related to sport, exercise science, human performance, and allied health; offer transformative leadership experiences through service; and enhance the students' optimal wellness through a robust professional development program.

### **Degree Programs:**

**(BS) Bachelor of Science Degree in Kinesiology**

**(BAAS) Bachelor of Applied Arts and Sciences in Kinesiology**

**(BS) Bachelor of Science Degree in Sport Management**

Both the Bachelor of Science (BS) Degree in Kinesiology and the Bachelor of Applied Arts and Sciences (BAAS) in Kinesiology are designed to prepare successful professionals in teaching, coaching, athletic administration, athletic training, allied health, exercise science, and recreation.

The **Department of Sport Science** in the **School of Kinesiology** offers the following Undergraduate concentrations in the Bachelor of Science in Kinesiology:

**Coaching, Athletics Administration, and Recreation (CAAR)** prepares students for careers as coaches at the youth sport, high school, collegiate, and professional levels. In addition, students can prepare for careers in athletic administration and recreation.

**Exercise and Sport Studies (EXSS)** prepares students for the broad career opportunities related to a more general study of the field of Kinesiology. Students in this concentration will work closely with advisors to develop an individualized approach in order to tailor coursework to meet specific needs of the student relative to career goals.

**Physical Education Teacher Education (PETE)** prepares students to serve as certified teachers (EC-12) to teach and coach in the public schools of Texas.

Students seeking the BS in Kinesiology are required to participate in leadership and professional development activities (15 Professional Development points required).

The **Bachelor of Applied Arts and Sciences Degree (BAAS)** in Kinesiology is designed to create an expedited pathway to the Bachelor's Degree for students with significant prior learning experiences that do not appear on a traditional academic transcript. Students with documentable workforce education and technical training in related fields should disclose this information to their academic advisers or faculty mentors. The department head may also be contacted regarding questions about the BAAS.

The Bachelor of Science Degree in **Sport Management** is designed to prepare students for careers in the expanding sport marketplace. Students learn and apply concepts and considerations related to the management of sport-related enterprises of varying size and complexity across a spectrum of sub-markets. Students seeking the BS in Sport Management are required to participate in leadership and professional development activities (15 Professional Development points required).

There are several minors offered in the School of Kinesiology. The Department of Sport Science offers the **Minor in Coaching**. Please contact your advisor if you are interested in minoring within any of these programs.

## The Bachelor of Science Degree in Kinesiology

### The Bachelor of Science Degree in Kinesiology

#### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>		42
KINE 1200 Activity Course		2
KINE 1338	Concepts of Physical Fitness	3
KINE 1301	Foundations of Kinesiology	3
KINE 3310	Tests and Measurements	3
KINE 3390	Kinesiology	3
KINE 3330 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Motor Behavior	3
KINE 3360 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Sports Nutrition	3
KINE 3370	Physiology of Exercise	3
KINE 3380	Adapted Physical Activity	3
KINE 4305	Capstone in Kinesiology	3
BIOL 2401 [shared]	Anatomy and Physiology I	
Total Hours		71

#### Additional Required Courses for Concentrations

##### Physical Education Teacher Education (PETE)

ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
Sophomore ENGL Literature [shared]		
Select one of the following [shared]:		
COMM 1311	Introduction to Speech Communication	
COMM 1315	Public Speaking	
COMM 2302	Business and Professional Speaking	
KINE 2310	Fundamentals of Sport Pedagogy	3
KINE 2330	Individual and Dual Sport Skills	3
KINE 2340	Team Sport Skills	3
KINE 3355	Principles of Health and Physical Education In Elementary Schools	3
KINE 3365 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Principles of Health and Physical Education In Secondary Schools	3
KINE 1306	First Aid and CPR	3
or KINE 2356	Prevention and Care of Athletic Injuries	
Electives		7
EDUC 3320 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Elementary (EC-6) Classrooms	3
or EDUC 3321	Foundations of Teaching: Middle and Secondary Classrooms	
EDSP 4361	Teaching Strategies for Adolescent Students with Learning Disabilities	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
EDUC 4335	Issues of Professionalism	3
EDUC 4690	Clinical Teaching	6
Select one of the following:		3

PSYC 2308	Child Psychology	
PSYC 3303	Educational Psychology	
READ 3351 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Content Area Literacy	3
BIOL 2402 [shared]	Anatomy & Physiology II (recommended but other Lab Science may be counted for this course) <sup>2</sup>	
Total Hours		49

**Exercise and Allied Health Professions (EAHP)**

KINE 1306	First Aid and CPR	3
KINE 2356	Prevention and Care of Athletic Injuries	3
Select four of the following:		12
KINE 2319	Medical Terminology	
KINE 3304	Orthopedic Assessment	
KINE 3314	Therapeutic Exercise and Rehabilitation	
KINE 4330	Exercise Testing and Prescription	
KINE 4340	Exercise Electrocardiography	
KINE 4390	Biomechanics	
KINE 4398	Internship - Professional Development	3
KINE 4399	Internship - Field Experience	3
BIOL 2402 [shared]	Anatomy & Physiology II <sup>2</sup>	
PSYC 2301 [shared]	General Psychology	
Professional School Electives (9 hrs advanced)		25
KINE 3320	Theory of Strength Training and Conditioning I	
KINE 3375	Legal Issues in Sport and Recreation	
KINE 4302	Psychological Aspects of Sports	
KINE 4350	Recreational and Sport Facility Management	
KINE 4360	Theory of Strength Training and Conditioning II	
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	
BIOL 1406	Biology for Science Majors	
BIOL 1407	Biology for Science Majors II	
BIOL 3407	Microbiology	
CHEM 1411	College Chemistry I	
CHEM 1412	College Chemistry II	
CHEM 4374	Biochemistry I	
HPTC 4349	Pharmacology for the Allied Health Professionals	
HPTC 4350	Pathophysiology for the Health Professionals	
MATH 1342	Elementary Statistical Methods	
MATH 2412	Precalculus Math	
MATH 3450	Principles of Bio-Statistics	
PHIL 3301	Ethics in the Professions	
PHYS 1401	College Physics I	
PHYS 1402	College Physics II	
PHYS 1410	Great Ideas of Physics	
PHYS 3350	Medical Physics I	
PSYC 2314	Life Span Growth & Development	
PSYC 2317	Statistical Methods in Psychology	
PSYC 3307	The Human Lifespan	
PSYC 2320	Abnormal Psychology	
SOCI 1301	Introductory Sociology	
Total Hours		49

**Athletic Training (ATRN)**

KINE 1306	First Aid and CPR	3
KINE 2356	Prevention and Care of Athletic Injuries	3
KINE 3304	Orthopedic Assessment	3
KINE 3314	Therapeutic Exercise and Rehabilitation	3
KINE 4302	Psychological Aspects of Sports	3
KINE 4390	Biomechanics	3
Choose one of the following:		3
PHYS 1401	College Physics I	
PHYS 1410	Great Ideas of Physics	
PHYS 3350	Medical Physics I	
Choose one of the following:		3
PSYC 2317	Statistical Methods in Psychology	
MATH 1342	Elementary Statistical Methods	
Select one of the following:		3

KINE 3320	Theory of Strength Training and Conditioning I	
KINE 3333	Tactical Strength and Conditioning	
KINE 3375	Legal Issues in Sport and Recreation	
KINE 4330	Exercise Testing and Prescription	
KINE 4340	Exercise Electrocardiography	
BIOL 2402 [shared]	Anatomy & Physiology II <sup>2</sup>	
KINE 4399	Internship - Field Experience	3
CHEM 1411	College Chemistry I	4
ATRN 5191	Clinical I <sup>3</sup>	1
ATRN 5351	Athletic Training Techniques <sup>3</sup>	3
ATRN 5452	Therapeutic Interventions <sup>3</sup>	4
ATRN 5453	Orthopedic Assessment I <sup>3</sup>	4
Select One of the Following [shared]		3
MATH 1314	College Algebra	
MATH 2412	Precalculus Math	
MATH 2413	Calculus I	
Total Hours		49

### Fitness, Athletic, and Strength Training (FAST)

KINE 1200 Activity Course		4
KINE 1306	First Aid and CPR	3
KINE 2380	Essentials of Personal Training	3
KINE 2390	Fundamentals of Group Exercise Training	3
KINE 3320	Theory of Strength Training and Conditioning I	3
KINE 3385	Program Design for Special Populations	3
KINE 4330	Exercise Testing and Prescription	3
KINE 4360	Theory of Strength Training and Conditioning II	3
KINE 4390	Biomechanics	3
Select one of the following:		3
KINE 3333	Tactical Strength and Conditioning	
KINE 4302	Psychological Aspects of Sports	
KINE 4398	Internship - Professional Development	3
KINE 4399	Internship - Field Experience	3
Electives (6 hrs advanced)		12
BIOL 2402 [shared]	Anatomy & Physiology II <sup>2</sup>	
Total Hours		49

### Coaching, Athletic Administration, and Recreation (CAAR)

KINE 1200 Activity Course		2
KINE 2360	Principles of Athletic Coaching	3
KINE 3320	Theory of Strength Training and Conditioning I	3
KINE 3375	Legal Issues in Sport and Recreation	3
KINE 4350	Recreational and Sport Facility Management	3
KINE 1306	First Aid and CPR	3
or KINE 2356	Prevention and Care of Athletic Injuries	
Select one of the following:		3
KINE 1308	Sports Officiating	
KINE 2330	Individual and Dual Sport Skills	
KINE 2340	Team Sport Skills	
Select two of the following:		6
KINE 3326	Outdoor Adventure	
KINE 3355	Principles of Health and Physical Education In Elementary Schools	
or KINE 3352	Principles of Health and Fitness for Children	
KINE 3365 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Principles of Health and Physical Education In Secondary Schools	
KINE 4302	Psychological Aspects of Sports	
KINE 4398	Internship - Professional Development	3
KINE 4399	Internship - Field Experience	3
Electives (3 hrs advanced)		17
BIOL 2402 [shared]	Anatomy & Physiology II (recommended but other Lab Science may be counted for this course) <sup>2</sup>	
Total Hours		49

### Exercise and Sport Studies (EXSS)

Advanced KINE elective		18
Advanced elective		6
Electives		25
Total Hours		49

- 1 Please see Academic Information section.
- 2 Course may be counted toward general education requirement.
- 3 Students in the BS/MSAT 5 YR concentration must apply for and be accepted into the MSAT program in order to complete this degree concentration. The application process will occur during year 3 of the BS program. Students in the BS/MSAT 5 YR concentration must maintain a 3.0 undergraduate cumulative GPA. Transfer students must complete a minimum of two full-time semesters and 24 hours at Tarleton State University. If students decide that they do not want to complete or are not accepted into the MSAT program, they can transition to the BS degree in Kinesiology.

## The Bachelor of Applied Arts and Science in Kinesiology

The BAAS in Kinesiology creates an additional pathway to the bachelor's degree for non-traditional students who have acquired substantial content knowledge and requisite skills as a result of their experiences in the workforce and related professional development activities.

### The Bachelor of Applied Arts and Sciences in Kinesiology

#### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )	42
<b>Prior Learning Credit</b>	<b>12-33</b>
KINE 3330 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )] Motor Behavior	3
KINE 3360 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )] Sports Nutrition	3
Advanced KINE elective	21
Advanced elective	9
Electives	9-30
<b>Total Hours</b>	<b>120</b>

## The Bachelor of Science in Sport Management

### The Bachelor of Science in Sport Management

#### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )	42
KINE 1301 Foundations of Kinesiology	3
KINE 1308 Sports Officiating	3
KINE 2360 Principles of Athletic Coaching	3
KINE 3325 Theory of Sport Management	3
KINE 3345 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )] Sport Leadership	3
KINE 4302 Psychological Aspects of Sports	3
KINE 4350 Recreational and Sport Facility Management	3
KINE 4355 Sport Governance	3
KINE 4395 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )] Sport Promotion and Public Relations	3
KINE 3375 Legal Issues in Sport and Recreation	3
Select 9 credits:	9
Choose any course offered by the College of Business (ACCT, ADMS, COBA, BCIS, BLAW, BUSI, ECON, FINC, MGMT, MKTG, REST) RECOMMENDED: BUSI 1301, MGMT 3300, MGMT 3302, MKTG 3312, MKTG 3315.	
Advanced KINE Electives	21
General Electives (3 hours must be advanced)	18
<b>Total Hours</b>	<b>120</b>

## Minor in Coaching

The Department of Sport Science offers the Minor in Coaching.

### Minor in Coaching

#### Required Courses

KINE 1308 Sports Officiating	3
KINE 2315 History and Philosophy of Sport, Recreation, and Exercise	3
KINE 2360 Principles of Athletic Coaching	3
KINE 3375 Legal Issues in Sport and Recreation	3
KINE 4302 Psychological Aspects of Sports	3
KINE Elective	3
<b>Total Hours</b>	<b>18</b>

## Professor emeritus

- Dr. Joe Gillespie

## Professors

- Dr. Kayla Peak, Head- School of Kinesiology
- Dr. Chet Martin
- Dr. Wendell Sadler

## Associate professors

- Dr. Sharon Tiffany Bowers
- Dr. Tom Tallach, Department Head
- Dr. Jarrod Schenewark

## Assistant professors

- Dr. Kelsey McEntyre
- Dr. Colin Pennington

## Instructor

- Ms. Leticia Carr
- Dr. Julie Mata
- Ms. Misti Reisman
- Mr. Ronnie Zoch

## Courses

### **KINE 1100. Transitioning to University Studies in Kinesiology. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective.

### **KINE 1210. Archery. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

An introductory study of target archery. This course will include history, skills of shooting, equipment, and safety.

### **KINE 1218. Golf. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to provide instruction in the basic skills of golf; putting, chipping, pitching, and full swing. An additional fee is required for facility rental and equipment use. Students must provide their own transportation to Legends Golf Course & Driving Range.

### **KINE 1220. Fitness Walking. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to reduce sedentary lifestyles and enhance overall health & fitness by increasing cardiovascular endurance, muscular strength & endurance, and improve body composition.

### **KINE 1221. Cardio Fitness. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to enhance overall health & fitness by increasing cardiovascular endurance, muscular strength & endurance, and improve body composition. Students are encouraged to refrain from a sedentary lifestyle. Activities include walking, indoor cycling, indoor rowing, and other aerobic activities.

### **KINE 1222. Racquet Sports. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course provides students with an opportunity to experience and learn a wide variety of racquet sports such as: racquetball, badminton, pickleball, speedminton, and others. The course is designed to teach the basic rules, regulations and skills of each racquet sport.

### **KINE 1223. Swimming. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

Basic and advanced swimming technique, water safety procedures, and the development of health-related fitness.

### **KINE 1224. Scuba Diving. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course teaches the PADI Open Water Diver scuba curriculum through a combination of classroom and water instruction. Students pay a fee directly to a PADI certified instructor for scuba equipment rental, air fills, text book, and ancillary materials. Students provide their own headgear and footgear. Basic swimming skills are required. Upon successful completion of this course, students have up to one year to achieve certification by independently completing their final lake dives through a certified PADI instructor.

### **KINE 1225. Advanced Scuba Diving. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course teaches the PADI Advanced Open Water Diver scuba curriculum through a combination of classroom and water instruction. Students pay a fee directly to a PADI certified instructor for scuba equipment rental, air fills, text book, and ancillary materials. Students provide their own headgear and footgear. Basic swimming skills are required. Prerequisite: PADI Open Water Diver certification or equivalent from an accredited scuba training organization.

### **KINE 1226. Lifeguarding. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to meet American Red Cross (ARC) requirements related to lifeguarding and basic water safety skills. Upon successful completion of the course, the student will be awarded the American Red Cross Lifeguard Training certificate and CPR/AED/First Aid certification for Lifeguards. An additional fee is required to cover ARC textbook, ARC ancillary materials, and ARC certification cards. Basic swim skills are required. Prerequisite: Must be 15+ years of age, able to swim 500 yards, able to retrieve an object from under 10 feet of water, and able to tread water for 2 minutes without the use of the hands.

### **KINE 1230. Powerlifting. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to provide a competitive weight lifting program for both novice and advanced lifters. Instruction will focus on exercise techniques, training principles, programming, and practical strength training application. The course will concentrate on improving the individual's 1-rep max in Squat, Deadlift and Bench Press by using different methods of resistance exercises. An optional fee is necessary for students who want to travel to competitive powerlifting events; the optional fee will be used to cover entry fees and travel to/from event.

### **KINE 1231. Strength Bootcamp. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to promote the overall health & wellness benefits of strength training by incorporating High Intensity Interval Training (HIIT) in a motivating bootcamp setting. Traditional calisthenics, body weight exercises, speed work, agility drills, power development, reaction time, and balance workout will be designed to address and improved: cardiovascular endurance, muscular strength and endurance, flexibility and body composition.

### **KINE 1232. Weight Training. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to teach the beginning weight training student the various types and benefits of strength training.

### **KINE 1233. Aerobic Dance. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is design to explore dance as an aerobic exercise option as well as develop an appreciation for wellness by participating in various styles of dance.

### **KINE 1235. Aquatic Fitness. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed for students to engage in basic water resistance exercises, shallow water plyometrics, stretching and strength exercises, and deep water muscular endurance exercises. This is an excellent opportunity to engage in a low-impact alternative to land-based fitness activities. No previous experience or aquatic expertise is required for this class.



**KINE 1236. Dance Techniques & Fundamentals. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to provide a basic foundation of dance with an emphasis on the fundamentals of dance. The class will consist of beginner ballet, jazz, hip hop, and modern dance techniques. The artistry and physicality of dance will be emphasized.

**KINE 1237. Innovative Dance. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

Intermediate level course that continues the exploration of ballet, jazz, hip hop, and modern dance techniques. Pom techniques will also be introduced. NOTE: Basic foundation of dance techniques & fundamentals or successful completion of KINE 1236 (Dance Techniques & Fundamentals) is encouraged. Prerequisite: This course is highly recommended for students interested in auditioning to become a member of the Texan Stars dance team or for current members of the Texan Stars dance team.

**KINE 1240. Dance Performance. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed for individuals who are members of the Texan Stars Dance team or Tarleton Cheer teams. It shall serve as a support group for school events/activities and promote school loyalty and spirit. NOTE: This course is intended for students currently participating on the Texan Stars or Texan Cheer teams at Tarleton State University. Prerequisite: Student must submit application, meet fitness and performance standards, and participate in a formal try-out. Please contact the Director of the Texan Stars or the Director of Texan Cheer for more information.

**KINE 1241. Global Sports I - Rugby, Soccer, Sand Volleyball. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed provide a diverse offering of games and sports that are played on an international level. The games and sports taught within this course will include, but are not limited to: Rugby, Soccer, and Sand Volleyball.

**KINE 1242. Global Sports II - Lacrosse, Cricket, Team Handball. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed provide a diverse offering of games and sports that are played on an international level. The games and sports taught within this course will include, but are not limited to: Lacrosse, Cricket, Team Handball.

**KINE 1243. Disc Golf. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course introduces students to top-rope rock climbing and bouldering techniques in both an indoor and outdoor environment. Topics include equipment, knots, belaying, rappelling, anchor systems, and a range of climbing techniques. Risk assessment and safety techniques are thoroughly addressed throughout the course. NOTE: An additional fee is required for facility rental and equipment use. A day trip (1 day) to Mineral Wells State Park will be required; students must provide their own transportation to the park and pay their entry fee.

**KINE 1244. Rock Climbing. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course introduces students to top-rope rock climbing and bouldering techniques in both an indoor and outdoor environment. Topics include equipment, knots, belaying, rappelling, anchor systems, and a range of climbing techniques. Risk assessment and safety techniques are thoroughly addressed throughout the course. NOTE: An additional fee is required for facility rental and equipment use. A day trip (1 day) to Mineral Wells State Park will be required; students must provide their own transportation to the park and pay their entry fee.

**KINE 1245. 5K / 10K Training. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

The course is designed for students who are interested in inspirational exercise, goal setting, and personal improvement through social & competitive walking and/or running. The course will begin with low intensity, short distance training before progressing into a more aggressive training scheme. The course will cover proper walking & running mechanics, types of training (5K, 10K, Trail Runs), weather conditions, and the benefits of cardiovascular training. NOTE: Students will be required to register and complete two events (5K, 10K, Color Run, Mud Run, Spartan Run, etc.). The entry fee for each event and transportation to/from the events will be the responsibility of the student.

**KINE 1246. Hunting and Fishing. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed for outdoor enthusiasts. Students will learn fundamental firearm safety, fishing rules and regulations, hunting rules and regulations, environmental recognition (aquatic life, wild-game species and gender identification), license and permit procedures, general outdoors law, seasonal guidelines and conservation methods. The 'Texas Parks and Wildlife Outdoor Annual Hunting and Fishing Regulations' will serve as the foundation for this course. FISHING: Basic fishing gear will be provided; however, students may bring their own fishing gear. Three day trips to area lakes will be required; students must provide their own transportation to the lakes. Students must purchase a Texas fishing license. HUNTING: An additional fee is required to cover ammunition and targets. Students must provide their own transportation to the shooting range. Two day trips to area game ranches will be required; students must provide their own transportation to the ranches. Students must purchase and pass a Hunter Safety course.

**KINE 1247. Trap and Skeet Shooting. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to introduce students to trap and skeet shooting as well as discuss proper firearm and ammunition selection. Firearm safety and range etiquette will be strongly emphasized. An additional fee is required to cover ammunition and targets. Students must provide their own firearm plus ear and eye protection. Students must provide their own transportation to the shooting range.

**KINE 1248. Yoga I. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course explores the asanas (poses) and vinyasa (flow) of yoga intended to target physical postures, breathing, relaxation, and mental concentration.

**KINE 1249. Yoga II. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

Intermediate level course that continues the exploration of mind and body through asana (poses). This course introduces more detailed aspects of the discipline of yoga. Topics include breathing and physical postures, relaxation, and mental concentration. The goal is to improve yoga practice and to develop an overall deeper understanding of yoga methodology through advanced postures, breathing techniques and relaxation practices. NOTE: Previous yoga experience or successful completion of Yoga I (KINE 1248) is encouraged. Prerequisite: Previous yoga experience or successful completion of Yoga I (KINE 1248) is encouraged.

**KINE 1250. Varsity Athletics. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to introduce the student to competitive intercollegiate athletics. The student will be prepared both mentally and physically to participate and to take part in intercollegiate athletic competitions. NOTE: This course is intended for student-athletes currently participating on a NCAA athletic team at Tarleton State University.

**KINE 1301. Foundations of Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introductory course in the field of Kinesiology. Included will be the history of physical education and sport, career opportunities in Kinesiology, and objectives and principles of Kinesiology.

**KINE 1306. First Aid and CPR. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An examination and application of first aid, CPR, and emergency procedures given to victims of accident and illness.

**KINE 1308. Sports Officiating. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A course designed to teach the rules and mechanics of sports officiating in football, basketball, volleyball, and baseball/softball. Students will be required to assist in a variety of officiating activities outside the formal classroom.

**KINE 1338. Concepts of Physical Fitness. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of the principles and techniques needed to promote human health and hygiene. Topics will include but not be limited to: fitness assessment and skills, personal awareness and management techniques, self-motivation, proper nutrition, responsibility, and health choices as related to wellness. Health-related physical fitness labs for testing skills and strategies will be conducted. Lab fee: \$2.

**KINE 2310. Fundamentals of Sport Pedagogy. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Overview of the physical education profession, including: philosophy, professional standards, program outcomes, appropriate practices, and factors impacting the learning environment. Field-based experience applying course content is a course requirement.

**KINE 2315. History and Philosophy of Sport, Recreation, and Exercise. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine the history and philosophy of physical activity, most notably in relation to the United States. Included areas of study are the exercise sciences, as well as physical education, recreation, and organized sport.

**KINE 2319. Medical Terminology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Medical Terminology introduces the language of science and healthcare. Students acquire knowledge and vocabulary by learning prefixes, suffixes, stem and root words, and compound medical terms for appropriate and accurate communication. Other areas include anatomy, physiology, pathology, equipment, diagnosis, and treatment.

**KINE 2320. Anatomical Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Investigation and analysis of human motion in relationship to structure and function according to general mechanical laws and other factors. Prerequisite: BIOL 2401.

**KINE 2330. Individual and Dual Sport Skills. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed to provide quality instruction in individual and dual sports skills and activities. It consists of basic knowledge of rules and strategies, planning and implementing quality instruction, and skills testing in selected lifetime sports. Prerequisite: KINE 1301.

**KINE 2340. Team Sport Skills. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed to provide quality instruction in team sport skills and activities. It consists of basic knowledge of rules and strategies, planning and implementing quality instruction, and skills testing in selected team sports. Prerequisite: KINE 1301.

**KINE 2356. Prevention and Care of Athletic Injuries. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The study and application of skills in the prevention and care of injuries affecting the athlete and physically active. Prerequisite: BIOL 2401 Lab fee: \$2.

**KINE 2360. Principles of Athletic Coaching. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The course is designed to present foundational knowledge essential for coaching any level athlete in any sport. Emphasis is on a comprehensive approach to the foundations and theories of coaching including development of a coaching philosophy, determining coaching objectives, coaching for character, coaching diverse athletes, motivational techniques, as well as, principles of teaching, physical training, and management.

**KINE 2380. Essentials of Personal Training. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed to prepare and qualify students to work as personal trainers. The course bridges the gap between exercise science-related course work and the practical application skills in preparation for a national certification exam in personal training. Topics include guidelines for instructing safe, effective, and purposeful exercise, essentials of the client-trainer relationship, conducting health and fitness assessments, and designing and implementing appropriate exercise programming. An additional fee is required to cover the costs of the national certification exam, textbooks, and ancillary material. BIOL 2401 recommended.

**KINE 2390. Fundamentals of Group Exercise Training. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course is designed to give students the knowledge and understanding necessary to prepare for the ACE Group Fitness Instructor Certification Exam and become effective group fitness instructors. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material.

**KINE 3304. Orthopedic Assessment. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The study and application of principles and techniques for assessment of injuries including signs and symptoms, classification of injuries, and emergency and clinical assessment. Prerequisite: KINE 2356 and BIOL 2401 Lab fee: \$2.

**KINE 3310. Tests and Measurements. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Use and function of tests in Exercise and Sport Studies. Test construction and interpretation will be studied. Statistical techniques will be reviewed. Prerequisites: 12 hours of Kinesiology course work and junior classification. Lab fee: \$2.

**KINE 3314. Therapeutic Exercise and Rehabilitation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The study and application of therapeutic exercise tools and techniques in the rehabilitation of injuries including restoration of flexibility and range of motion, muscular strength, endurance and power, cardiorespiratory endurance, and neuromuscular control and balance. Prerequisites: KINE 2356 and BIOL 2401.

**KINE 3320. Theory of Strength Training and Conditioning I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study and survey of contemporary strength training and conditioning. Successful completion of the course allows the student to sit for the appropriate examinations relative to being certified as a Strength and Conditioning Specialist. Conditioning Specialist. Prerequisite: BIOL 2401 Lab fee: \$2.

**KINE 3325. Theory of Sport Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the theories, concepts, and research associated with sport management including career preparation skills and professional opportunities available in the industry.

**KINE 3326. Outdoor Adventure. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Outdoor resources and adventure activities are utilized as opportunities for experiential learning. Activities can include the Tarleton Challenge Course, hiking, backpacking, camping, mountaineering, rock climbing, biking, canoeing, kayaking, orienteering, safety and first aid. Lab fee: \$2.

**KINE 3330. Motor Behavior. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A study of the behavioral characteristics for skill acquisition head to motor, physical, and neuromuscular development. Prerequisite: approval of the department head. Lab fee: \$2.

**KINE 3333. Tactical Strength and Conditioning. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Built on scientific principles and evidence-based research, the NSCA Tactical Strength and Conditioning (TSAC) Training Course is a foundational strength and conditioning program designed to provide tactical facilitators with the tools to decrease injury risk and increase longevity and effectiveness of tactical professionals. The TSAC Practitioners Course provides the principles of program design, basics of coaching exercise technique and mechanics, and how to lead a physical readiness program. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material. Prerequisite: NA.

**KINE 3345. Sport Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course is designed to give students a foundational understanding of key leadership principles and theories. Students will study concepts such as servant leadership, transformational leadership, and ethics in leadership, among many other important topics.

**KINE 3350. Corrective Exercise Training. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course will present an evidence-based approach to corrective exercise, the components of a comprehensive solution, and the practical know-how to develop and implement integrated strategies to improve common movement impairments. Students completing this course will be prepared to take NASM's Corrective Exercise Specialist credentialing examination. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material. Prerequisite: KINE 2380.

**KINE 3352. Principles of Health and Fitness for Children. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the essential knowledge and skills of health and physical education as they relate to children ages 6-14. Included will be skills related to personal health and safety, physical fitness, motor development, games and sports, gymnastics, and rhythmic activities.

**KINE 3355. Principles of Health and Physical Education In Elementary Schools. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The knowledge, skills, and dispositions for teaching developmentally appropriate health and physical education in elementary schools.

**KINE 3360. Sports Nutrition. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course covers the essentials of human nutrition that improve and sustain optimal performance for sport and exercise. The effects of eating disorders (in both male and female athletes), weight management, sport supplements, and application of nutritional concepts related to the physically active individual seeking improved athletic performance will be addressed. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material.

**KINE 3365. Principles of Health and Physical Education In Secondary Schools. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The knowledge, skills, and dispositions for teaching developmentally appropriate health and physical education in secondary schools.

**KINE 3370. Physiology of Exercise. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Effects of physical exercise on body processes. Prerequisite: BIOL 2401 Lab fee: \$2.

**KINE 3375. Legal Issues in Sport and Recreation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is designed to examine the legal issues involved in the supervision, management, and business operations of sport and recreation organizations. Students are provided with an introduction to various areas of law including: tort law, contract law, agency law, employment law, constitutional law, and product liability.

**KINE 3380. Adapted Physical Activity. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An introduction to adapted physical activity, including physical education, recreation, leisure, and sport for individuals with disabilities of all ages. Practical application with individuals with special needs is a course requirement.

**KINE 3385. Program Design for Special Populations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in depth study of the positive effects of exercise on the performance and quality of life of specific disease populations. The course teaches the student to design and modify exercise programs to fit the individual's needs. This course is taught using the ISSA Exercise Therapy curriculum. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material.

**KINE 3390. Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Investigation and analysis of human motion in relationship to structure and function according to general mechanical laws and other factors. Prerequisite: BIOL 2401.

**KINE 4085. Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

This course will focus on current topics and issues of interest in exercise and sport studies. It may be repeated for credit as topics change. Prerequisites: Junior-level standing or approval of department head.

**KINE 4086. Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Directed study of selected problems in Kinesiology. May be repeated for credit with approval of department head. Restricted to Kinesiology majors and minors.

**KINE 4302. Psychological Aspects of Sports. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course gives students a basic overview of sports psychology, covering aspects such as confidence, focus, mental training, visualization, peak performance, and the mind-body connection. It also examines the differences between group and individual sports and the mindsets of the prototypical athletes who engage in them. Prerequisite: Junior or higher classification.

**KINE 4305. Capstone in Kinesiology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Applied learning experience for Kinesiology majors. Students will complete capstone experiences within the department including professional development points, health related fitness components, interview and etiquette skills, resume and portfolio. Prerequisites: Senior classification (90 hours, counting in progress hours) REQUIRED.

**KINE 4330. Exercise Testing and Prescription. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Physiology of exercise in the treatment of the degenerative effects of sedentary lifestyles associated with chronic disease and/or disabilities. Prerequisite: KINE 3370 or KINE 4320. Lab fee: \$2.

**KINE 4335. Applications in Clinical Exercise Physiology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Advanced course in clinical exercise testing and prescription in individuals with chronic diseases of cardiovascular, pulmonary, metabolic, musculoskeletal, neuromuscular, and immunologic origin. Students will be actively engaged in testing and prescribing exercise for actual clients in a laboratory setting. Prerequisites: previous or current enrollment in KINE 4330 Lab fee: \$2.

**KINE 4340. Exercise Electrocardiography. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

A study of the rate, rhythm, and axis of the heart obtained during graded exercise testing. Prerequisite: BIOL 2401 and KINE 3370 Lab fee \$2.

**KINE 4350. Recreational and Sport Facility Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to the concepts, theories and practices related to the administration and management of athletic, physical activity, and recreational facilities. The course is designed to familiarize students with the basic concepts of facility planning, construction, facility operations, event planning, security, and finance. Areas under examination include facilities for scholastic, intercollegiate, amateur, professional, international and recreational sport.

**KINE 4355. Sport Governance. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Focused on the fundamental aspects of policy, legal and ethical issues, and administrative decision-making within any sport-related organization. Students are exposed to key industry concepts such as strategic management, ethics and event planning activities, in addition to governance and policy related topics such as scholastic, intercollegiate and amateur sport.

**KINE 4360. Theory of Strength Training and Conditioning II. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An in depth study of the effects of strength and conditioning on performance. This course is designed to be a follow up course to KINE 3320 and will help students further the knowledge and skills expected of a Certified Strength and Conditioning Specialist as defined by the NSCA. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material. Prerequisite: KINE 3320 Lab fee: \$2.

**KINE 4370. Organization and Administration of Sport and Recreation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course designed to study the principles, practices, and procedures in the organization and administration of sport and recreation.

**KINE 4384. Clinical Internship in Kinesiology. 3 Credit Hours (Lecture: 1 Hour, Lab: 10 Hours).**

Supervised internship with selected agencies and organizations.

**KINE 4390. Biomechanics. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed to study the mechanics of human movement. The course design provides insight into the basic laws governing the forces of stability and motion. Interpretation and understanding of biomechanical principles will be addressed to enable coaches, athletic trainers, fitness, and clinical professionals to optimize human performance and rehabilitation. Prerequisite: BIOL 2401, and either KINE 3390 or KINE 2320.

**KINE 4395. Sport Promotion and Public Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course serves as the capstone course for the sport management program. This is a senior-level course focusing on evaluation of promotion and public relations within essential to sport management. Application of sport management theory and sport leadership will serve as the foundation of the capstone course. A case study approach is utilized to develop understanding of the practical challenges of creating viable promotional and public relation strategies within the sport industry.

**KINE 4398. Internship - Professional Development. 3 Credit Hours (Lecture: 1 Hour, Lab: 10 Hours).**

Supervised professional development activities focusing on the synthesis of the hard and soft skills acquired across the curriculum. There will be reflective writings that demonstrate growth relative to professional experiences, problem solving, and other discipline specific exercises to ensure professional readiness.

**KINE 4399. Internship - Field Experience. 3 Credit Hours (Lecture: 1 Hour, Lab: 10 Hours).**

Supervised field experience performed with selected agencies and organizations including but not limited to: rec sports, athletics, schools, parks and rec, YMCA/YWCA, Boys/Girls Clubs, Boy/Girl Scouts, rehabilitation centers, cardiac rehab, etc.

**KINE 4682. Internship in Kinesiology. 6 Credit Hours (Lecture: 1 Hour, Lab: 20 Hours).**

Supervised internship with selected agencies and organizations including: rec sports, athletics, schools, parks and rec, YMCA/YWCA, Boys/Girls Clubs, Boy/Girl Scouts, rehabilitation centers, cardiac rehab, etc.

## College of Health Sciences and Human Services

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[www.tarleton.edu/chshs/](http://www.tarleton.edu/chshs/) (<http://www.tarleton.edu/chshs/>)

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The College of Health Sciences and Human Services includes the Department of Counseling; the Department of Medical Laboratory Sciences and Public Health; the Department of Nursing; and the Department of Social Work. The college offers a number of academic degree programs, including undergraduate and graduate degree programs. Please see the graduate section of the catalog for more information regarding the graduate programs offered by the College of Health Services and Human Sciences.

The college offers the following undergraduate degree programs:

### Undergraduate Programs offered by the College of Health Sciences and Human Services

#### The Department of Medical Laboratory Sciences and Public Health:

- AAS in Histotechnology
- AAS in Medical Laboratory Technology
- BAT in Health Professions Technology
- BS in Medical Laboratory Science
- BS in Nutrition Sciences
- BS in Public Health
- Minor in Food and Nutrition

#### School of Nursing:

- BSN in Nursing

#### The Department of Social Work:

- BSW in Social Work
- BS in Communication Sciences and Disorders

#### The Department of Counseling:

- Minor in Counseling

## Department of Medical Laboratory Sciences, Public Health, and Nutrition Science

Tarleton State University  
 Department of Medical Laboratory Sciences, Public Health, and Nutrition Science  
 1501 Enderly Place  
 Fort Worth, Texas 76104  
 (817) 926-1101  
 (817) 922-8103  
[www.tarleton.edu/medicallab/](http://www.tarleton.edu/medicallab/) (<http://www.tarleton.edu/medicallab/>)

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 MLS Program Director and Assistant Professor  
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Sally Lewis, Ph.D., MLS(ASCP), HTL, MB  
Dean, College of Health Sciences and Human Services, and Professor  
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The Department of Medical Laboratory Sciences, Public Health, and Nutrition Science offers several options of associate, bachelors, and masters degrees for professional laboratory education and a Bachelor of Science in Public Health. All laboratory programs require a program specific application located on the departmental website. The Public Health and Health Profession Technology options are not competitive admission programs.

Degree and certificate options include the following:

- AAS and/or Certificate in Medical Laboratory Technology (Fort Worth campus)
- AAS and/or certificate in Histotechnology (Fort Worth campus)
- BAT in Health Professions Technology (On-Line)
- BS and/or Certificate in Medical Laboratory Science (Fort Worth campus)
- BS in Public Health (Stephenville campus)
- MS in Medical Laboratory Sciences (Fort Worth campus)
- BS in Nutrition Science (Stephenville campus)

## Bachelor of Science Degree in Medical Laboratory Science - Description

The last sixteen months of the Medical Laboratory Science degree/certificate program is completed at the Department of Medical Laboratory Sciences and Public Health, located in Fort Worth, Texas. The certificate program is accredited by the National Accrediting Agency for Medical Laboratory Sciences (NAACLS) 5600 N. River Road, Suite 720, Rosemont, IL 60018. The Department consists of a teaching center and numerous clinical affiliates located in the Dallas/Fort Worth Metroplex and surrounding areas. The teaching center is housed in the Schaffer Building in Fort Worth, which consists of six lecture rooms, six laboratories, a computer lab, and a library. A continuous 16-month professional laboratory curriculum is offered, totaling 54 semester hours, with 10 months in the teaching center and 6 months in the clinical affiliate.

Twenty-five to thirty-five students are admitted to the certification program in early January and July of each year, with application deadlines of the preceding September 1 and March 1, respectively. Admission is on a competitive basis. An overall minimum GPA of 2.5/4.00, with a minimum GPA of 2.8 in science and math, is required. NAACLS specifies that prerequisite college courses and numbers of credits required shall be those necessary to ensure admission of individuals prepared for the educational program. Prerequisite content area includes general chemistry, organic and/or biochemistry, general biological sciences, microbiology, and mathematics. Survey courses do not qualify as fulfillment of chemistry and biological science prerequisites. Developmental mathematics courses will not satisfy the mathematics requirements.

Students entering the program from other universities must fulfill the degree requirements of their institution, and that institution must provide a degree statement of the 54 hours awarded by Tarleton State University for graduation requirements. By special arrangement prior to entrance, students may elect to receive the degree from their original college or university or from Tarleton State University. Students who have already obtained a baccalaureate degree may also enter the program, provided they have met the NAACLS minimum requirements of sixteen credit hours in biology, chemistry, and three hours in mathematics. Students articulating from affiliated Universities and post-baccalaureate students may elect to pursue a combined BS/MS MLS concentration. For additional information please see the Master of Science in Medical Laboratory Science catalog page.

Successful completion of courses will be determined with the maintenance of a grade of C or better in lecture, laboratory and practicum courses. All students are admitted on a probationary status and progressive academic achievement must be maintained.

Upon successful completion of the certificate program, the Bachelor of Science degree may also be awarded. The student is eligible to challenge the MLS Board of certification examination offered by the American Society for Clinical Pathology.

For further information concerning the Medical Laboratory Science program, contact:

LeAnne Hutson, Ph.D., MLS(ASCP)<sup>CM</sup>  
Assistant Professor and Medical Laboratory Science Program Director  
1501 Enderly Place  
Fort Worth, TX 76104  
(817) 926-1101  
lhutson@tarleton.edu

## The Bachelor of Science Degree in Medical Laboratory Science

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
BIOL 1406	Biology for Science Majors	4
BIOL 2300	Cell Biology	3
BIOL 3407	Microbiology	4
BIOL 3485	Immunology	4
BIOL 4460	Animal Physiology	4
CHEM 1411 [shared]	College Chemistry I	
CHEM 1412 [shared]	College Chemistry II	

CHEM 2323 & CHEM 2123	Organic Chemistry I and Organic Chemistry I Laboratory	4
CHEM 2325 & CHEM 2125	Organic Chemistry II and Organic Chemistry II Laboratory	4
MATH 1314 [shared]	College Algebra	
MATH Elective		3
MDLS 4274	Introduction to Lab Safety and Operations	2
MDLS 4148 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Introduction to Medical Genetics	1
MDLS 4276	Clinical Chemistry I Lecture	2
MDLS 4177	Clinical Chemistry I Lab	1
MDLS 4334	Medical Microbiology I Lecture	3
MDLS 4135	Medical Microbiology I Lab	1
MDLS 4364	Immunology and Serology Lecture	3
MDLS 4169	Immunology and Serology Lab	1
MDLS 4324	Hematology I Lecture	3
MDLS 4125	Hematology I Laboratory	1
MDLS 4214	Urinalysis and Body Fluids Lecture	2
MDLS 4115	Urinalysis and Body Fluids Laboratory	1
MDLS 4226	Hematology II Lecture	2
MDLS 4127	Hematology II Laboratory	1
MDLS 4336	Medical Microbiology II Lecture	3
MDLS 4137	Medical Microbiology II Lab	1
MDLS 4378	Clinical Chemistry II Lecture	3
MDLS 4179	Clinical Chemistry II Lab	1
MDLS 4175	Advanced Laboratory Automation, Statistics, and Quality Assurance Concepts	1
MDLS 4444	Immunoematology Lecture	4
MDLS 4149	Immunoematology Lab	1
MDLS 4592	Clinical Laboratory Practicum I	2
MDLS 4593	Clinical Laboratory Practicum II	2
MDLS 4594	Clinical Laboratory Practicum III	2
MDLS 4595	Clinical Laboratory Practicum IV	2
MDLS 4391 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Integrated Clinical Laboratory Practice and Research	2
Total Hours		120

## Associate of Applied Science in Histotechnology - Description

The A.A.S. in Histotechnology requires a total of 60 credit hours consisting of 23 credit hours of prerequisites, and 37 credit hours of technical program courses. Prerequisite courses may be taken at the university or any one of the thirteen consortium community colleges. The sophomore courses comprising the technical program will be taken in Fort Worth at the Schaffer Building and affiliated clinical hospital sites. Upon successful completion of the 60 hour program, students are eligible for the AAS Degree in Histotechnology awarded from Tarleton State University.

This program is accredited by the National Accrediting Agency for Medical Laboratory Sciences (NAACLS), 5600 N. River Road, Suite 720, Rosemont, IL 60018, (773) 714-8880. Successful completion of the program will require a grade of "C" or better in all lecture and laboratory courses and a grade of "P" in all clinical practicum courses. After successful completion of the program students are eligible for the Histotechnician exam administered by the American Society for Clinical Pathology (ASCP) Board of Registry.

Acceptance into the Histotechnology program is on a competitive basis through an evaluation based on letters of recommendation and academic performance. Students must successfully complete prerequisites before the start of the technical program. Applications may be obtained on the university Medical Laboratory Sciences website at <https://www.tarleton.edu/medicallab>. Students are accepted into the program three times a year to begin in either August, January or May. Application deadlines are listed on the application.

Students entering with an associate or baccalaureate degree, and who do not wish to earn the AAS in Histotechnology degree, must have the following prerequisites:

- Biology: 8 hours including Microbiology
- Chemistry: 4 hours
- Math: 3 hours
- English: 3 hours

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## Associate of Applied Science in Histotechnology

### Required Courses

#### Required Histotechnology Courses to be taken in Fort Worth and affiliated clinical sites: <sup>1</sup>

ENGL 1301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	3
PSYC 2301	General Psychology	3

MATH 1314	College Algebra	3
Creative Arts or Language, Philosophy and Culture Elective		3
BIOL 2402	Anatomy & Physiology II	4
HPTC 3350	Microbiology for Allied Health Professionals	3
CHEM 1407	Fundamentals of Chemistry	4
HLAB 2182	Introduction to Medical Laboratory Sciences <sup>2</sup>	1
HLAB 2414	Introduction to Histotechnology	4
HLAB 2415	Histotechnology I	4
HLAB 2425	Histotechnology II	4
HLAB 2335	Histotechnology III	3
HLAB 2460	Functional Histology	4
HLAB 2364	Immunohistochemistry and Molecular Techniques	3
HLAB 2285	Capstone Cases and Review <sup>4</sup>	2
HLAB 2495	Clinical Histotechnology I <sup>2</sup>	4
HLAB 2496	Clinical Histotechnology II <sup>3</sup>	4
HLAB 2497	Clinical Histotechnology III <sup>4</sup>	4
Total Hours		60

- <sup>1</sup> Students must earn a grade of "C" or better to earn credit for HLAB courses.
- <sup>2</sup> A student must enroll in these courses during their first semester whether it is Fall, Spring or Summer term.
- <sup>3</sup> A student must enroll in these courses during their second semester whether it is Fall, Spring or Summer term.
- <sup>4</sup> A student must enroll in these courses during their final semester whether it is Fall, Spring or Summer term.

## Associate of Applied Science in Medical Laboratory Technology - Description

The A.A.S. in Medical Laboratory Technology requires a total of 60 credit hours consisting of 23 credit hours of prerequisites, and 37 credit hours of technical program courses. Prerequisite courses may be taken at the university or any one of the thirteen consortium community colleges. The sophomore courses comprising the technical program will be taken in Fort Worth at the Schaffer or Hickman Building and affiliated clinical hospital sites. Upon successful completion of the 60 hour program, students are eligible for the AAS Degree in Medical Laboratory Technology awarded from Tarleton State University.

This program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Road, Suite 720, Rosemont, IL 60018, (773) 714-8880. After successful completion of the program students are eligible to take the Medical Laboratory Technician exam administered by the American Society for Clinical Pathology (ASCP) Board of Registry.

Acceptance into the Medical Laboratory Technology program is on a competitive basis through an evaluation based on letters of recommendation and academic performance. Students must successfully complete prerequisites before the start of the technical program in Fort Worth. Applications may be obtained on the university Medical Laboratory Sciences website at <https://www.tarleton.edu/medicallab>. Students are accepted into the program three times a year to begin in either August, January or May. Application deadlines are listed on the application.

Students entering with an associates or baccalaureate degree must have the following prerequisites:

- Biology: 8 hours including Microbiology
- Chemistry: 4 hours
- Math: 3 hours
- English: 3 hours

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## Associate of Applied Science in Medical Laboratory Technology

### Required Courses

#### Required Medical Laboratory Technology Courses to be taken in Fort Worth affiliated clinical sites: <sup>1</sup>

BIOL 2402	Anatomy & Physiology II	4
HPTC 3350	Microbiology for Allied Health Professionals	3
PSYC 2301	General Psychology	3
ENGL 1301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	3
MATH 1314	College Algebra	3
Creative Arts or Language, Philosophy and Culture Elective (as advised)		3
MLAB 2214	Introduction to Urinalysis	2
MLAB 2424	Introduction to Hematology	4
MLAB 2228	Coagulation	2
MLAB 2534	Introduction of Medical Microbiology	5
MLAB 2444	Introduction to Immunohematology	4
MLAB 2364	Introduction to Immunology-Serology	3
MLAB 2474	Laboratory Operations	4
MLAB 2576	Introduction to Clinical Chemistry	5
MLAB 2182	Introductory Skills for Medical Laboratory Science <sup>2</sup>	1
MLAB 2285	Advanced Topics and Capstone Review <sup>3</sup>	2
MLAB 2292	MLT Field Practicum IV <sup>3</sup>	2
MLAB 2193	MLT Field Practicum III	1

MLAB 2194	MLT Field Practicum I	1
MLAB 2195	MLT Field Practicum II	1
CHEM 1407	Fundamentals of Chemistry	4
Total Hours		60

- 1 Students must earn a grade of "C" or better to earn credit for MLAB courses.
- 2 A student must enroll in these courses during their first semester whether it is Fall, Spring or Summer term.
- 3 A student must enroll in these courses during their final semester whether it is Fall, Spring or Summer term.

## Bachelor of Applied Technology of Health Professions Technology - Description

Tarleton State University, a member of the Texas A&M University System, offers the professional degree Bachelor of Applied Technology in Health Professions Technology through its Department of Medical Laboratory Sciences and Public Health in Fort Worth, Texas.

The Bachelor's of Applied Technology in Health Professions Technology is designed for the certified/licensed allied health practitioner who has earned an Associate's Degree and who desires or requires further education for professional development or personal satisfaction. This degree will give students who graduated from our Histotechnology and Medical Laboratory Technology programs and graduates of other allied health associate degree program an opportunity to continue their education at Tarleton to earn a four year degree, while applying credit from their Workforce Education (WECM) courses.

Students seeking the Bachelor of Applied Technology in Health Professions Technology degree must hold one of the following Degrees **and** Certification or License:

- AAS Medical Laboratory Technology, MLT (ASCP)
- AAS Histotechnology, HT (ASCP)
- AAS Dental Hygiene, Registered Dental Hygienist
- AAS Emergency Medical Services, EMT Paramedic or equivalent
- AAS Health Information Technology, Appropriate Certification
- AAS Physical Therapy Assistant, Licensed PTA
- AAS Radiologic Technology, Registered Radiology Technologist by American Registry of Radiology Technologists
- AAS Respiratory Care, Registered Respiratory Therapist by National Board for Respiratory Therapy and Texas Department of Health
- AAS Surgical Technology, Certified Surgical Technologist by Association of Surgical Technologists
- AAS Biotechnology (Eligible students may articulate from Temple College, Collin County College or by permission of Department Head

Contact:

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## The Bachelor of Applied Technology of Health Professions Technology

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>		42
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
COMM 2302 [shared]	Business and Professional Speaking <sup>1</sup>	
Choose one of the following [shared]:		
PSYC 2301 [shared]	General Psychology	
SOCI 1301 [shared]	Introductory Sociology	
HPTC 3320	Biotechnology and Bioethics	3
HPTC 3350	Microbiology for Allied Health Professionals	3
HPTC 4304	Health Care Management	3
HPTC 4305 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Issues and Trends in Health Care	3
HPTC 4349	Pharmacology for the Allied Health Professionals	3
HPTC 4350	Pathophysiology for the Health Professionals	3
MDLS 4360	Introduction to Clinical Immunology	3
SOCI 4314	Medical and Health Care Policy	3
ENGT 3320	Industrial Safety	3
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	3
Select 15 hours of the following:		
ADMS 3318	Current Issues in Business Operations	
ADMS 4313	Administrative Information Systems	
BCIS 3315	Web Development	
COMM 4304	Organizational Communication	
BLAW 4334	Employment Law	
MATH 3450	Principles of Bio-Statistics	



MGMT 3350	Organization Behavior	
MGMT 3325	Leadership	
MGMT 3302	Human Resource Management	
PSYC 3301	Psychology of Learning	
PSYC 3303	Educational Psychology	
PSYC 3311	Behavior Analysis and Behavior Management	

Prior Learning Credit: 33

Total Hours 120

<sup>1</sup> Please see Academic Information section.

## Bachelor of Science in Public Health - Description

The BS in Public Health degree provides a foundation for students wishing to obtain employment in a public health profession or continue their education with graduate studies in public health.

### Public Health Educator Concentration

The Public Health Educator concentration will prepare students to provide health education, promote healthy lifestyles, prevent diseases, and enhance quality of life in communities. A strong foundation will be developed to understand distribution of health and illness in diverse populations, the relationship of social determinants to health and illness and disease risks among human populations.

The Public Health Educator curriculum focuses on interdisciplinary efforts to address the physical, social, behavioral, mental, and environmental health concerns of communities and populations at risk for disease and injury. Graduates will plan and evaluate health services in communities, coordinate the community efforts of government agencies, care systems and private organizations and serve as advocates of improved community wellness.

### Pre-Graduate Public Health Concentration

Graduates of the Pre-Graduate Public Health program will be prepared to either enter employment as a Health Education specialist or other public health career or pursue a graduate education in public health.

### Nutrition Science Concentration

The Nutrition Science concentration focuses on the science-based aspects of human nutrition, food, and agriculture and the application of those principles related to food selection, preparation, and consumption in order to achieve and maintain health and well-being across the life span. Graduates from the program will be prepared for careers in nutrition and health education, health agencies, corporate wellness, WIC (Women, Infant, and Children's government nutrition program), and various food companies.

## The Bachelor of Science in Public Health

### Field of Study Courses

PBHL 1310	Health and Society: An Introduction to Public Health	3
PBHL 2310	Introduction to Epidemiology	3
PBHL 2320	Medical Ethics	3
PBHL 3310	Principles of Health Promotion and Education	3
PBHL 3320	Statistics for Health Care	3
PBHL 4305 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Issues and Trends in Health Care	3
PBHL 4310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Introduction to Health Management and Policy	3
PBHL 4320	Public Health Policy	3
PBHL 4350	Pathophysiology for the Health Professionals	3

### Other Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
BIOL 2401 [shared]	Anatomy and Physiology I <sup>1</sup>	
BIOL 2402 [shared]	Anatomy & Physiology II <sup>1</sup>	
COMM 2302 [shared]	Business and Professional Speaking <sup>2</sup>	
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I <sup>2</sup>	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II <sup>2</sup>	
Social and Behavioral Science Elective		
SOCI 1301 [shared]	Introductory Sociology <sup>3</sup>	
PSYC 2301 [shared]	General Psychology <sup>3</sup>	

Total Hours 69

## Additional Required Courses for Concentrations

### Public Health Educator

MKTG 3312	Marketing	3
MGMT 3302	Human Resource Management	3
HPTC 3350	Microbiology for Allied Health Professionals	3
HPTC 4349	Pharmacology for the Allied Health Professionals	3
HPTC 4304	Health Care Management	3
KINE 1301	Foundations of Kinesiology	3

HECO 1322	Nutrition and Diet Therapy	3
PSYC 3303	Educational Psychology	3
CHFS 3300	Child Development: Theory, Research, and Practice	3
CHFS 4356 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Research Methods in Human Sciences	3
SOCI 3304	Medical Sociology	3
SOCI 4314	Medical and Health Care Policy	3
COMM 2311	News Gathering & Writing I	3
COMM 3311 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Feature Writing	3
Choose from one of the following electives:		3
BCIS 3315	Web Development	
COMM 3308	Digital Video Production	
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	
Choose from one of the following CHFS electives:		3
CHFS 4360	Preprofessional Development	
CHFS 3353	Child and Youth Guidance	
CHFS 3333	Family Financial Management	
CHFS 3316	Human Intimacy	
CHFS 4350 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Policies and Ethical Standards	
PBHL 4085	Seminar and Internship in Public Health	3

Total Hours 51

### Pre-Graduate Public Health

CHEM 1411	College Chemistry I	4
CHEM 1412	College Chemistry II	4
MATH 1314 [shared]	College Algebra	
MATH 1342	Elementary Statistical Methods	3
BIOL 3407	Microbiology	4
MGMT 3302	Human Resource Management	3
CHFS 3300	Child Development: Theory, Research, and Practice	3
CHFS 4356 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Research Methods in Human Sciences	3
PSYC 2301	General Psychology	3
PSYC 3303	Educational Psychology	3
PSYC 3350	Personality	3
Select from the following Electives:		3
MDLS 4360	Introduction to Clinical Immunology	
BIOL 3303	Genetics	
BIOL 3380	Introduction to Virology	
BIOL 3395	Pathogenic Microbiology	
Select two from the following Communications Electives:		6
COMM 2311	News Gathering & Writing I	
COMM 3304	Interpersonal Communication	
COMM 3308	Digital Video Production	
COMM 3310	Communication Law	
COMM 3340	Persuasion	
COMM 3320	Public Relations	
COMM 3332	Intercultural Communication	
COMM 3305	Environmental Communication	
COMM 4304	Organizational Communication	
Select from the following Sociology Electives:		3
SOCI 3304	Medical Sociology	
SOCI 4314	Medical and Health Care Policy	
Choose from one of the CHFS Electives:		3
CHFS 4360	Preprofessional Development	
CHFS 3353	Child and Youth Guidance	
CHFS 3333	Family Financial Management	
CHFS 3316	Human Intimacy	
CHFS 4350 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Policies and Ethical Standards	

PBHL 4085	Seminar and Internship in Public Health	3
Total Hours		51
<b>Nutrition Science</b>		
NUTR 1307	Concepts in Food and Nutrition	3
NUTR 1316	Principles of Food Preparation	3
HECO 1322	Nutrition and Diet Therapy	3
FDSC 3304	Food Processing	3
NUTR 3321	Life Cycle Nutrition	3
NUTR 3325	Advanced Meal Management	3
NUTR 3339 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Introduction to Medical Nutrition Therapy	3
NUTR 4335	Food and Culture	3
NUTR 4305	Food Service Management	3
CHEM 1411	College Chemistry I	4
CHEM 1412	College Chemistry II	4
CHEM 2323	Organic Chemistry I	3
CHEM 2123	Organic Chemistry I Laboratory	1
CHEM 4374	Biochemistry I	3
BIOL 3407	Microbiology	4
MATH 1314 [shared]	College Algebra	
MATH 1342	Elementary Statistical Methods	3
PBHL 4285	Seminar in Nutrition Science	2
Total Hours		51

- <sup>1</sup> Students in all concentrations are required to take this course as the general education requirement in Life and Physical Sciences
- <sup>2</sup> Only students in tracks PHEB and PBPH are required to take this general education requirement. NUSC students can choose from approved list.
- <sup>3</sup> Students in PHEB and PBPH must take SOCI 1301 as their Social and Behavioral Science Elective. Students in NUSC must take PSYC 2301 as their Social and Behavioral Science Elective.

## The Minor in Public Health

The minor in Public Health provides a foundation for students wishing to augment their health-related degree or profession. Graduates with the Public Health minor will have a better understanding of issues in community health, giving them a more well-rounded preparation for their careers.

### Minor in Public Health

#### Required Courses

##### Students must take PBHL 1310 first

PBHL 1310	Health and Society: An Introduction to Public Health	3
PBHL 4305 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Issues and Trends in Health Care	3
PBHL 3310	Principles of Health Promotion and Education	3
PBHL 2320	Medical Ethics	3
PBHL 2310	Introduction to Epidemiology	3
Choose one of the following courses:		3
HPTC 3320	Biotechnology and Bioethics	
PBHL 4350	Pathophysiology for the Health Professionals	
PBHL 3320	Statistics for Health Care	
PBHL 4310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Introduction to Health Management and Policy	
PBHL 4320	Public Health Law	

Total Hours 18

## Bachelor of Science in Nutrition Science - Description

### Nutrition Science

#### Field of Study Courses

NUTR 1307	Concepts in Food and Nutrition	3
HECO 1322	Nutrition and Diet Therapy	3
NUTR 1316	Principles of Food Preparation	3
FDSC 3304	Food Processing	3
NUTR 3321	Life Cycle Nutrition	3
NUTR 3325	Advanced Meal Management	3
NUTR 3339 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Introduction to Medical Nutrition Therapy	3
NUTR 4335	Food and Culture	3
ANSC 4314	Food Quality Assurance	3
Microbiology		4

BIOL 2420	Microbiology for Non-Science Majors	
BIOL 3407	Microbiology	
Chemistry		4
CHEM 1407	Fundamentals of Chemistry	
CHEM 1411	College Chemistry I	
PBHL 3310	Principles of Health Promotion and Education	3
PBHL 4305 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Issues and Trends in Health Care	3
<b>Other Required Courses</b>		
General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>		42
BIOL 2401 [shared]	Anatomy and Physiology I	
BIOL 2402 [shared]	Anatomy & Physiology II	
PSYC 2301 [shared]	General Psychology	
Total Hours		83

### Additional Required Courses for Concentrations

#### Dietetics Track

NUTR 4305	Food Service Management	3
NUTR 4309	Community Nutrition	3
NUTR 4325	Nutrition Counseling	3
NUTR 4339	Advanced Nutrition	3
NUTR 4349	Medical Nutrition Therapy I	3
NUTR 4379	Medical Nutrition Therapy II	3
MATH 1342	Elementary Statistical Methods	3
CHEM 1412	College Chemistry II	4
CHEM 2323	Organic Chemistry I	3
CHEM 2123	Organic Chemistry I Laboratory	1
CHEM 4374	Biochemistry I	3
PBHL 2320	Medical Ethics	3
NUTR 4080	Seminar in Nutrition Science	2
Total Hours		37

#### Food and Nutrition Track

Approved Electives		12
Advanced Nutrition Electives		6
PBHL 4310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Introduction to Health Management and Policy	3
PSYC 3303	Educational Psychology	3
PSYC 3307	The Human Lifespan	3
SOCW 3303	Social Work with Diverse Populations	3
SOCW 4313	Human Rights	3
NUTR 4080	Seminar in Nutrition Science	4
Total Hours		37

<sup>1</sup> Students enrolled in the Dietetics Track concentration are required to take MATH 1314- College Algebra to fulfill general education Mathematics requirement. Students enrolled in the Food and Nutrition Track concentration can take any general education Mathematics course.

### Food Science Courses

#### FDSC 1307. Concepts and Controversies in Food Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).

Principles of food studies and exploration of the role food narratives and exposés play in the consumer's perception of the current food supply. Foundation for understanding the connections among food production, ecology, ethics, cuisine, nutrition and health within the framework of sustainability. Can receive credit for either FDSC 1307 or WSES 1307.

#### FDSC 1316. Principles of Food Preparation. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).

Study of food, food composition, and scientific principles involved in food preparation. Can receive credit for either FDSC 1316 or NUTR 1316.

#### FDSC 3304. Food Processing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).

The world food supply, trends and traditions in diet and food sanitation, safety, security, and biotechnology, and impact of processing on diet quality. Lab fee: \$2.

#### FDSC 3325. Advanced Meal Management. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).

Fundamentals of nutrition and food preparation in all types of meal service. Special emphasis is on time and money management. Credit will be given for only one of the following: WSES 3325, FDSC 3325, or NUTR 3325.

#### FDSC 4335. Food and Culture. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).

A study of the food beliefs and practices of the major ethnic and religious groups in the U. S. and the nutritional implications of these food practices, a cultural analysis of American food trends; ethnic issues and dietary changes; and research methods in food habits. Credit will only be given for WSES 4335 or FDSC 4335.

#### FDSC 4407. Fermentation and Brewing. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).

History of food safety, sanitation, fermentation, fermented foods, beer brewing, wine and cheese making, along with an introduction to industry organization; from commodities production, to processing, distribution, marketing, and sales. Hands-on instruction in small-scale brewing. Combines elements of science (chemistry, biology, and physics), economics, food preparation, aesthetics, preferences, and taste. Modest cost of field trips will be borne by the student. Credit will not be given for both WSES 4407 and FDSC 4407. Prerequisites: 8 hrs BIOL and 8 hrs CHEM; must be 21 years or age or older on the first class day to enroll in course.

**FDSC 4408. Sustainable Food Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Issues surrounding food production and the environmental and social impact of current food production systems. Emerging trends to increase the sustainability of food production, distribution, and consumption. Includes a laboratory field component and will require some field work outside normal class times. Credit will not be given for both WSES 4408 and FDSC 4408.

**Health Professions Technology Courses****HPTC 3320. Biotechnology and Bioethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will cover the recent advances in biology which have made new techniques and technologies possible for the production of pharmaceuticals, foods, textiles, pesticides and chemicals. Ethical principles in biotechnology and biomedicine are studied and applied to contemporary problems in medicine and biomedical research. Additional topics include stem cell research; genetic testing; organ transplantation; and research involving human subjects.

**HPTC 3350. Microbiology for Allied Health Professionals. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will focus on an introduction to modern medical microbiology that is clinically relevant for the allied health professional. General concepts of bacterial, viral, parasitic and fungal infection will be addressed, followed by a survey of the major human pathogens in each of these categories. Conclusion of the course will include microbiology issues that are applicable to clinical infection control protocols.

**HPTC 4304. Health Care Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Comprehensive survey of management principles and practices in the health care setting, with particular attention to the allied health arena. Management strategies, strategic planning and implementation, budgetary preparation, personnel resource management and compliance with governmental and professional accreditation regulations are addressed with integration of health care ethics.

**HPTC 4305. Issues and Trends in Health Care. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course is designed to explore and discuss concepts and issues that are pertinent to allied health care professionals including legal and regulatory issues, health service reform and cost containment, workforce development, and quality assurance practices.

**HPTC 4349. Pharmacology for the Allied Health Professionals. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will focus on a survey of the more important drugs used in medicine, including basic principles, clinical uses and possible adverse effects. Students will be introduced to important issues affecting drug approval, legislation, manufacturing, formulation and delivery, metabolism and measurement.

**HPTC 4350. Pathophysiology for the Health Professionals. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will focus on presentation of interrelationships between normal body functioning and the physiologic changes that participate in disease production, and occur as a result of disease. Emphasis on major disorders and other selected disorders provides a concise, easy-to-understand introduction to the fundamentals.

**Histology Technician Courses****HLAB 100. Research Histotechnology Wrksh. 2 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).****HLAB 2182. Introduction to Medical Laboratory Sciences. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

An introductory course in medical laboratory science. Universal lab safety practices, computer applications for science and medicine, basic lab mathematics, quality control and basic laboratory equipment including microscopy, centrifugation, analytical weighing and other laboratory equipment common to all medical laboratories. This course must be taken during the first semester of enrollment in the HT/MLT certification programs. Lab Fee: \$2.

**HLAB 2285. Capstone Cases and Review. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Major theoretical and practical applications in histotechnology including preparation of staining portfolio, mock registry exam (program final) and attendance at pathologist case presentations. This course must be taken during the final semester of enrollment in the HT program. Lab Fee \$2.

**HLAB 2335. Histotechnology III. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

Histotechniques: Special Staining; Theory and practice of histochemical staining techniques, including microorganism, tissue pigments, minerals, and neural tissue staining. Includes specialized techniques such as electron microscopy, immunohistochemistry, and muscle enzyme histochemistry. Lab Fee \$2.

**HLAB 2364. Immunohistochemistry and Molecular Techniques. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course covers the preparation and evaluation of immunohistochemistry (IHC) stains. Procedures and terminology related to IHC are also discussed and strategies for troubleshooting problems are presented. Molecular techniques such as ISH and genetic profiling are also introduced. Lab fee: \$2.

**HLAB 2414. Introduction to Histotechnology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to the healthcare environment and histology laboratory with emphasis on safety; infection control; mathematics; communication; medical terminology and ethical, legal and professional issues. Lab Fee \$2.

**HLAB 2415. Histotechnology I. 4 Credit Hours (Lecture: 2 Hours, Lab: 6 Hours).**

Histotechniques: Tissue Processing; Introduction to basic theories and practices of histotechnology including laboratory safety, fixation, tissue processing, embedding, microtomy, routine staining and operation and maintenance of lab equipment. Lab Fee \$2.

**HLAB 2425. Histotechnology II. 4 Credit Hours (Lecture: 2 Hours, Lab: 6 Hours).**

Histotechniques: Theory and practice of histochemical staining techniques. Topics include reagent preparation, basic tissue dye bonding, differentiation, quality control, nuclear, connective tissue and carbohydrate staining techniques. Lab Fee \$2.

**HLAB 2460. Functional Histology. 4 Credit Hours (Lecture: 4 Hours, Lab: 4 Hours).**

Emphasizes the recognition, composition, and function of cells, cellular organelles, cell life cycles, blood and basic tissue types. This course also emphasizes the recognition, composition and function of organ systems including skeletal, nervous, circulatory, endocrine and reproductive system tissues. Lab fee: \$2.

**HLAB 2495. Clinical Histotechnology I. 4 Credit Hours (Lecture: 0 Hours, Lab: 15 Hours).**

An introductory histology laboratory-based learning experience that enables students to observe and apply theory, skills, and concepts. Direct supervision is provided by the clinical professional. This course must be taken during the first semester of the HT program. Field Assignment Fee: \$50.

**HLAB 2496. Clinical Histotechnology II. 4 Credit Hours (Lecture: 0 Hours, Lab: 15 Hours).**

An intermediate histology laboratory-based learning experience that enables students to apply theory, skills, and concepts. Direct supervision is provided by the clinical professional. Course must be taken during the second semester of the HT program. Field Assignment Fee: \$50 Prerequisite: HLAB 2495.

**HLAB 2497. Clinical Histotechnology III. 4 Credit Hours (Lecture: 0 Hours, Lab: 15 Hours).**

An advanced histology laboratory based learning experience that enables students to apply and integrate theory, skills, and concepts and to work independently. Direct supervision is provided by the clinical professional. This course must be taken during the last semester in the HT program. Prerequisites: HLAB 2495, HLAB 2496; Field Assignment Fee: \$50.

**Home Economics Courses****HECO 1322. Nutrition and Diet Therapy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

(TCCNS = HECO 1322 or BIOL 1322) A study of the essential nutrients, including nutrient functions, food sources, deficiency symptoms, and toxicity symptoms; the nutritional requirements of individuals throughout the life cycle; the effects of nutrition on health and fitness; nutrition fads and controversies; and evaluation of personal eating habits. Prerequisite Course(s): One semester of chemistry is recommended.

**HECO 1325. Housing and Interior Design I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

(TCCNS = HECO 1325) Factors influencing design selection with emphasis on the fundamental structure and decorative qualities of design, psychological approach to color, and creative problem-solving.

**HECO 1328. Clothing Selection, Design and Construction. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

(TCCNS = HECO 1328) Principles of clothing construction taught through lecture, demonstration, instructional media, and hands-on laboratory experience. Students are required to construct personal garments and to produce samples illustrating various construction techniques. Lab fee \$15. Prerequisite Course(s): FCSC 1201: Basic Clothing Construction.

**HECO 2311. Fashion Merchandising. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

(TCCNS = HECO 2311) An introductory overview of the fashion business and its scope, economic importance, and marketing practices. The power of fashion and the role of the ultimate consumer are also addressed. Field trips may be required.

**Medical Laboratory Sciences Courses****MDLS 1100. Transitioning to University Studies in Health Professions. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, and in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. Also included will be the development of skills to promote physical and mental health.

**MDLS 1111. Surv Allied Health Prof. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Course description is needed.

**MDLS 4086. Clinical Laboratory Science Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A course open by invitation to capable Clinical Laboratory Science students who wish to pursue a selected problem study. Students are permitted and encouraged to work independently under the guidance of an instructor. May be repeated for credit, subject to the approval of the department head. Lab fee \$2.

**MDLS 4091. Integrated Clinical Laboratory Practice and Research. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 5-15 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An integrated clinical laboratory course designed to introduce the concepts of specimen tracking and processing using a laboratory information system, test result utilization, utilization review, and clinical research. Emphasis will be placed on workload organization; quality control evaluation accuracy; consistency; validity of results generated; and appropriate reporting of results. Lab fee: \$2.

**MDLS 4092. Clinical Laboratory Practicum I. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 5-40 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in hematology, hemostasis, and body fluid analysis. Emphasis is placed on the analysis of quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 4093. Clinical Laboratory Practicum II. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 8-40 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in medical microbiology and parasitology. Emphasis is placed on the analysis of quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 4094. Clinical Laboratory Practicum III. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 8-40 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in immunology, serology, and blood banking. Emphasis is placed on the analysis of quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 4095. Clinical Laboratory Practicum IV. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 8-40 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work and solving problems in clinical chemistry, toxicology, and molecular pathology. Emphasis is placed on the analysis of quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 4096. Advanced Clinical Practicum. 1-8 Credit Hours (Lecture: 0 Hours, Lab: 3-24 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in the clinical laboratory. Emphasis is given to high complexity testing. Grading in this course is satisfactory/unsatisfactory.

**MDLS 4104. Clinical Correlations and Capstone Review Specialty. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course employs an integrative approach to laboratory medicine with emphasis on the review of patient cases and appropriate utilization of laboratory tests in diagnosis and case management. A comprehensive review and assessment of the concepts in a specialty area of medical laboratory medicine. Prerequisite: Acceptance to Public Health Microbiology Categorical Certification program.

**MDLS 4114. Urinalysis and Renal Physiology. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

A study of renal physiology, the formation of urine, and the relationship to renal and other systemic diseases. Co-Requisite: MDLS 4115 or approval of department head.

**MDLS 4115. Urinalysis and Body Fluids Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 4 Hours).**

Supervised learning experiences using microscopic, chemical, and automated techniques in analysis of urine, synovial, seminal, cerebrospinal, serous, and amniotic fluid.

**MDLS 4116. Body Fluids Analysis. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Advanced concepts related to the biochemical and cellular analysis of body fluids. Includes normal physiologic function and pathophysiology of synovial, seminal, cerebrospinal, serous, and amniotic fluid.

**MDLS 4125. Hematology I Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised experiences with emphasis placed on the enumeration, morphology and staining characteristics of normal blood cells as well as analytes to evaluate coagulation and fibrinolysis. Manual and automated techniques will be used. Emphasis will be placed on specimen collection, processing, and generation and evaluation of diagnostic data.

**MDLS 4127. Hematology II Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised experiences with emphasis placed on the enumeration, morphology, and staining characteristics of abnormal blood cells. Emphasis will be placed on specimen processing and generation and evaluation of diagnostic data. Lab fee \$2. Prerequisite: MDLS 4125 or approval of department head. Co-Requisite: MDLS 4226 or approval of department head.

**MDLS 4128. Hemostasis. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours).**

Discussion and comparison of the hemostatic coagulation and fibrinolytic systems with emphasis on normal and abnormal physiology. Supervised learning experiences with emphasis on analytes to evaluate coagulation and fibrinolysis. Manual and automated techniques will be discussed and used. Prerequisite: MDLS 4224 and MDLS 4125 or approval of department head.

**MDLS 4135. Medical Microbiology I Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised experience with emphasis on isolation, staining, culture, and differential biochemical characteristics of pathogenic microorganisms and human parasites. Specimen collection, processing and criteria for rejection will also be addressed. Emphasis will be placed on deriving diagnostic laboratory results and evaluation of those results.

**MDLS 4137. Medical Microbiology II Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised experience with emphasis on staining, isolation, identification, and antimicrobial susceptibility testing of microorganisms isolated from clinical specimens. Emphasis is also placed on specimen processing and generation and evaluation of diagnostic data. Lab fee \$2. Prerequisite: MDLS 4135 or approval of department head. Co-Requisite: MDLS 4236 or approval of department head.

**MDLS 4138. Medical Mycology and Virology. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Discussion of the epidemiology and pathogenesis of fungi and viruses implicated in human disease. Emphasis will be placed upon diagnostic tools used in the clinical laboratory to isolate, culture, and identify these microorganisms.

**MDLS 4145. Immunohematology I Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 4 Hours).**

Supervised experiences related to blood grouping and typing and compatibility testing. Emphasis is placed on specimen processing and generation and evaluation of diagnostic data. Lab fee \$2. Co-Requisite: MDLS 4244 or approval of department head.

**MDLS 4147. Immunohematology II Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 4 Hours).**

Supervised experiences related to antibody detection and identification, incompatibility and transfusion reaction resolution; component processing and storage; and selection for therapy. Emphasis is placed on specimen processing, laboratory techniques, and generation and evaluation of diagnostic data. Lab fee \$2. Prerequisite: MDLS 4145. Co-Requisite: MDLS 4246.

**MDLS 4148. Introduction to Medical Genetics. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).** [VI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An introduction to the concepts of gene structure and inheritance patterns. Emphasis will be placed on the types of inheritance patterns associated with different disease conditions in which clinical diagnostics plays a valuable role in disease diagnosis or patient counseling.

**MDLS 4149. Immunohematology Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised experiences related to blood grouping and typing and compatibility testing, antibody detection and identification, incompatibility and transfusion reaction resolution; component processing and storage; and selection for therapy. Emphasis is placed on specimen processing, laboratory techniques, and generation and evaluation of diagnostic data.

**MDLS 4151. Clinical Parasitology Lecture. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Discussion of parasites causing disease in humans and their life cycles, identification, and pathology in humans. Opportunistic parasites in the immunocompromised host will also be addressed.

**MDLS 4152. Clinical Parasitology Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised experiences in the identification of human parasites. Specimen collection, processing and criteria for rejection will also be addressed. Emphasis will be placed on deriving diagnostic laboratory results and evaluation of those results. Lab fee \$2.

**MDLS 4164. Immunology and Serology I Lecture. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Discussion of immunological mechanisms fundamental to resistance to disease with emphasis on basic humoral and cellular immune response and resistance to microbial disease. Co-Requisite: MDLS 4165.

**MDLS 4165. Immunology and Serology I Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Supervised laboratory experience with emphasis on the detection, identification, and characterization of antigens and antibodies of infectious etiology using serologic techniques. Emphasis is placed on specimen processing and generation and evaluation of diagnostic data. Lab fee \$2. Co-Requisite: MDLS 4164.

**MDLS 4166. Immunology and Serology II Lecture. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Discussion of immunologic mechanisms and pathogenesis involved in autoimmune, allergic, and immunodeficient diseases. Prerequisite: MDLS 4164. Co-Requisite: MDLS 4167.

**MDLS 4167. Immunology and Serology II Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Supervised learning experience with emphasis on the detection, identification, and characterization of antigens and antibodies involved in autoimmune disease. Also emphasis on cells involved in cellular immunity using immunologic techniques. Emphasis is placed on specimen processing and generation and evaluation of diagnostic data. Lab fee \$2. Prerequisite: MDLS 4165. Co-Requisite: MDLS 4166.

**MDLS 4169. Immunology and Serology Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 4 Hours).**

Supervised learning experience with emphasis on the detection, identification, and characterization of antigens and antibodies involved in autoimmune disease and infectious etiology using serologic techniques. Also emphasis on cells involved in cellular immunity using immunologic techniques, specimen processing and generation and evaluation of diagnostic data.

**MDLS 4174. Introduction to Laboratory Safety and Instrumentation. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours).**

Introduction to the theories and principles of instrument operation and safety practices commonly used in the clinical laboratory. Supervised learning experience in instrument operation and troubleshooting.

**MDLS 4175. Advanced Laboratory Automation, Statistics, and Quality Assurance Concepts. 1 Credit Hour (Lecture: 12 Hours, Lab: 0 Hours).**

Discussion and comparison of operating principles of automated analyzers, complex laboratory techniques, statistical methods and quality assurance concepts applicable to the clinical laboratory. Supervised learning experience in instrument operation, troubleshooting, electrophoresis and chromatography. Application of statistics to quality assurance and evaluation of laboratory results will be discussed.

**MDLS 4177. Clinical Chemistry I Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised learning experiences with emphasis on manual, semi-automated, and automated procedures for assaying electrolytes, blood gases, carbohydrates, lipids, proteins, and drugs. Emphasis is placed on specimen processing and generation and evaluation of diagnostic data. Lab fee \$2. Prerequisite: MDLS 4174. Co-Requisite: MDLS 4276.

**MDLS 4179. Clinical Chemistry II Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised learning experiences with emphasis on manual, semi-automated, and automated procedures for assaying metabolites, drugs, enzymes, hormones, and tumor markers. Emphasis is placed on specimen selection, processing, analyses, and evaluation of diagnostic data. Lab fee \$2. Prerequisite: MDLS 4177. Co-Requisite: MDLS 4278.

**MDLS 4182. Computer Applications in Science and Medicine. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Use of computers in the scientific and medical fields. Emphasis is placed on using word processing and spread sheets; charting and graphing of data; presentation packages; tools for literature search; information search using the internet; and description and evaluation of current laboratory information systems.

**MDLS 4202. Molecular Diagnostics. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

An overview of molecular mechanisms including replication, transcription, and translation. Emphasis is placed on the principles of molecular methods and their application in diagnosis of microbiologic, immunologic, genetic, endocrine, hematopoietic, and metabolic disease.

**MDLS 4204. Clinical Correlations and Capstone Review Speciality. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course employs an integrative approach to laboratory medicine with emphasis on the review of patient cases and appropriate utilization of laboratory tests in diagnosis and case management. A comprehensive review and assessment of the concepts in a specialty area of medical laboratory medicine.

**MDLS 4214. Urinalysis and Body Fluids Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion in renal physiology, relationship to renal and other systemic diseases, physiologic function and pathophysiology of synovial, seminal, cerebrospinal, serous, and amniotic fluid.

**MDLS 4224. Hematology I Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Studies on the formation, function, and identification of normal cellular blood elements are discussed. Emphasis is placed on normal physiology and characteristics of blood cells in all ages. Co-Requisite: MDLS 4125 or approval of department head.

**MDLS 4226. Hematology II Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Studies on the formation and identification of abnormal cellular blood elements are discussed. Emphasis is placed on abnormal physiology and hematologic manifestations of disease. Prerequisite: MDLS 4224 or approval of department head. Co-Requisite: MDLS 4125 or approval of department head.

**MDLS 4234. Medical Microbiology I Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion of growth characteristics, morphology, physiology, and identification criteria of human pathogenic microorganisms and normal flora. Co-Requisite: MDLS 4135 or approval of department head.

**MDLS 4236. Medical Microbiology II Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion of antimicrobial susceptibility, anaerobic bacteria, mycobacteria, chlamydia, rickettsia, and an overview of infections by organ system. Emphasis is on epidemiology, pathogenesis, source of isolation, and conventional and molecular methods of diagnosis of human pathogenic organisms. Prerequisite: MDLS 4234 or approval of department head. Co-Requisite: MDLS 4137 or approval of department head.

**MDLS 4244. Immunohematology I Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion of the principles of immunohematology in relation to blood grouping, typing, compatibility testing, and antibody detection and identification. Co-Requisite: MDLS 4145 or approval of department head.

**MDLS 4246. Immunohematology II Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion of the principles of immunohematology in relation to transfusion and transplant medicine, donor processing, and component preparation and storage. Prerequisite: MDLS 4244. Co-Requisite: MDLS 4147.

**MDLS 4274. Introduction to Lab Safety and Operations. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Introduction to the theories and principles of instrument operation and safety practices commonly used in the clinical laboratory. Supervised learning experience in instrument operation and troubleshooting and the use of computers in the scientific and medical fields.

**MDLS 4276. Clinical Chemistry I Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

An introduction to the theories and principles of diagnostic methods used to measure common analytes involved in water and acid base balance, mineral and metabolic homeostasis in serum and other body fluids. Normal physiology and biochemical manifestation of disease are emphasized. Co-requisite : MDLS 4177.

**MDLS 4278. Clinical Chemistry II Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion and comparison of diagnostic methods employed in the clinical chemistry laboratory. Emphasis is placed on diagnostic metabolites, enzymology, endocrinology, and tumor markers. Normal physiology and biochemical manifestations of disease are discussed. Prerequisite: MDLS 4276. Co-Requisite: MDLS 4179.

**MDLS 4324. Hematology I Lecture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussion of the formation, function, physiology, and identification of normal blood cellular elements in all ages and hemostatic coagulation and fibrinolytic systems with emphasis on normal and abnormal physiology.

**MDLS 4334. Medical Microbiology I Lecture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussion of pathology, growth characteristics, morphology, physiology, and identification criteria of human pathogenic microorganisms, normal flora and parasites causing disease in humans. Opportunistic parasites in the immunocompromised host will also be addressed.

**MDLS 4336. Medical Microbiology II Lecture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussion of advanced microbiological concepts including anaerobic bacteria, mycobacterium, antimicrobial susceptibility, mycology, virology, and infections by organ system. Emphasis is on epidemiology, pathogenesis, source of isolation, and conventional and molecular methods of diagnosis of human pathogenic organisms.

**MDLS 4360. Introduction to Clinical Immunology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussion of immunological mechanisms fundamental to resistance to disease. Emphasis is placed on the basic humoral and cellular immune response and resistance to microbial disease with particular attention to medical laboratory assay principles.

**MDLS 4364. Immunology and Serology Lecture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussion of immunological mechanisms fundamentals to resistance to disease including basic humoral and cellular immune responses, mechanisms and pathogenesis involved in microbial, autoimmune, allergic, and immunodeficient disease.

**MDLS 4378. Clinical Chemistry II Lecture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussion and comparison of diagnostic methods employed in the clinical chemistry laboratory. Emphasis is placed on diagnostic metabolites, enzymology, endocrinology, tumor markers, and advanced methods and technologies. Normal physiology and biochemical manifestations of disease are discussed.

**MDLS 4391. Integrated Clinical Laboratory Practice and Research. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 5-15 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An integrated clinical laboratory course designed to introduce the concepts of specimen tracking and processing using a laboratory information system, test result utilization, utilization review, and clinical research. Emphasis will be placed on workload organization; quality control evaluation accuracy; consistency; validity of results generated; and appropriate reporting of results. Lab fee \$2.

**MDLS 4444. Immunohematology Lecture. 4 Credit Hours (Lecture: 4 Hours, Lab: 0 Hours).**

Discussion of the principles of immunohematology in relation to blood grouping, typing, compatibility testing, and antibody detection and identification, transfusion and transplant medicine, donor processing, and component preparation and storage.

**MDLS 4592. Clinical Laboratory Practicum I. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 5-40 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in hematology, hemostasis, and body fluid analysis. Emphasis is placed on the analysis of quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 4593. Clinical Laboratory Practicum II. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 8-40 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in medical microbiology and parasitology. Emphasis is placed on the analysis of quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 4594. Clinical Laboratory Practicum III. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 8-40 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in immunology, serology, and blood banking. Emphasis is placed on the analysis of quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 4595. Clinical Laboratory Practicum IV. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 8-40 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in clinical chemistry, toxicology, and molecular pathology. Emphasis is placed on the analysis of quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 4896. Advanced Clinical Practicum. 1-8 Credit Hours (Lecture: 0 Hours, Lab: 3-24 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in the clinical laboratory. Emphasis is given to high complexity testing. Grading in this course is satisfactory/unsatisfactory.

## Medical Laboratory Technician Courses

**MLAB 2182. Introductory Skills for Medical Laboratory Science. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

An introductory course in the medical laboratory sciences program that includes basic laboratory safety practices, computer applications, lab mathematics, quality control and basic laboratory equipment. This course must be taken during the first semester of enrollment on the MLT and HT certification programs. Course fee \$25.



**MLAB 2193. MLT Field Practicum III. 1 Credit Hour (Lecture: 0 Hours, Lab: 7 Hours).**

Structured supervised work-based instruction that helps students gain practical experience, enhance skills and integrate knowledge in microbiology and urinalysis.

**MLAB 2194. MLT Field Practicum I. 1 Credit Hour (Lecture: 0 Hours, Lab: 7 Hours).**

Structured supervised work-based instruction that helps students gain practical experience, enhance skills and integrate knowledge in blood bank, serology and automation.

**MLAB 2195. MLT Field Practicum II. 1 Credit Hour (Lecture: 0 Hours, Lab: 7 Hours).**

Structured supervised work-based instruction that helps students gain practical experience, enhance skills and integrate knowledge in chemistry and hematology.

**MLAB 2214. Introduction to Urinalysis. 2 Credit Hours (Lecture: 1 Hour, Lab: 5 Hours).**

An introduction to urinalysis and body fluid analysis, including the anatomy and physiology of the kidney, and physical, chemical and microscopic examination of urine, cerebrospinal fluid, and other body fluids. Lab fee \$2.

**MLAB 2228. Coagulation. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

A course in coagulation theory, procedures, and practical applications. Includes laboratory exercises which rely on commonly performed manual and semi-automated methods.

**MLAB 2285. Advanced Topics and Capstone Review. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course examines the integration of all areas/concepts of the laboratory and correlates laboratory test data with diagnostic applications and pathophysiology using critical thinking skills. This course includes a capstone examination and may only be taken during the last semester of the MLT/HT programs.

**MLAB 2292. MLT Field Practicum IV. 2 Credit Hours (Lecture: 0 Hours, Lab: 14 Hours).**

Structured, supervised work-based instruction that helps students gain practical experience in the clinical laboratory. Opportunities are centered in the rural health setting. Course must be taken in the last semester of the MLT program.

**MLAB 2364. Introduction to Immunology-Serology. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

An introduction to the theory and application of basic immunology, including the immune response, principles of antigen-antibody reactions, and principles and techniques of serologic procedures. Lab fee \$2.

**MLAB 2424. Introduction to Hematology. 4 Credit Hours (Lecture: 2 Hours, Lab: 6 Hours).**

Introduction to the theory and practical application of routine procedures, both manual and automated. Red blood cell and white blood cell physiology, morphology (normal and abnormal), maturation sequences and associated diseases are included. Lab fee \$2.

**MLAB 2444. Introduction to Immunohematology. 4 Credit Hours (Lecture: 2 Hours, Lab: 8 Hours).**

A study of blood group antigens and antibodies. Performance of routine blood banking procedures, including blood group and Rh typing, antibody screens, antibody identification, cross matching, elution and absorption techniques. Lab fee \$2.

**MLAB 2474. Laboratory Operations. 4 Credit Hours (Lecture: 2 Hours, Lab: 7 Hours).**

An intermediate course in the clinical laboratory sciences that includes the principles of laboratory instrumentation and automation, quality control concepts, point of care testing and phlebotomy. Supervised laboratory experiences in instrument operation, calibration and maintenance, and point of care testing and phlebotomy. Lab fee \$2.

**MLAB 2534. Introduction of Medical Microbiology. 5 Credit Hours (Lecture: 4 Hours, Lab: 5 Hours).**

Instruction in the theory, practical application and pathogenesis of clinical microbiology, including specimen collection, processing, identification, susceptibility testing and reporting procedures. Lab fee \$2.

**MLAB 2576. Introduction to Clinical Chemistry. 5 Credit Hours (Lecture: 3 Hours, Lab: 8 Hours).**

An introduction to the principles and procedures of various tests performed in clinical chemistry. Presents the physiological basis for the test, the principle and procedure for the test and the clinical significance of the test results including quality control and normal values. Also includes basic chemical laboratory techniques and safety for electrolytes, acid-base balance, proteins, carbohydrates, lipids, enzymes, metabolites, endocrine function, therapeutic drug monitoring, and toxicology. Lab fee \$2.

## Public Health Courses

**PBHL 1310. Health and Society: An Introduction to Public Health. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the structure of the United States health care system and major issues in the delivery of quality health care. The course focus is upon the interaction of individual, societal, and policy aspects of health care in a changing health care delivery system.

**PBHL 2310. Introduction to Epidemiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to introduce the public health student to the methodology used to study incidence, prevalence and risk factors associated with human disease. Students will develop practical skills used in public health to design and interpret epidemiologic studies and an understanding of the application of evidence-based medicine to increase quality of medical care.

**PBHL 2320. Medical Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides a foundation of ethical issues in both medical practice and public health administration. A foundation consisting of concepts from philosophy and political science will be provided in the context of both historical and current events.

**PBHL 3310. Principles of Health Promotion and Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview of the types of programs in the field of health education and health promotion and techniques utilized in a variety of community settings. Discussion includes social behavior in individual health decisions and the role of the educator to provide motivational tools that lead to healthy lifestyles. Ethical issues and measures of success in health interventions are also considered.

**PBHL 3320. Statistics for Health Care. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Practical applications of general principles of descriptive and inferential statistics used in health care research. Topics include statistical principles, descriptive statistics, regression analysis, study design, vital statistics and reportable diseases or conditions. Mastery of basic methods in statistical analysis will be enhanced by the utilization of statistical software. Prerequisites: PBHL 2310.

**PBHL 4085. Seminar and Internship in Public Health. 1-4 Credit Hours (Lecture: 1-4 Hours, Lab: 0 Hours).**

Comprehensive and integrated application of knowledge and skills acquired in the Public Health program in a practical setting. Success will depend upon the ability to demonstrate professional competence in public health practice. The 3 credit hour course is available for Public Health Concentrations I and III and the 4 credit hour course is available for Concentration II only. The 2 hour course is available for Concentration IV only. Prerequisites: Approval of Program Director or major in Public Health.

**PBHL 4285. Seminar in Nutrition Science. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Comprehensive and integrated application of knowledge and skills acquired in the food and nutrition program in a practical setting. Designed to provide students with skills of synthesizing and presenting the results of lower-division work.

**PBHL 4305. Issues and Trends in Health Care. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course is designed to explore and discuss concepts and issues that are pertinent to allied health care professionals including legal and regulatory issues, health service reform and cost containment, workforce development, and quality assurance practices. Credit for both HPTC 4305 and PBHL 4305 will not be awarded.

**PBHL 4310. Introduction to Health Management and Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Examines the structure of health care systems and policies that impact health programs and financing of health services. Emphasis is placed upon planning and management issues in various health care delivery organizations.

**PBHL 4320. Public Health Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to laws and regulations governing health care professionals and medical institutions. Class discussions examine the balance between individual rights and health care providers' activities with public health powers and community health needs. The course includes bioethical principles underlying public health and health care practice.

**PBHL 4350. Pathophysiology for the Health Professionals. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will focus on presentation of interrelationships between normal body functioning and the physiologic changes that participate in disease production, and occur as a result of disease. Emphasis on major disorders and other selected disorders provides a concise, easy-to-understand introduction to the fundamentals.

**PBHL 4385. Seminar in Community Health Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Comprehensive and integrated application of knowledge and skills acquired in the Public Health program in a practical setting. Success will depend upon the ability to demonstrate professional competence in public health practice. Prerequisite: Approval of Program Director or major in Public Health.

**PBHL 4485. Seminar in Pre-Graduate Public Health. 4 Credit Hours (Lecture: 4 Hours, Lab: 0 Hours).**

Comprehensive and integrated application of knowledge and skills acquired in the Public Health program in a practical setting. Success will depend upon the ability to demonstrate professional competence in public health practice. Prerequisite: Approval of Program Director or major in Public Health.

## Department of Social Work and Communication Disorders

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### The Bachelor of Social Work Degree

The principal educational objective of the program leading to a Bachelor of Social Work degree is preparation of students for generalist social work practice. This program is accredited by the Council on Social Work Education and qualifies graduates to sit for the licensing examination for Social Workers under Texas law. No academic credit is awarded for life experiences in this degree program.

Requirements for admission, retention, and successful completion of the program are described in the Social Work Program Student Handbook and include a 2.5 overall GPA.

### The Bachelor of Social Work Degree

#### Field of Study Courses

MATH 1342 [shared]	Elementary Statistical Methods	
SOCI 1306	Social Problems	3
SOCW 2361	Introduction to Social Work	3
SOCW 2362	Social Welfare in America	3

#### Other Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
Social and Behavioral Science - Choose one of the following: [shared]		
AGEC 2317	Introductory Agricultural Economics	
ECON 1301	Introduction To Economics	
ECON 2301	Principles of Macroeconomics	
GEOG 1303	World Regional Geography	
GEOG 1320	Introduction to Human Geography	
GEOG 2301	The Geography of Texas	
PHIL 2303	Introduction to Logic	
PHIL 3301	Ethics in the Professions	
PSYC 2301	General Psychology	
SOCI 1301	Introductory Sociology	
SOCI 2303	Race and Ethnic Relations	
ANTH 2302	Introduction to Archeology	
ANTH 2351	Cultural Anthropology	
SOCW 3300	Methods and Skills of Interviewing	3
SOCW 3303	Social Work with Diverse Populations	3
SOCW 3306 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Social Welfare Policy	3
SOCW 3314 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Methods of Social Work Research	3
SOCW 3315	Statistical Methods & Analysis	3
SOCW 3316	Practice I	3
SOCW 3320	Service Learning	3
SOCW 3329	Human Behavior and Social Environment I	3
SOCW 3339	Human Behavior and Social Environment II	3

SOCW 4312	Practice II	3
Foreign Language		6
Electives from SOCI, SOCW, CRIJ, PBHL, PSYC		6
Electives		9
Total Hours		102

### Additional Required Courses for Concentrations

#### General Social Work

Advanced SOCW Electives		6
SOCW 4622	Field Placement I	6
SOCW 4623	Field Placement II	6
Total Hours		18

#### Child Welfare

SOCW 3377	Alcohol and Drug Abuse	3
SOCW 4311	Child Welfare	3
SOCW 4632	Child Welfare Practicum	12
Total Hours		18

### The Minor in Social Work

The minor in social work will provide students with an introduction to the helping profession of social work, social welfare, and its guiding ethics and values. It can complement a major in almost any field of study, especially for students who are seeking to address complex social issues and enhance their knowledge of helping others by working in an array of practice arenas with diverse populations. Students majoring in other social and behavioral sciences may find it beneficial to applying to their career aspirations. The social work minor offers active, engaged learning that is applied to real world experiences.

#### Minor in Social Work

##### Required Courses

Advanced SOCW Electives		12
SOCW 2361	Introduction to Social Work	3
SOCW 2362	Social Welfare in America	3
Total Hours		18

### The Bachelor of Science in Communication Sciences and Disorders

The Bachelor of Science in Communication Sciences and Disorders is designed for students who want to work with children and/or adults in school settings, private clinics, and medical settings. This program will equip students with the knowledge and clinical skills to obtain a Speech-Language Pathology Assistant license in the state of Texas as well as pursue a graduate degree in Speech-Language Pathology or Audiology. Upon completion of this program, the students will have the ability to:

- recognize common speech, language and hearing disorders in both children and adults based on their understanding of lifespan human development, cognitive science, acoustics, and language science;
- use critical thinking skills to communicate various concepts, interpretations and theories related to communication sciences and disorders both orally and in written form;
- provide speech and language therapy to children and adults with communication disorders under the supervision of a fully licensed speech-language pathologist.

### Bachelor of Science Degree in Communication Sciences and Disorders

##### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
ENGL 1301 [shared] [WI] ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )	Composition I	
ENGL 1302 [shared] [WI] ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )	Composition II	
MATH 1314 [shared]	College Algebra	
CSDO 2301	Anatomy and Physiology for Speech and Language	3
CSDO 2300	Introduction to Communication Sciences and Disorders	3
PSYC 2317	Statistical Methods in Psychology	3
SOCW 3300	Methods and Skills of Interviewing	3
SOCW 3303	Social Work with Diverse Populations	3
CSDO 3300	Phonetics	3
PSYC 2314	Life Span Growth & Development	3
CSDO 3301	Preschool Language Development	3
CSDO 3303	Introduction to Audiology	3
CSDO 3302	School-age Language Development	3
CSDO 4301	Aural Habilitation	3
CSDO 3304	Speech Sound Disorders and Intervention	3
CSDO 3305	Service Delivery in Communication Disorders	3
CSDO 4300	Language Disorders and Interventions	3
CSDO 4303	Neuroscience & Language	3

CSDO 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Diagnostics in Speech/Language Pathology	3
CSDO 4306	Communication Disorders in Adults	3
CSDO 4308 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Disorders of Language and Literacy	3
Choose one of the following [shared]:		
BIOL 1406	Biology for Science Majors	
BIOL 2401	Anatomy and Physiology I	
Choose one of the following [shared]:		
CHEM 1407	Fundamentals of Chemistry	
CHEM 1411	College Chemistry I	
PHYS 1401	College Physics I	
Choose one of the following [shared]:		
SOCI 1301	Introductory Sociology	
PSYC 2301	General Psychology	
CSDO 4305	Communication Disorders in Special Populations	3
CSDO 4307	Introduction to Voice & Fluency Disorders	3
Choose two from the following:		
PSYC 3340	Child Psychopathology	6
PSYC 3307	The Human Lifespan	
PSYC 3320	Psycholinguistics	
SOCW 4311	Child Welfare	
SOCW 4315	Social Work Values and Ethics	
Electives		12
Total Hours		120

### Associate professors

- Jones, Nathalie Dr.
- Hall Lang, Ebony Dr.
- Loya, Melody Dr.
- Randle, Edward Dr.

### Assistant professor

- Beaty, Darla Dr.

### Instructor/Title IV-E Director

- Moore, Josiah Mr.

### Lecturers

- Lovato, Ted Mr.
- MacGregor, Mary Jo Ms.
- Oliver, Natalee Ms.

### Clinical assistant professor

- Marek, Lindsey Dr.

### Communication Sciences and Disorders Courses

#### **CSDO 2300. Introduction to Communication Sciences and Disorders. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of speech, hearing, and language development and its disorders; descriptions of communicative disorders and their etiologies for the speech-language pathologist, health professional, and classroom teacher.

#### **CSDO 2301. Anatomy and Physiology for Speech and Language. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of the structure and function underlying the speech, language, and hearing mechanism. Prerequisite: BIOL 1406 OR BIOL 2401.

#### **CSDO 3300. Phonetics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Training in the use of the International Phonetic Alphabet and practice in the transcription of normal and disordered speech.

#### **CSDO 3301. Preschool Language Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Nature of language, language-learning theories, and milestones of speech and language development. Emphasis will be placed on preschool language development.

#### **CSDO 3302. School-age Language Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Nature of oral and written language, the relationship of language to academic learning, and language development focused on school-age children. Completion of pre-req or concurrent enrollment in CSDO 3301. Prerequisite: CSDO 3301.

#### **CSDO 3303. Introduction to Audiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course provides an introduction to audiology, terms and concepts related to audiology, hearing loss types, causes, assessment and treatment procedures across the lifespan. Prerequisite: Pre-req or co-req of CSDO 2301.

#### **CSDO 3304. Speech Sound Disorders and Intervention. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the nature, causes, and characteristics of articulation and phonological disorders, including their assessment and treatment. Prerequisite: CSDO 3300.

**CSDO 3305. Service Delivery in Communication Disorders. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides a foundation in clinical management and the delivery of services to prepare CSDO students to work in a variety of settings. Emphasis will be placed on the techniques of goal setting and writing associated objectives, report writing, evaluation of services, ethics, and interdisciplinary collaboration. The course provides the 25 hours of required guided observation.

**CSDO 4086. Problems in Communications Disorders. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Independent reading and research on various communications disorders-related topics. Entry into the course will be arranged by the faculty member with permission from the Communications Disorders Program Director and/or the Department Head. Variable credit from 1 - 6 hours. Prerequisite: CSDO 2300.

**CSDO 4090. Special Topics. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Intensive studies on current trends and issues related to professional practice in the field of communication sciences and disorders. May be repeated for credit when topics vary. 1 - 6 credit hours, dependent upon topic. Prerequisite: CSDO 2300.

**CSDO 4300. Language Disorders and Interventions. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Etiology, diagnosis, and therapy strategies for language disorders across the lifespan with an emphasis on evidence-based practice for preschool and school-aged children. Prerequisites: CSDO 3301 and CSDO 3302.

**CSDO 4301. Aural Habilitation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Effects of hearing differences on communication, current hearing technologies, development of auditory-based skills in individuals who are deaf/hard-of-hearing, and related clinic and classroom-based support strategies. Prerequisite: CSDO 3303.

**CSDO 4302. Diagnostics in Speech/Language Pathology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The diagnostic process in communication disorders. Knowledge of test protocols and assessment methods in language, articulation, voice, and fluency disorders. Prerequisite: PSYC 2317.

**CSDO 4303. Neuroscience & Language. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces the neurology of speech and language mechanisms in children and adults. Emphasis is on the neuronal bases of speech and languages, with focus on clinical syndromes of speech motor systems and central language mechanisms. Prerequisite: CSDO 2301.

**CSDO 4304. Speech & Hearing Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Physical properties of sound, sound measurement, basic auditory function, acoustic and physiological phonetics and the perception of speech. Prerequisite: CSDO 2301.

**CSDO 4305. Communication Disorders in Special Populations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on an examination of disordered communication processes in special populations such as autism, varied syndromes, severe communication disorders, and augmentative communication. Signs and symptoms, etiology, clinical course and vocational-social impact of these disorders. Additionally, the course explores the principles of assessment and intervention.

**CSDO 4306. Communication Disorders in Adults. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on an examination of disordered communicative processes in adults. Signs and symptoms, etiology, clinical course, and vocational-social impact of these disorders. Also explored are principles of assessment and intervention. Prerequisite: CSDO 4303.

**CSDO 4307. Introduction to Voice & Fluency Disorders. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on developing an understanding and a foundation of knowledge about voice and fluency disorders, including the processes involved in speech production. Emphasis will be placed on acquiring knowledge about perceptual, acoustic, aerodynamic, and biomechanical perspectives on normal and disordered speech to inform assessment and treatment. Prerequisites: CSDO 2300 and CSDO 2301.

**CSDO 4308. Disorders of Language and Literacy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course offers an in-depth study of impairments of oral language, reading, and written expression focusing on school-aged children and adolescents. The course explores typical development, models of impairment, assessment, and treatment. Prerequisite: CSDO 3302.

**CSDO 4398. Research Fundamentals in Communication Sciences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Foundations of basic and applied research with an emphasis on methodology and evaluation of research in the field as well as evidence and ethical practice. Prerequisite: PSYC 2317.

## Social Work Courses

**SOCW 1100. Transitioning to University Studies in Social Work. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, and in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. Also included will be the development of skills in the learning process from a Department of Social Work perspective.

**SOCW 2361. Introduction to Social Work. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This introductory course focuses on the profession of social work: historical development, values, ethics, and various aspects of practice with an emphasis on the generalist perspective and populations at risk.

**SOCW 2362. Social Welfare in America. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course offers a historical and contemporary examination of legislation and resulting programs, policies, and services in the context of the social welfare system in the United States. Special attention is given to the political, economic, environmental, and social conditions that prompted the development of legislation to meet the needs of vulnerable populations. Societal responses to legislation are also considered.

**SOCW 3300. Methods and Skills of Interviewing. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This pre-professional course will introduce students to the generalist practice skills. Beginning social work skills introduced include the principles of conducting the helping interview, initial client contact, attending, and listening, empathetic responses, exploration and elaboration, questioning, gaining cooperation, self-disclosure, and termination issues. Issues of problem solving with diverse populations and persons from different cultural backgrounds as well as ethical issues of helping relationships are explored. Prerequisites: Social Work majors must complete or concurrently enroll in SOCW 2361 with a grade of "C" or higher, and SOCW 2362 with a grade of "C" or higher.

**SOCW 3303. Social Work with Diverse Populations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will familiarize the student with their cultural roots as well as cultural roots of other ethnic groups that make up American society, tracing the process of acculturation that characterizes their American experience.

**SOCW 3306. Social Welfare Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course helps students gain the knowledge and skills necessary to effectively advocate for policy changes that promote social justice and to analyze policy to determine its effect on client populations and agency programs and services. Prerequisite: Completion of SOCW 2362 with a C or higher.

**SOCW 3310. Social Work with Aging Populations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will use a competency-based approach to preparing students to engage in social work practice with aging populations. The focus will be on the four domains of geriatric competencies adopted by the Hartford Geriatric Social Work Initiative. The four domains are: 1) values, ethics, and theoretical perspectives; 2) assessment; 3) intervention; 4) aging services, programs, and policies. Prerequisite: Junior classification.

**SOCW 3311. Social Issues. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Uses major theoretical perspectives from sociology to explore causes and consequences of contemporary social issues in American society such as alienation, family stresses, poverty, unemployment and technological change.

**SOCW 3314. Methods of Social Work Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Principles of the scientific method for building knowledge of and evaluating practice. Topics include: ethical and cultural issues in research; research design and methodology; quantitative and qualitative research strategies; evaluation of practice; critical evaluation of published research; and completion and reporting of research projects. All students must successfully complete ALE requirements to pass the course. The ALE assignment is a major percentage of the student's overall grade. Prerequisite: Completion of SOCW 3320 with a grade of C or higher.

**SOCW 3315. Statistical Methods & Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces quantitative and qualitative research methods, the research process, and the role of research in social work. Students are introduced to the concepts and skills underlying a systematic approach to social work research, including but not limited to, the roles of concepts and theory, hypothesis formulation, operationalization, research design, data collection, data processing, statistical analysis, computer skills, and research report writing. All students must successfully complete ALE requirements to pass the course. The ALE assignment is a major percentage of the student's overall grade. Upon successful completion of the ALE requirements and the course requirements, students will receive 1 ALE in the category of Research. Prerequisites: Must have completed SOCW 3320 and SOCW 3314 with a C or higher.

**SOCW 3316. Practice I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focus is on theories and methodologies needed for generalist social work practice with individuals and small groups. Critical evaluation of the value base of the social work profession and basic practice concepts for understanding a variety of intervention models in diverse settings will be explored. Prerequisite: Admission to the Social Work Program and completion of SOCW 3300 with a grade of "C" or higher, and concurrent enrollment or completion of SOCW 3329 with a grade of "C" or higher.

**SOCW 3320. Service Learning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students identify and respond to a community/neighborhood challenge through volunteer, service learning work with a non-profit community agency and/or under direct supervision of the instructor. Projects may be based in the student's home neighborhood or community. Students engage in supervised service activities and have the opportunity to reflect on the responses to the identified challenges. This course is an ALE course. All students must pass the ALE portion of the course to pass the course. Upon successful completion of the ALE requirements and the course requirements, students will receive 1 ALE in the category of Service Learning. Prerequisites: Completion of SOCW 2361 with a C or above and/or completion of or concurrent enrollment in SOCW 2362.

**SOCW 3329. Human Behavior and Social Environment I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Using an ecological/systems, developmental, and strengths framework, this course provides an integrated look at the bio-psycho-social-spiritual factors influencing human development focusing on human functioning from conception through middle childhood. Students will be exposed to theories and knowledge for practice across all system levels (individual, family, group, community, and society) of generalist practice. Cultural factors affecting human functioning, as well as implications for social work practice are explored. Prerequisites: Completion of SOCW 2361 with a grade of "C" or higher, SOCW 2362 with a grade of "C" or higher, completion of or concurrent enrollment in SOCW 3300 with a grade of "C" or higher, and SOCI 1306.

**SOCW 3339. Human Behavior and Social Environment II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a continuation of Human Behavior and the Social Environment I with an emphasis on theories and knowledge about human functioning from middle childhood through the end of life. Additionally, this course provides an integrated look at the bio-psycho-social-spiritual factors influencing human development using an ecological/systems, developmental, and strengths framework. Students will be exposed to theories and knowledge for practice across all system levels (individual, family, group, community, and society) of generalist practice. Values and ethical issues are included. Prerequisite: Completion of SOCW 3329 with a C or higher.

**SOCW 3377. Alcohol and Drug Abuse. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focus on psychoactive substances of use and abuse including: alcohol, legal/illegal drugs, and their impact on individuals, families, and society. Models of addiction, society's attitudes, and services for persons and families are explored.

**SOCW 4059. International Social Work. 3-6 Credit Hours (Lecture: 3-6 Hours, Lab: 0 Hours).**

Provides students with an understanding of social work practice and social welfare policies from an international perspective. The implications of globalization and its impact on social welfare policies and social work practice will be examined. Strategies for inter-cultural social work practice and methods of combating discrimination also will be examined. Students may have the opportunity to travel outside the U.S. in order to become familiar with social welfare policies and programs from an international perspective.

**SOCW 4085. Social Work Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Intensive studies of current trends and issues related to professional social work practice, social service delivery, and populations at risk. May repeated for credit when topics vary. Prerequisite: Junior classification or approval of the Social Work Program Director.

**SOCW 4086. Problems in Social Work. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Independent reading and research on various social work-related topics. Entry into the course will be arranged by the faculty member with approval from the Department Head if needed.

**SOCW 4090. Special Topics. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Intensive studies of current trends and issues related to professional social work practice, social service delivery, and populations at risk. May repeated for credit when topics vary. Prerequisite: Junior Classification.

**SOCW 4311. Child Welfare. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the practice of social work in a child welfare context. This course is designed to introduce students to a variety of social work practice settings in child welfare. Past and present child welfare policies and programs will be examined. This course is a required course for students pursuing the Child Welfare concentration.

**SOCW 4312. Practice II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focus is on integrating theoretical concepts and frameworks with the practice of social change at community, society, and global levels. Models of community organization--community development, social action, and social planning will be emphasized including methods of resource delivery and redistribution and student will apply to final macro project. Prerequisites: Student must be admitted to the Social Work Program and must have completed SOCW 3315 with a grade of C or higher and SOCW 3316 with a grade of C or higher.

**SOCW 4313. Human Rights. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Using the United Nations Declaration on Human Rights as a foundation, this course examines human rights and human rights violations using a global perspective.

**SOCW 4315. Social Work Values and Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The focus of this course is to encourage and assist students in the development of an ethical framework for social work practice. This framework requires students to develop a better understanding of and the ability to manage the ethical issues and dilemmas they will encounter in social work practice. The course integrates concepts related to social values and ethics, diversity, promotion of social and economic justice, and empowerment of human beings. Additionally, the course allows students to apply the NASW Code of Ethics and the Code of Ethics of the Texas State Conduct of Social Work Examiners to multi-faceted ethical dilemmas.

**SOCW 4318. Adoptions & Custody. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The focus of this course is on understanding the family court processes of adoption and child custody and the social worker/ mental health professional's role in these processes. Students will obtain the assessment and writing skills to complete reports for family court.

**SOCW 4321. Death and Dying. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The ramifications of death, including the experiences and rights of the dying and the significance to those who mourn. Using major sociology theories, focuses on the meaning to society of the reality and symbolism of death. Credit for both SOCW 4321 and SOCI 4321 will not be awarded. Prerequisite: SOCI 1301.

**SOCW 4324. Trauma & Debriefing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines a practical approach to understanding trauma and provides empowering interventions to apply to practice with childhood and adult survivors of physical, sexual and other forms of abuse and trauma.

**SOCW 4342. Disaster & Response. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of this class is to prepare social workers, and other helping professionals to understand the emergency management systems and to respond with a defined skill set that offers emotional support for persons during disaster incidents. It will also train participants in how to partner with public health, emergency management, hospitals, police, fire, and EMS agencies. Students will be trained to integrate with response partners during major disaster emergencies such as mass causality/fatality incidents, natural disasters, and the outbreaks of epidemic and pandemic diseases, where there was a need for psychosocial support.

**SOCW 4352. Women's Issues. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines the role of women from a global perspective. Focuses on specific issues that affect the everyday lives of women. Special attention is given to the differential and unequal treatment of women based on age, race, social class, and cultural differences.

**SOCW 4355. Grief, Loss & Bereavement. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to concepts surrounding the nature of loss, suffering, grief, and issues of death and dying. Historical, current, cultural, spiritual, and religious perspectives will be examined with attention to ethical and moral issues. Theoretical foundations will be explored as related to death and dying, as well as other types of loss to include divorce, adoption, foster care, palliative care, transitions and symbolic loss and how it impacts children and families.

**SOCW 4622. Field Placement I. 6 Credit Hours (Lecture: 3 Hours, Lab: 16 Hours).**

This course is designed to provide application and integration of academic learning and development of skills within a field setting. Agency placement is arranged by the Director of Field. A seminar is scheduled along with agency placement. Students are expected to be at the agency approximately 16 hours a week for the duration of the semester. Students must complete 225 hours of placement. Prerequisites: Must be a senior and permission of Field Director.

**SOCW 4623. Field Placement II. 6 Credit Hours (Lecture: 3 Hours, Lab: 16 Hours).**

This course requires the application and integration of academic learning and development of skills within a field setting. Placement is arranged with social work field faculty. A seminar is scheduled along with agency placement. A total of 450 hours (225 each semester) is required in the field agency. Prerequisite: Completion of SOCW 4622 with a grade of "C" or higher.

**SOCW 4632. Child Welfare Practicum. 12 Credit Hours (Lecture: 3 Hours, Lab: 27 Hours).**

A practicum limited to students in the Title IV-E Child Welfare Program. Provides students with an opportunity to integrate theory and develop practice skills in a child welfare setting. Requires a minimum of 450 hours be completed in a professionally supervised State of Texas Child Protective Services setting. Prerequisites: Acceptance to the Title IV-E Child Welfare Program, completion of all required social work courses.

## School of Nursing

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### The School of Nursing

Tarleton State University School of Nursing (SON) includes the Department of Pre Licensure Nursing and the Department of Post Licensure and Graduate Nursing Programs. The Tarleton State University School of Nursing began in 1976 as a Division of Nursing and has since grown to offer multiple entry points for students to begin a career in nursing or advance their career at three different campuses by earning one of two degrees: the Bachelor of Science in Nursing (BSN) or Master of Science in Nursing (MSN). For further information on the MSN program, see the graduate section of this catalog.

Since the initiation of the BSN program in 1994, Tarleton nursing students are challenged to acquire evidence-based, value-driven knowledge, skills, and attitudes essential for professional nursing careers, responsible citizenship, and leadership. Three pathways, depending upon the student's educational and professional background, support the achievement of the BSN: 1) Generic, 2) RN to BSN, and 3) LVN to BSN. All BSN pathways provide the graduate with the academic and professional opportunities necessary to compete in the current health care employment market and to be a life-long contributor to the nursing profession. The faculties deliver quality instruction in state-of-the-art classroom and simulation settings in Stephenville, Ft. Worth, and Waco, Texas and facilitate clinical experiences in a broad variety of practice settings. Upon successful completion of the BSN curriculum, generic and LVN to BSN graduates are eligible to apply for licensure as a registered nurse and to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN®).

## Courses

**NURS 1100. Transitioning to University Studies in Nursing. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from a Department of Nursing perspective.

**NURS 2150. Communication and Professional Nursing. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Introduces the pre-nursing student to the concepts and processes of communication, the language of nursing, and the interpersonal skills required for working with people. Personal evolution, beginning professional evolution and evolution of nursing as a profession are described. Prerequisites: Completion of 53 hours of general education courses including ENGL 1301, ENGL 1302, BIOL 2401, BIOL 2402, BIOL 2420, and CHEM 1407 or 1411. Acceptance to take pre-nursing courses.

**NURS 2356. Nursing Concepts and Competencies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces the pre-nursing student concepts in nursing, nursing process, competencies and nursing care. Nursing theory, core professional standards attitudes, legal and ethical nursing issues, and values fundamental to the discipline of nursing are explored. Prerequisites: Completion of 53 hours of general education courses including ENGL 1301, ENGL 1302, BIOL 2401, BIOL 2402, BIOL 2420, and CHEM 1407 or 1411. Acceptance to take pre-nursing courses.

**NURS 2370. Introduction to Nursing Pathophysiology and Pharmacology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the pathophysiologic alterations, interactions, and effects of selected diseases (exemplars) across the life span taking into consideration genetic, ethnic, and cultural variables. This course also introduces current concepts of pharmacology and their relationship to nursing practice. Included are basic principles of mechanism of drug actions, side effects for major drug classifications through discussions utilizing drug prototypes and the role of the nurse in drug therapeutics. Ethical/legal and cultural considerations are explored. Nursing concepts are approached from a cellular and multi-system perspective. Content aims at stimulating critical thinking for application to nursing practice. Prerequisites: Completion of 53 hours of general education courses including ENGL 1301, ENGL 1302, BIOL 2401, BIOL 2402, BIOL 2420, and CHEM 1407 or 1411. Acceptance to take pre-nursing courses.

**NURS 3175. Nursing Synthesis 1. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course is the synthesis and application of critical thinking in level one courses with use of the nursing process, nursing concepts, and disease processes (exemplars). Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 3230. Professional Role Transition for Licensed Nurses. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course facilitates socialization as a BSN prepared nurse. Professional standards, attitudes and values central to the profession of nursing are explored. Responsibility and accountability for role transition, professional growth, and practice are addressed. Concepts in nursing, nursing process, competencies and nursing care are explored.

**NURS 3280. Synthesis 1 for Licensed Nurses. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course is the synthesis and application of critical thinking in level one with use of the nursing process, nursing concepts, disease processes (exemplars), and other considerations for licensed nurses. Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 3305. Professional Role Transitions for RNs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course facilitates socialization as a BSN prepared nurse. Professional standards, attitudes and values central to the profession of nursing are explored. Responsibility and accountability for role transition, professional growth and practice are addressed. Prerequisite: Admission to the nursing program.

**NURS 3310. Nursing Pathophysiology and Pharmacology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course focuses on pharmacotherapeutic aspects of nursing care and nursing concepts through exploration and support by evidenced based findings to improve client care. Emphasis is on principles of safe administration of medications and client education for major drug classifications. The impact of technology, economic, and regulatory forces, as well as collaboration with the health team are discussed. Experiences will occur within the simulation lab, lab, virtual simulation experiences, and appropriate care settings and will focus on critical thinking and client safety. Prerequisite: Admission to the nursing program.

**NURS 3314. Perioperative Nursing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Allows students to expand their understanding and skill in providing care to patients during all phases of the perioperative period. Clinical experiences include outpatient surgery and diagnostic procedure areas of hospitals as well as traditional surgical areas. Prerequisite: Completion of the Sophomore II Nursing semester. Lab fee: \$2.

**NURS 3315. Behavioral Health Nursing Care. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course focuses on nursing concepts, the nursing process, and exemplars of behavioral health of mentally and emotionally disabled clients and their families. Knowledge of specific psychopharmacological agents is applied to treatment outcomes. Clinical practicum provides opportunities to examine common psychopathologies, developmental disorders, and community mental health phenomena in a variety of settings.

**NURS 3320. Nursing Research, Inquiry, and Evidenced Based Decision Making. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

As a writing intensive course, this course provides an applied understanding of research methods and critical appraisal of published studies with the goal for graduates to use evidence as the foundation for practice. Course focuses on critiquing research guidelines and processes, development of clinical questions using the PICO format, and nursing informatics using electronic databases to support evidence-based nursing practice. Use of information retrieval and evaluation, appropriate citation using APA formatting in professional papers, and the legal ethical responsibilities of nursing research are included. Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 3325. Health Assessment. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course fosters the acquisition of skills and techniques used in comprehensive health assessment and further exploration of nursing concepts. Emphasis is placed on gathering detailed health history, differentiation, interpretation, and documentation of normal and abnormal findings with consideration given to developmental and cultural variations. Laboratory experiences and virtual simulations focus on norms in well clients while identifying common deviations in health status of adults. Prerequisite: Admission to the nursing program.

**NURS 3340. Nursing Care of the Older Adults and Families. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course focuses on nursing concepts, nursing process, and disease process (exemplars) in the older adult. Emphasis is placed on integrating assessment, data analysis, therapeutic communication, and critical thinking skills to direct culturally sensitive care of older adults and their families and caregivers. Other emphasis will be placed on generational and vulnerability issues of the older adult client, as well as role adaptability and professional boundaries of the nurse. Clinical experiences are conducted in a variety of health care settings, virtual simulation, and the simulation lab. Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 3342. Health Assessment and Clinical Skills for RNs. 3 Credit Hours (Lecture: 2.5 Hours, Lab: 1.5 Hour).**

This course fosters expansion of skills and techniques used in comprehensive health assessment of clients from infancy to older adult. Experiential learning focuses on norms in well clients while identifying common deviations in health status of clients of all ages. Prerequisite: Admission to the nursing program.

**NURS 3345. Healthcare Informatics for RNs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In this course students will examine theories and standards related to healthcare informatics. The course will explore digital literacy, protection and confidentiality of health information, and issues related to healthcare informatics and nursing care. Prerequisite: Admission to the nursing program.

**NURS 3348. Evidence Based Practice for RNs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The course is designed for students to develop skills as a consumer of research. The research process, critical appraisal of published research studies that use a variety of research designs, and the role of research in evidence-based practice are addressed. Prerequisite: Admission to the nursing program.

**NURS 3370. Introduction to Nursing Care as a Professional Nurse. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course facilitates understanding and application of nursing concepts, nursing process, and disease processes (exemplars) built on nursing fundamentals and medical surgical client experiences as a licensed nurse. Clinical experiences in a variety of healthcare and community settings, simulation lab, virtual simulation, and lab incorporates a collaborative approach in the delivery of care. Prerequisite: Admission to the nursing program.

**NURS 3417. Pathophysiology and Pharmacology for Licensed Nurses. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course focuses on the pathophysiologic alterations, interactions, and effects of selected diseases (exemplars) across the life span taking into consideration genetic, ethnic, and cultural variables. Nursing concepts are approached from a cellular and multi-system perspective. This course introduces current pharmacology and their relationship to nursing practice. Content aims at stimulating critical thinking for application to professional nursing practice for the licensed nurse. Prerequisite: Admission to the nursing program.

**NURS 3450. Nursing Care of Adults and Families for Licensed Nurses. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course expands on the nursing process and nursing concepts learned in Introduction to Nursing Care as a Professional Nurse course using additional and more complex disease processes (exemplars) in adult medical-surgical clients. Application of teaching and learning principles will occur in the plan of care of adults and their families. Emphasis is on clinical judgment, therapeutic and professional communication, use of the nursing process, and provision of safe, compassionate, multidimensional care of adult clients and families in a variety of health care settings, lab, virtual simulation and simulation lab. Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 3460. Nursing Pathophysiology and Pharmacology for RNs. 4 Credit Hours (Lecture: 4 Hours, Lab: 0 Hours).**

This course focuses on nursing concepts, nursing process, and disease processes (exemplars) related to the pathophysiologic alterations, interactions, and effects of selected diseases (exemplars), taking into consideration genetic, ethnic, environmental, and cultural variables in pharmacologic and nursing management.

**NURS 3620. Foundations of Nursing Care. 6 Credit Hours (Lecture: 3 Hours, Lab: 9 Hours).**

This course introduces foundational nursing care. Nursing concepts, nursing process, and disease process (exemplars) based approach to teaching and learning will be emphasized as the foundation of nursing care and will build in complexity throughout the nursing program. Clinical experiences will occur within the simulation lab, lab, virtual simulation experiences, and appropriate care settings and will focus on critical thinking and client safety in the performance of direct care skills. Prerequisite: Admission to the nursing program.



**NURS 3625. Nursing Care of Adults and Families. 6 Credit Hours (Lecture: 3 Hours, Lab: 9 Hours).**

This course expands on the nursing process and nursing concepts learned in Foundations of Nursing course using additional and more complex disease processes (exemplars) in adult medical-surgical clients. Application of teaching and learning principles will occur in the plan of care of adults and their families. Emphasis is on clinical judgment, therapeutic and professional communication, use of the nursing process, and provision of safe, compassionate, multidimensional care of adult clients and families in a variety of health care settings, lab, virtual simulation and simulation lab. Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 4086. Nursing Problems. 4 Credit Hours (Lecture: 0-4 Hours, Lab: 0-4 Hours).**

This course allows the student to explore a topic of special interest while working independently under the guidance of an instructor. The student formulates objectives and a plan of evaluation of the project. May be repeated for credit, subject to approval by the head of the Department of Nursing. Prerequisite: Upper-division standing in the nursing major or approval of department head.

**NURS 4245. Healthcare Informatics. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

In this course students will examine theories and standards related to healthcare informatics. The course will explore digital literacy, protection and confidentiality of health information, and issues related to healthcare informatics and nursing care. Prerequisites: Admission to the nursing program and successful completion of Level II courses.

**NURS 4250. Nursing Synthesis 2. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course is the synthesis and application of critical thinking in level one and first semester of level two courses with use of the nursing process, nursing concepts, disease processes (exemplars), and other considerations. Prerequisites: Successful completion of junior 1 and junior 2 nursing courses.

**NURS 4275. Synthesis for Professional Nursing Practice. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course is the synthesis of the nursing concepts, nursing process, disease process (exemplars), and other content taught throughout the BSN program. Prerequisites: Successful completion of Junior 1, Junior 2, and Senior 1 nursing courses.

**NURS 4280. Synthesis 2 for Licensed Nurses. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course is the synthesis and application of critical thinking in level one and 1st semester of level two with use of the nursing process, nursing concepts, disease processes (exemplars), and other considerations for licensed nurses. Prerequisites: Successful completion of Junior 1 and Junior 2 nursing courses.

**NURS 4301. Emergency Nursing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Refines the nursing process in caring for clients of all ages experiencing medical/surgical emergencies, psychosocial crises, and trauma. Clinical experiences include provision of emergency care to individuals and diverse populations in acute care facilities and rural community settings. Transcultural competencies and critical reasoning are reinforced. Pre- or corequisites: NUR 315, 321.

**NURS 4302. Transcultural Nursing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Considers assumptions about health, illness, and death that are deeply entwined within cultural, social, and religious beliefs. Alternative healing systems and practices in contemporary society will be explored, as well as differences between provider and client cultures. Clinical experiences among diverse ethnocultural populations will enhance self awareness and culturally competent care. Prerequisites: NUR 315, 321.

**NURS 4303. Nursing in the United Kingdom. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This is a study abroad course that examines nursing history, healthcare delivery, nursing practice and nursing education in the United Kingdom as compared to the United States. Study abroad is optional and at the student's expense. The course serves as an Applied Learning Experience (ALE).

**NURS 4305. Nursing Care of Maternal, Newborn and Families. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course expands on nursing concepts and nursing process in provision of culturally sensitive care to the childbearing family during ante-partum, intra-partum and postpartum periods in a variety of healthcare settings, virtual simulation, lab, and simulation. Care of the newborn through the first year of life is addressed. Health issues relating to growth and development of the first year of life are explored. Prerequisites: Successful completion of junior 1 and junior 2 nursing courses.

**NURS 4310. Nursing Care of Children and Families. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course focuses on nursing concepts, nursing process, disease process (exemplars), and other considerations in children of 1 year of age and older and the impact on their families. Clinical experiences in a variety of healthcare and community settings, simulation lab, virtual simulation, lab incorporates an interdisciplinary collaborative approach in the delivery of care. Prerequisites: Successful completion of junior 1 and junior 2 nursing courses.

**NURS 4314. Policy, Politics, and Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines political structures and social forces that shape nursing and healthcare delivery. Communication strategies, conflict resolution, ethical resource management, quality improvement outcomes, and ethical decision making are addressed. Involvement in professional and policy making organizations is encouraged. Prerequisite: Admission to the nursing program.

**NURS 4325. Community and Population Health Nursing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The course presents nursing concepts, nursing process, and theory and systems to provide health care services to communities and populations as units of care. Community and population-based assessment, program management, and resource development are addressed. Utilization of evidence-based practices to guide health teaching, health counseling, screening, outreach, disease and outbreak investigation, disaster preparedness, referral and follow-up is also emphasized. Prerequisites: Successful completion of junior 1 and junior 2 nursing courses.

**NURS 4330. Nursing Care of the Older Adult and Family for RNs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses is on risk reduction, disease prevention, and strategies for health promotion, restoration, and maintenance in a vulnerable older population. Emphasis is placed on integrating assessment, data analysis, therapeutic communication, and critical thinking skills to direct culturally sensitive care of older adults and their families.

**NURS 4460. Nursing Care Adults with Complex Needs for Licensed Nurses. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course continues to consistently reinforce the nursing process, nursing concepts, and disease process (exemplars) with focus on recognition and care of adult experiencing major and complex alterations in health for licensed nurses. Clinical experiences occur in the healthcare setting, virtual simulation, lab and simulation. Prerequisites: Completion of junior 1, junior 2, and senior 1 nursing courses.

**NURS 4465. Leadership for Professional Nursing Practice. 4 Credit Hours (Lecture: 3.25 Hours, Lab: 2.25 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course explores organizational practices and strategies, leadership theories and societal trends with implications for decision making in healthcare. Emphasizes leadership theories with practical application to issues in nursing leadership positions and healthcare. Clinical experiences focus on management of multiple patients in acute care and interactive observation of leaders and managers in a variety of settings.

**NURS 4470. Community and Population Health Nursing for RNs. 4 Credit Hours (Lecture: 3.5 Hours, Lab: 1.5 Hour).**

The course presents the theory and systems to provide health care services to communities and populations as units of care for RNs. Community and population-based assessment, program management, and resource development are addressed. Utilization of evidence-based practices to guide health teaching, health counseling, screening, outreach, disease and outbreak investigation, referral and follow-up is also emphasized. Experiential learning is individualized.

**NURS 4498. Transition to Professional Nursing Practice. 4 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Course fosters synthesis of the curricular concepts of communication, professionalism, critical thinking, patient centered care, diversity, and leadership as experientially gained in prior semesters. Immersion experience to promote transition to practice is facilitated. Prerequisites: Admission to the nursing program and successful completion of Level III courses.

**NURS 4550. Nursing Care of Adults with Complex Needs. 5 Credit Hours (Lecture: 3 Hours, Lab: 6 Hours).**

This course continues to consistently reinforce the nursing process, nursing concepts, and disease process (exemplars) with focus on recognition and care of adult experiencing major and complex alterations in health. Clinical experiences occur in the healthcare setting, virtual simulation, lab and simulation. Prerequisites: Successful Completion of Junior 1, Junior 2, and Senior 1 nursing courses.

**NURS 4698. Leadership and Transitions for Professional Nursing. 6 Credit Hours (Lecture: 3 Hours, Lab: 9 Hours).**

This course explores organizational practices and strategies, professional leadership and societal trends with implications for decision making in healthcare. Course fosters communication, professionalism, critical thinking, client centered care, diversity, and leadership as experientially gained in prior semesters. Immersion experience to promote transition and leadership in practice is facilitated. Prerequisites: Successful Completion of Junior 1, Junior 2, and Senior 1 nursing courses.

## Pre-Licensure Nursing

School of Nursing  
Box T-0500  
1333 W. Washington Street  
Stephenville, Texas 76402  
tarleton.edu/nursing (<http://tarleton.edu/nursing/>)

The Department of Pre Licensure Nursing in the School of Nursing at Tarleton State University offers a generic entry bachelor of science in nursing. The pre licensure generic entry (Bachelor of Science in Nursing [BSN]) is offered on the Stephenville Campus.

TSU nursing students are challenged to strive for excellence and professionalism in the classroom, laboratory, clinical agency and community setting. Upon successful completion of the BSN curriculum and degree conferred by the University, generic graduates are eligible to apply for licensure as a registered nurse and to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN®).

### Mission

The School of Nursing provides student-focused academically and clinically challenging programs that engage students in acquiring evidence-based, value-driven knowledge, skills, and attitudes essential for professional nursing careers, responsible citizenship, and leadership.

### Values

The Tarleton Nursing Program core values guide the working, teaching, and learning environment. These values include altruism, autonomy, excellence, human dignity, integrity, leadership, service, social justice, civility, and tradition.

- Altruism is the concern and advocacy for the well-being of others. This is reflected by the faculty and students' regard for the welfare and well-being of each other, our constituents, and public at large.
- Autonomy is the right to self-determination demonstrated through respect of patients, nurses, students, and faculty's rights to independent, informed, and supportive decision making.
- Excellence is not perfection. Excellence occurs when each person works to exceed one's own expectations and supports others in their quest to do the same.
- Respect for the inherent worth and uniqueness of individuals and populations, including patients, faculty, administration, students, and other constituents. Human dignity embraces civility, kindness, and inclusion by valuing others and expecting better of ourselves.
- Quality of high moral character that includes honesty, fairness, trustworthiness, and stewardship. Integrity is putting one's moral compass into action congruent with an appropriate code of ethics and standards of practice.
- Leadership is the ability to utilize interpersonal skills, theoretical knowledge, self-awareness, flexibility, critical thinking, and influence to promote quality outcomes in health care and nursing education.
- Commitment to the common good and being a responsible citizen. Service broadens perspective and deepens understanding by reaching out to improve well-being of local and global communities.
- Acting in accordance with fair treatment and civility of all humans, including a commitment to the health of vulnerable populations and the elimination of health disparities. In nursing education, social justice is exhibited toward students, faculty, administration, and other constituents.
- Imparting values and beliefs from generation to generation fueled by legacy inherited from the past and created for the future. Our traditions such as convocation and pinning are a source of pride and common identity. New traditions will emerge through exposure to the rich history and metamorphosis of nursing, education, and health care.

### BSN Program Outcomes

#### At the end of the program, the baccalaureate-prepared generalist nursing graduate will be able to:

- Demonstrate professional standards, attitudes, and core values that are fundamental to the discipline of nursing.
- Engage in continuous self-evaluation and life-long learning to foster professional growth and development, to improve own practice and maintain a current knowledge base.
- Function as a knowledge-worker with strong clinical reasoning, clinical judgment, communication and assessment skills.
- Safely practices in complex health care systems incorporating evidence-based nursing interventions to manage client changes while addressing differences, values, preferences and expressed needs.
- Function within scope and standards of nursing practice and organizational policies to promote quality and a safe environment which reduces risk.
- Manage health care transitions and/or referrals, communicate and collaborate within inter/intra-professional teams, identify system issues, and develop working skills in delegation, supervision, prioritization, advocacy, and coordination of care.

### Location of Pre Licensure Nursing

- Traditional program of study (generic) is taught on the Stephenville campus.

### Course Delivery Method

- Courses are taught weekly, face-to-face in the classroom with online components in select classes.

### Clinical or Experiential Learning

Nursing is a practice discipline that includes both direct and indirect care activities that impact health outcomes. Therefore, clinical or experiential learning opportunities are a vital part of the baccalaureate nursing curriculum. A complementary relationship exists between classroom and clinical or experiential learning components of the curriculum.

## Clinical Locations

For the generic student, on-campus simulation labs, as well as, hospitals and other clinical agencies in Brown, Bosque, Comanche, Eastland, Erath, Hood, Johnson, McLennan, Palo Pinto, Parker, Somervell, and Tarrant Counties are available for clinical experiences. Many clinical experiences occur in Fort Worth and/or Waco locations.

## Accreditation

The baccalaureate and master's degree program in nursing at Tarleton State University is accredited by the Commission on Collegiate Nursing Education, 655 K Street NW, Suite 750, Washington, DC 20001, 202-887-6791 and approved by the Texas Board of Nursing (<http://www.bon.texas.gov/>).

## Advising

Prenursing advising appointments are scheduled through the Academic Advising Website (<https://www.tarleton.edu/advising/appointment.html>).

Advising in the nursing program is through assigned faculty advisors.

## Admission Requirements and Process for Generic BSN Students (Stephenville)

The process to apply for program admission is a two-step, highly competitive process. The two-step process to enter the nursing program is separate from, and in addition to, the application to Tarleton. **Admission by Tarleton and the School of Nursing are required.** To be considered for nursing program admission, the student **MUST** meet minimum admission requirements and submit application materials to Tarleton and the School of Nursing by the *specified* deadlines. Meeting minimum requirements for each step is necessary, but not sufficient, to gain program admission. Admission is NOT GUARANTEED but dependent upon the rank order of applicants (competitive rank in the application pool) and availability of spaces.

The admission process is located at <https://www.tarleton.edu/nursing/pre-licensure-programs/bsn-stephenville.html>

## Deadlines

Application deadline information can be located at <https://www.tarleton.edu/nursing/pre-licensure-programs/bsn-stephenville.html>

## Immunizations and Health Requirements (All students)

For the health and safety of Tarleton State University nursing students and their patients and compliance with healthcare facility mandatory requirements, immunizations and health requirements is required for all nursing students. Records will be kept through a clinical compliance software. All documentation requirements must be met at all times during any course with a clinical requirement. All documentation in the clinical compliance software must be updated and accurate at all times.

*Notice:*

1. In obtaining vaccines it is important to note that all live vaccines (MMR, Varicella, LAIV (Nasal flu) have to be given on the same day or separated by 28 days.
2. If a student is getting a PPD (tuberculin skin test) and a live vaccine it has to be done on the same day or they have to be separated by 30 days. If done sooner, there is a potential for a false positive, resulting in increased cost, and/or treatment (chest-x-rays) when not needed.

**If admitted to the nursing program, the mandatory requirements must be submitted by deadline. Students who do not upload all compliance documents in the clinical compliance software will not be allowed to begin classes until completed and compliant with all requirements.**

1. TB Skin Test
  - PPD (reported in mm) OR
  - Quantiferon (QFT) serum test OR
  - If New +TB Test results then Follow/Up by healthcare provider (chest X-ray, symptoms check and possible treatment,) may need to complete health questionnaire OR
  - If History of +TB results then provide proof of chest X-ray and submit negative symptom check from health care provider in past 12 months OR
  - If no proof of +TB Test available, then chest X-ray OR
  - If History of BCG vaccination then 2-Step TB Test or QFT OR
  - If history of +TB Test and +chest X-ray and symptoms: must see healthcare provider for treatment before school entry
2. Hepatitis B
  - 3 doses, initial dose followed by 2<sup>nd</sup> dose 4 weeks later followed by 3<sup>rd</sup> dose 6 months later OR
  - A titer showing immunity OR
  - Signed waiver for students who decline vaccination
3. MMR (Measles, Mumps, Rubella)
  - Proof of vaccination (2 doses) OR
  - Proof of immunity by titer to all three (MMR)
4. Varicella (Chicken Pox)
  - One dose if received 1<sup>st</sup> dose before age 12. If not, 2 doses with 2<sup>nd</sup> dose at least 4 weeks after 1<sup>st</sup> dose OR
  - Proof of immunity by titer.
5. Tetanus, Diphtheria, Pertussis
  - Tdap within last 10 years required one time at admission
6. CPR
  - Health provider level (adult, infant, child, AED) by the American Heart Association Healthcare Provider CPR
7. Influenza
  - Proof of annual vaccination(s)
  - Note: the flu vaccination may be delayed until after program admission if admission occurs before the vaccine is available
8. Completed Urine Drug Screen -Additional drug screens may be required by clinical agencies, randomly, and/or for cause.
9. Proof of Personal Health Insurance Coverage

**Ongoing Requirements That Must Be Updated During the Nursing Program:**

## 1. TB Skin Test

- New one-step PPD (reported in MM) OR
- New Quantiferon Serum Test OR
- If New + TB Test results# Follow/Up with healthcare provider, chest X-ray, & symptom check OR
- Known +TB skin results and prior negative chest X-ray results: submit annual symptom check from healthcare provider

## 2. CPR

- Health provider level (adult, infant, child, AED)

## 3. Influenza vaccination

## 4. Proof of Personal Health Insurance Coverage

## 5. All immunizations that expire during enrollment in the nursing program.

**Curriculum for the Bachelor of Science in Nursing Degree**

- The curriculum for the Bachelor of Science Degree in Nursing requires a minimum of 120 semester hours.
- All students must complete all degree requirements with a grade of "C" or better *by the established School of Nursing guidelines, including the university general education requirements and courses required for the major.*

**The Bachelor of Science in Nursing Degree****Required Courses**

**All students must complete all degree requirements with a grade of "C" or better including the university general education requirements (<http://catalog.tarleton.edu/undergrad/academicaffairs/>) and courses required for the major.**

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>		42
BIOL 2401 [shared]	Anatomy and Physiology I	
BIOL 2402 [shared]	Anatomy & Physiology II	
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
MATH 1342 [shared]	Elementary Statistical Methods	
BIOL 2420	Microbiology for Non-Science Majors	4
CHEM 1407	Fundamentals of Chemistry	4
HECO 1322	Nutrition and Diet Therapy	3
PSYC 2301 [shared]	General Psychology	
PSYC 2314	Life Span Growth & Development	3
Total Hours		56

**Additional Required Courses for Concentrations****Traditional (Generic) BSN Stephenville Program Entry**

NURS 1100 [shared]	Transitioning to University Studies in Nursing	
NURS 2150	Communication and Professional Nursing	1
NURS 2356	Nursing Concepts and Competencies	3
NURS 2370	Introduction to Nursing Pathophysiology and Pharmacology	3
NURS 3310	Nursing Pathophysiology and Pharmacology	3
NURS 3620	Foundations of Nursing Care	6
NURS 3325	Health Assessment	3
NURS 3320 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Nursing Research, Inquiry, and Evidenced Based Decision Making	3
NURS 3625	Nursing Care of Adults and Families	6
NURS 3340	Nursing Care of the Older Adults and Families	3
NURS 3175	Nursing Synthesis 1	1
NURS 3315	Behavioral Health Nursing Care	3
NURS 4310	Nursing Care of Children and Families	3
NURS 4305	Nursing Care of Maternal, Newborn and Families	3
NURS 4325 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Community and Population Health Nursing	3
NURS 4250	Nursing Synthesis 2	2
NURS 4245	Healthcare Informatics	2
NURS 4698	Leadership and Transitions for Professional Nursing	6
NURS 4275	Synthesis for Professional Nursing Practice	2
NURS 4550	Nursing Care of Adults with Complex Needs	5
Advised Advanced Elective		3
Total Hours		64

**LVN to BSN Waco Program Entry**

The LVN is awarded 9 SCH of credit for past education upon successful completion of nursing courses.		9
NURS 1100 [shared]	Transitioning to University Studies in Nursing	
NURS 3417	Pathophysiology and Pharmacology for Licensed Nurses	4
NURS 3370	Introduction to Nursing Care as a Professional Nurse	3
NURS 3230	Professional Role Transition for Licensed Nurses	2
NURS 3325	Health Assessment	3
NURS 3320 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Nursing Research, Inquiry, and Evidenced Based Decision Making	3
NURS 3450	Nursing Care of Adults and Families for Licensed Nurses	4
NURS 3340	Nursing Care of the Older Adults and Families	3
NURS 3280	Synthesis 1 for Licensed Nurses	2
NURS 3315	Behavioral Health Nursing Care	3
NURS 4310	Nursing Care of Children and Families	3
NURS 4305	Nursing Care of Maternal, Newborn and Families	3
NURS 4325 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Community and Population Health Nursing	3
NURS 4280	Synthesis 2 for Licensed Nurses	2
NURS 4245	Healthcare Informatics	2
NURS 4698	Leadership and Transitions for Professional Nursing	6
NURS 4275	Synthesis for Professional Nursing Practice	2
NURS 4460	Nursing Care Adults with Complex Needs for Licensed Nurses	4
Advised Advanced Elective		3
<b>Total Hours</b>		<b>64</b>

**RN to BSN Fort Worth Online or Hybrid Program Entry**

The RN is awarded 34 SCH of credit for past education upon successful completion of nursing courses.		34
NURS 1100 [shared]	Transitioning to University Studies in Nursing	
NURS 3305	Professional Role Transitions for RNs	3
NURS 3342	Health Assessment and Clinical Skills for RNs	3
NURS 3345	Healthcare Informatics for RNs	3
NURS 3460	Nursing Pathophysiology and Pharmacology for RNs	4
NURS 3348 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Evidence Based Practice for RNs	3
NURS 4465 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Leadership for Professional Nursing Practice	4
NURS 4330	Nursing Care of the Older Adult and Family for RNs	3
NURS 4470	Community and Population Health Nursing for RNs	4
NURS 4314	Policy, Politics, and Ethics	3
<b>Total Hours</b>		<b>64</b>

<sup>1</sup> Please see Academic Information section.

**Leadership**

- Dr. Sally Lewis
- Dr. Jennifer Mundine
- Dr. Keisha Davis

**Professor**

- Dr. Susan Rugari

**Associate professors**

- Dr. Samantha Pehl
- Dr. Mary Winton
- Dr. Jennifer Yeager

**Assistant professors**

- Dr. Renae Authement
- Dr. Keisha Davis
- Dr. Lisa Everett
- Dr. Zelda Gibbs
- Dr. Jennifer Mundine
- Dr. Martha Smith
- Dr. Dokagari Woods

## Instructor

- Kim Allen
- Annette Ayers
- Brooke Beatty
- Jerilyn Bumpas
- Michelle Carswell
- Ashley Davis
- Sheryl Fernandez
- Alicia Figueroa
- Lisa Otto
- Jennifer Pounds
- Jeannie Simpson

## Staff and SON Support

- Susan Gordon
- Kimberly Jaska
- Elizabeth Johnson
- Diedre Lewis
- Rachel Adams
- Cory Nelson
- Joseph Perry
- Angela White

## Courses

### **NURS 1100. Transitioning to University Studies in Nursing. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from a Department of Nursing perspective.

### **NURS 2150. Communication and Professional Nursing. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Introduces the pre-nursing student to the concepts and processes of communication, the language of nursing, and the interpersonal skills required for working with people. Personal evolution, beginning professional evolution and evolution of nursing as a profession are described. Prerequisites: Completion of 53 hours of general education courses including ENGL 1301, ENGL 1302, BIOL 2401, BIOL 2402, BIOL 2420, and CHEM 1407 or 1411. Acceptance to take pre-nursing courses.

### **NURS 2356. Nursing Concepts and Competencies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces the pre-nursing student concepts in nursing, nursing process, competencies and nursing care. Nursing theory, core professional standards attitudes, legal and ethical nursing issues, and values fundamental to the discipline of nursing are explored. Prerequisites: Completion of 53 hours of general education courses including ENGL 1301, ENGL 1302, BIOL 2401, BIOL 2402, BIOL 2420, and CHEM 1407 or 1411. Acceptance to take pre-nursing courses.

### **NURS 2370. Introduction to Nursing Pathophysiology and Pharmacology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the pathophysiologic alterations, interactions, and effects of selected diseases (exemplars) across the life span taking into consideration genetic, ethnic, and cultural variables. This course also introduces current concepts of pharmacology and their relationship to nursing practice. Included are basic principles of mechanism of drug actions, side effects for major drug classifications through discussions utilizing drug prototypes and the role of the nurse in drug therapeutics. Ethical/legal and cultural considerations are explored. Nursing concepts are approached from a cellular and multi-system perspective. Content aims at stimulating critical thinking for application to nursing practice. Prerequisites: Completion of 53 hours of general education courses including ENGL 1301, ENGL 1302, BIOL 2401, BIOL 2402, BIOL 2420, and CHEM 1407 or 1411. Acceptance to take pre-nursing courses.

### **NURS 3175. Nursing Synthesis 1. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course is the synthesis and application of critical thinking in level one courses with use of the nursing process, nursing concepts, and disease processes (exemplars). Prerequisite: Successful completion of junior 1 nursing courses.

### **NURS 3230. Professional Role Transition for Licensed Nurses. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course facilitates socialization as a BSN prepared nurse. Professional standards, attitudes and values central to the profession of nursing are explored. Responsibility and accountability for role transition, professional growth, and practice are addressed. Concepts in nursing, nursing process, competencies and nursing care are explored.

### **NURS 3280. Synthesis 1 for Licensed Nurses. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course is the synthesis and application of critical thinking in level one with use of the nursing process, nursing concepts, disease processes (exemplars), and other considerations for licensed nurses. Prerequisite: Successful completion of junior 1 nursing courses.

### **NURS 3305. Professional Role Transitions for RNs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course facilitates socialization as a BSN prepared nurse. Professional standards, attitudes and values central to the profession of nursing are explored. Responsibility and accountability for role transition, professional growth and practice are addressed. Prerequisite: Admission to the nursing program.

### **NURS 3310. Nursing Pathophysiology and Pharmacology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course focuses on pharmacotherapeutic aspects of nursing care and nursing concepts through exploration and support by evidenced based findings to improve client care. Emphasis is on principles of safe administration of medications and client education for major drug classifications. The impact of technology, economic, and regulatory forces, as well as collaboration with the health team are discussed. Experiences will occur within the simulation lab, lab, virtual simulation experiences, and appropriate care settings and will focus on critical thinking and client safety. Prerequisite: Admission to the nursing program.

### **NURS 3314. Perioperative Nursing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Allows students to expand their understanding and skill in providing care to patients during all phases of the perioperative period. Clinical experiences include outpatient surgery and diagnostic procedure areas of hospitals as well as traditional surgical areas. Prerequisite: Completion of the Sophomore II Nursing semester. Lab fee: \$2.

### **NURS 3315. Behavioral Health Nursing Care. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This courses focuses on nursing concepts, the nursing process, and exemplars of behavioral health of mentally and emotionally disabled clients and their families. Knowledge of specific psychopharmacological agents is applied to treatment outcomes. Clinical practicum provides opportunities to examine common psychopathologies, developmental disorders, and community mental health phenomena in a variety of settings.

**NURS 3320. Nursing Research, Inquiry, and Evidenced Based Decision Making. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

As a writing intensive course, this course provides an applied understanding of research methods and critical appraisal of published studies with the goal for graduates to use evidence as the foundation for practice. Course focuses on critiquing research guidelines and processes, development of clinical questions using the PICO format, and nursing informatics using electronic databases to support evidence-based nursing practice. Use of information retrieval and evaluation, appropriate citation using APA formatting in professional papers, and the legal ethical responsibilities of nursing research are included. Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 3325. Health Assessment. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course fosters the acquisition of skills and techniques used in comprehensive health assessment and further exploration of nursing concepts. Emphasis is placed on gathering detailed health history, differentiation, interpretation, and documentation of normal and abnormal findings with consideration given to developmental and cultural variations. Laboratory experiences and virtual simulations focus on norms in well clients while identifying common deviations in health status of adults. Prerequisite: Admission to the nursing program.

**NURS 3340. Nursing Care of the Older Adults and Families. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This courses focuses on nursing concepts, nursing process, and disease process (exemplars) in the older adult. Emphasis is placed on integrating assessment, data analysis, therapeutic communication, and critical thinking skills to direct culturally sensitive care of older adults and their families and caregivers. Other emphasis will be placed on generational and vulnerability issues of the older adult client, as well as role adaptability and professional boundaries of the nurse. Clinical experiences are conducted in a variety of health care settings, virtual simulation, and the simulation lab. Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 3342. Health Assessment and Clinical Skills for RNs. 3 Credit Hours (Lecture: 2.5 Hours, Lab: 1.5 Hour).**

The course fosters expansion of skills and techniques used in comprehensive health assessment of clients from infancy to older adult. Experiential learning focuses on norms in well clients while identifying common deviations in health status of clients of all ages. Prerequisite: Admission to the nursing program.

**NURS 3345. Healthcare Informatics for RNs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In this course students will examine theories and standards related to healthcare informatics. The course will explore digital literacy, protection and confidentiality of health information, and issues related to healthcare informatics and nursing care. Prerequisite: Admission to the nursing program.

**NURS 3348. Evidence Based Practice for RNs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

The course is designed for students to develop skills as a consumer of research. The research process, critical appraisal of published research studies that use a variety of research designs, and the role of research in evidence-based practice are addressed. Prerequisite: Admission to the nursing program.

**NURS 3370. Introduction to Nursing Care as a Professional Nurse. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course facilitates understanding and application of nursing concepts, nursing process, and disease processes (exemplars) built on nursing fundamentals and medical surgical client experiences as a licensed nurse. Clinical experiences in a variety of healthcare and community settings, simulation lab, virtual simulation, and lab incorporates a collaborative approach in the delivery of care. Prerequisite: Admission to the nursing program.

**NURS 3417. Pathophysiology and Pharmacology for Licensed Nurses. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course focuses on the pathophysiologic alterations, interactions, and effects of selected diseases (exemplars) across the life span taking into consideration genetic, ethnic, and cultural variables. Nursing concepts are approached from a cellular and multi-system perspective. This course introduces current pharmacology and their relationship to nursing practice. Content aims at stimulating critical thinking for application to professional nursing practice for the licensed nurse. Prerequisite: Admission to the nursing program.

**NURS 3450. Nursing Care of Adults and Families for Licensed Nurses. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course expands on the nursing process and nursing concepts learned in Introduction to Nursing Care as a Professional Nurse course using additional and more complex disease processes (exemplars) in adult medical-surgical clients. Application of teaching and learning principles will occur in the plan of care of adults and their families. Emphasis is on clinical judgment, therapeutic and professional communication, use of the nursing process, and provision of safe, compassionate, multidimensional care of adult clients and families in a variety of health care settings, lab, virtual simulation and simulation lab. Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 3460. Nursing Pathophysiology and Pharmacology for RNs. 4 Credit Hours (Lecture: 4 Hours, Lab: 0 Hours).**

This course focuses on nursing concepts, nursing process, and disease processes (exemplars) related to the pathophysiologic alterations, interactions, and effects of selected diseases (exemplars), taking into consideration genetic, ethnic, environmental, and cultural variables in pharmacologic and nursing management.

**NURS 3620. Foundations of Nursing Care. 6 Credit Hours (Lecture: 3 Hours, Lab: 9 Hours).**

This course introduces foundational nursing care. Nursing concepts, nursing process, and disease process (exemplars) based approach to teaching and learning will be emphasized as the foundation of nursing care and will build in complexity throughout the nursing program. Clinical experiences will occur within the simulation lab, lab, virtual simulation experiences, and appropriate care settings and will focus on critical thinking and client safety in the performance of direct care skills. Prerequisite: Admission to the nursing program.

**NURS 3625. Nursing Care of Adults and Families. 6 Credit Hours (Lecture: 3 Hours, Lab: 9 Hours).**

This course expands on the nursing process and nursing concepts learned in Foundations of Nursing course using additional and more complex disease processes (exemplars) in adult medical-surgical clients. Application of teaching and learning principles will occur in the plan of care of adults and their families. Emphasis is on clinical judgment, therapeutic and professional communication, use of the nursing process, and provision of safe, compassionate, multidimensional care of adult clients and families in a variety of health care settings, lab, virtual simulation and simulation lab. Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 4086. Nursing Problems. 4 Credit Hours (Lecture: 0-4 Hours, Lab: 0-4 Hours).**

This course allows the student to explore a topic of special interest while working independently under the guidance of an instructor. The student formulates objectives and a plan of evaluation of the project. May be repeated for credit, subject to approval by the head of the Department of Nursing. Prerequisite: Upper-division standing in the nursing major or approval of department head.

**NURS 4245. Healthcare Informatics. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

In this course students will examine theories and standards related to healthcare informatics. The course will explore digital literacy, protection and confidentiality of health information, and issues related to healthcare informatics and nursing care. Prerequisites: Admission to the nursing program and successful completion of Level II courses.

**NURS 4250. Nursing Synthesis 2. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course is the synthesis and application of critical thinking in level one and first semester of level two courses with use of the nursing process, nursing concepts, disease processes (exemplars), and other considerations. Prerequisites: Successful completion of junior 1 and junior 2 nursing courses.

**NURS 4275. Synthesis for Professional Nursing Practice. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course is the synthesis of the nursing concepts, nursing process, disease process (exemplars), and other content taught throughout the BSN program. Prerequisites: Successful completion of Junior 1, Junior 2, and Senior 1 nursing courses.

**NURS 4280. Synthesis 2 for Licensed Nurses. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course is the synthesis and application of critical thinking in level one and 1st semester of level two with use of the nursing process, nursing concepts, disease processes (exemplars), and other considerations for licensed nurses. Prerequisites: Successful completion of Junior 1 and Junior 2 nursing courses.

**NURS 4301. Emergency Nursing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Refines the nursing process in caring for clients of all ages experiencing medical/surgical emergencies, psychosocial crises, and trauma. Clinical experiences include provision of emergency care to individuals and diverse populations in acute care facilities and rural community settings. Transcultural competencies and critical reasoning are reinforced. Pre- or corequisites: NUR 315, 321.

**NURS 4302. Transcultural Nursing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Considers assumptions about health, illness, and death that are deeply entwined within cultural, social, and religious beliefs. Alternative healing systems and practices in contemporary society will be explored, as well as differences between provider and client cultures. Clinical experiences among diverse ethnocultural populations will enhance self awareness and culturally competent care. Prerequisites: NUR 315, 321.

**NURS 4303. Nursing in the United Kingdom. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This is a study abroad course that examines nursing history, healthcare delivery, nursing practice and nursing education in the United Kingdom as compared to the United States. Study abroad is optional and at the student's expense. The course serves as an Applied Learning Experience (ALE).

**NURS 4305. Nursing Care of Maternal, Newborn and Families. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course focuses on nursing concepts and nursing process in provision of culturally sensitive care to the childbearing family during ante-partum, intra-partum and postpartum periods in a variety of healthcare settings, virtual simulation, lab, and simulation. Care of the newborn through the first year of life is addressed. Health issues relating to growth and development of the first year of life are explored. Prerequisites: Successful completion of junior 1 and junior 2 nursing courses.

**NURS 4310. Nursing Care of Children and Families. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course focuses on nursing concepts, nursing process, disease process (exemplars), and other considerations in children of 1 year of age and older and the impact on their families. Clinical experiences in a variety of healthcare and community settings, simulation lab, virtual simulation, lab incorporates an interdisciplinary collaborative approach in the delivery of care. Prerequisites: Successful completion of junior 1 and junior 2 nursing courses.

**NURS 4314. Policy, Politics, and Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines political structures and social forces that shape nursing and healthcare delivery. Communication strategies, conflict resolution, ethical resource management, quality improvement outcomes, and ethical decision making are addressed. Involvement in professional and policy making organizations is encouraged. Prerequisite: Admission to the nursing program.

**NURS 4325. Community and Population Health Nursing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The course presents nursing concepts, nursing process, and theory and systems to provide health care services to communities and populations as units of care. Community and population-based assessment, program management, and resource development are addressed. Utilization of evidence-based practices to guide health teaching, health counseling, screening, outreach, disease and outbreak investigation, disaster preparedness, referral and follow-up is also emphasized. Prerequisites: Successful completion of junior 1 and junior 2 nursing courses.

**NURS 4330. Nursing Care of the Older Adult and Family for RNs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses is on risk reduction, disease prevention, and strategies for health promotion, restoration, and maintenance in a vulnerable older population. Emphasis is placed on integrating assessment, data analysis, therapeutic communication, and critical thinking skills to direct culturally sensitive care of older adults and their families.

**NURS 4460. Nursing Care Adults with Complex Needs for Licensed Nurses. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course continues to consistently reinforce the nursing process, nursing concepts, and disease process (exemplars) with focus on recognition and care of adult experiencing major and complex alterations in health for licensed nurses. Clinical experiences occur in the healthcare setting, virtual simulation, lab and simulation. Prerequisites: Completion of junior 1, junior 2, and senior 1 nursing courses.

**NURS 4465. Leadership for Professional Nursing Practice. 4 Credit Hours (Lecture: 3.25 Hours, Lab: 2.25 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course explores organizational practices and strategies, leadership theories and societal trends with implications for decision making in healthcare. Emphasizes leadership theories with practical application to issues in nursing leadership positions and healthcare. Clinical experiences focus on management of multiple patients in acute care and interactive observation of leaders and managers in a variety of settings.

**NURS 4470. Community and Population Health Nursing for RNs. 4 Credit Hours (Lecture: 3.5 Hours, Lab: 1.5 Hour).**

The course presents the theory and systems to provide health care services to communities and populations as units of care for RNs. Community and population-based assessment, program management, and resource development are addressed. Utilization of evidence-based practices to guide health teaching, health counseling, screening, outreach, disease and outbreak investigation, referral and follow-up is also emphasized. Experiential learning is individualized.

**NURS 4498. Transition to Professional Nursing Practice. 4 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Course fosters synthesis of the curricular concepts of communication, professionalism, critical thinking, patient centered care, diversity, and leadership as experientially gained in prior semesters. Immersion experience to promote transition to practice is facilitated. Prerequisites: Admission to the nursing program and successful completion of Level III courses.

**NURS 4550. Nursing Care of Adults with Complex Needs. 5 Credit Hours (Lecture: 3 Hours, Lab: 6 Hours).**

This course continues to consistently reinforce the nursing process, nursing concepts, and disease process (exemplars) with focus on recognition and care of adult experiencing major and complex alterations in health. Clinical experiences occur in the healthcare setting, virtual simulation, lab and simulation. Prerequisites: Successful Completion of Junior 1, Junior 2, and Senior 1 nursing courses.

**NURS 4698. Leadership and Transitions for Professional Nursing. 6 Credit Hours (Lecture: 3 Hours, Lab: 9 Hours).**

This course explores organizational practices and strategies, professional leadership and societal trends with implications for decision making in healthcare. Course fosters communication, professionalism, critical thinking, client centered care, diversity, and leadership as experientially gained in prior semesters. Immersion experience to promote transition and leadership in practice is facilitated. Prerequisites: Successful Completion of Junior 1, Junior 2, and Senior 1 nursing courses.

## Post-Licensure Nursing

School of Nursing  
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Crowley, Texas 76036  
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tarleton.edu/nursing (<http://tarleton.edu/nursing/>)

The Department of Post Licensure Nursing in the School of Nursing at Tarleton State University offers two options for post licensure nursing to advance careers in nursing. Tarleton offers educational opportunities at the Bachelors (Bachelor of Science in Nursing [BSN]) for Licensed vocational nurses (LVN's) seeking a BSN degree (Waco campus), and Registered nurses (RN's) seeking a BSN degree (Online) to advance their degree.

More information regarding the LVN to BSN can be located at <https://www.tarleton.edu/nursing/post-licensure-programs/lvn-waco.html>.

More information regarding the RN to BSN programs can be located at <https://www.tarleton.edu/nursing/post-licensure-programs/rn-bsn.html>.

TSU nursing students are challenged to strive for excellence and professionalism in the classroom, laboratory, clinical agency and community setting. Upon successful completion of the BSN curriculum, LVN to BSN graduates are eligible to apply for licensure as a registered nurse and to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN®).



## Mission

The School of Nursing provides student-focused academically and clinically challenging programs that engage students in acquiring evidence-based, value-driven knowledge, skills, and attitudes essential for professional nursing careers, responsible citizenship, and leadership.

## Values

The Tarleton Nursing Program core values guide the working, teaching, and learning environment. These values include altruism, autonomy, excellence, human dignity, integrity, leadership, service, social justice, civility, and tradition.

- Altruism is the concern and advocacy for the well-being of others. This is reflected by the faculty and students' regard for the welfare and well-being of each other, our constituents, and public at large.
- Autonomy is the right to self-determination demonstrated through respect of patients, nurses, students, and faculty's rights to independent, informed, and supportive decision making.
- Excellence is not perfection. Excellence occurs when each person works to exceed one's own expectations and supports others in their quest to do the same.
- Respect for the inherent worth and uniqueness of individuals and populations, including patients, faculty, administration, students, and other constituents. Human dignity embraces civility, kindness, and inclusion by valuing others and expecting better of ourselves.
- Quality of high moral character that includes honesty, fairness, trustworthiness, and stewardship. Integrity is putting one's moral compass into action congruent with an appropriate code of ethics and standards of practice.
- Leadership is the ability to utilize interpersonal skills, theoretical knowledge, self-awareness, flexibility, critical thinking, and influence to promote quality outcomes in health care and nursing education.
- Commitment to the common good and being a responsible citizen. Service broadens perspective and deepens understanding by reaching out to improve well-being of local and global communities.
- Acting in accordance with fair treatment and civility of all humans, including a commitment to the health of vulnerable populations and the elimination of health disparities. In nursing education, social justice is exhibited toward students, faculty, administration, and other constituents.
- Imparting values and beliefs from generation to generation fueled by legacy inherited from the past and created for the future. Our traditions such as convocation and pinning are a source of pride and common identity. New traditions will emerge through exposure to the rich history and metamorphosis of nursing, education, and health care.

## BSN Program Outcomes

**At the end of the program, the baccalaureate-prepared generalist nursing graduate will be able to:**

1. Demonstrate professional standards, attitudes, and core values that are fundamental to the discipline of nursing.
2. Engage in continuous self-evaluation and life-long learning to foster professional growth and development, to improve own practice and maintain a current knowledge base.
3. Function as a knowledge-worker with strong clinical reasoning, clinical judgment, communication and assessment skills.
4. Safely practices in complex health care systems incorporating evidence-based nursing interventions to manage client changes while addressing differences, values, preferences and expressed needs.
5. Function within scope and standards of nursing practice and organizational policies to promote quality and a safe environment which reduces risk.
6. Manage health care transitions and/or referrals, communicate and collaborate within inter/intra-professional teams, identify system issues, and develop working skills in delegation, supervision, prioritization, advocacy, and coordination of care.

## Overview of Post Licensure BSN Entry Options

The post licensure BSN program offers three entry options:

- The LVN to BSN entry is offered for licensed vocational nurses desiring to advance their education and experience to the baccalaureate level.
- The RN to BSN option is for the currently licensed registered nurse who has completed a diploma or an associate degree in nursing and desires to expand to the baccalaureate level.
- The RN to BSN co-curricular, concurrent enrollment is for partnered associate degree nursing program students enrolled in their associate degree nursing courses and meet select admission criteria.

## Locations

- LVN to BSN entry is taught in Waco on the McLennan Community College campus.
- RN to BSN entry is delivered using an online approach with required experiential learning and a leadership practicum.
- RN to BSN co-curricular, concurrent enrollment is delivered online and/or hybrid depending upon the partnership program.

## Course Delivery Method

- Courses in the generic and LVN to BSN entries are taught weekly, face-to-face in the classroom. That is, the students meet in person with the instructor weekly on the respective campus.
- The RN to BSN entry is delivered using an online approach with required experiential learning and a leadership practicum.
- RN to BSN co-curricular, concurrent enrollment is delivered online and/or hybrid using an online approach that is tailored to the partnership. Completion of the RN to BSN after obtaining RN and graduating from the co-curricular, concurrent associate degree nursing program is an online approach with required experiential learning and a leadership practicum.

## Clinical or Experiential Learning

Nursing is a practice discipline that includes both direct and indirect care activities that impact health outcomes. Therefore, clinical or experiential learning opportunities are a vital part of the baccalaureate nursing curriculum for the LVN to BSN and RN to BSN. The LVN to BSN program provides clinical opportunities within the community. The RN to BSN program provides experiential learning and a leadership practicum. A complementary relationship exists between classroom and clinical or experiential learning components of the curriculum.

## Clinical Locations for LVN to BSN Students

For the LVN to BSN student, on-campus simulation labs, as well as, hospitals and other clinical agencies in Brown, Bosque, Comanche, Eastland, Erath, Hood, Johnson, McLennan, Palo Pinto, Parker, Somervell, and Tarrant Counties are available for clinical experiences. Many clinical experiences occur in Fort Worth and/or Waco locations.

## Experiential Learning and Leadership Practicum Locations for RN to BSN Students

Experiential learning and a leadership practicum are designed for both entries for the RN to BSN students. Practicum experiences are coordinated closely with nursing advisors and can be completed at a variety of locations.

### Accreditation

The baccalaureate and master's degree program in nursing at Tarleton State University is accredited by the Commission on Collegiate Nursing Education, 655 K Street NW, Suite 750, Washington, DC 20001, 202-887-6791 and approved by the Texas Board of Nursing (<http://www.bon.texas.gov/>).

### Advising

**Online and Fort Worth campus:** Nursing faculty advise students.

**Waco:** Nursing faculty advise students.

### LVN to BSN

#### Admission Requirements and Process for LVN-BSN Students (Waco)

The admission process is located at <https://www.tarleton.edu/nursing/post-licensure-programs/lvn-waco.html>.

#### Deadlines

Deadlines for applications are located at <https://www.tarleton.edu/nursing/post-licensure-programs/lvn-waco.html>.

### RN to BSN

#### Admission Requirements and Process for RN to BSN Students (Online)

The admission process is located at <https://www.tarleton.edu/nursing/post-licensure-programs/rn-bsn.html>.

#### Deadlines

Applications are accepted year round.

#### Admission Requirements and Process for RN to BSN Students (Co-Curricular, Concurrent Enrollment)

The admission process is located at <https://www.tarleton.edu/nursing/post-licensure-programs/rn-bsn.html>. You may contact [applynursing@tarleton.edu](mailto:applynursing@tarleton.edu) for any further information.

#### Deadlines

Applications are accepted each semester.

### Immunizations and Health Requirements (All students)

For the health and safety of Tarleton State University nursing students and their patients and compliance with healthcare facility mandatory requirements, immunizations and health requirements is required for all nursing students. Records will be kept through a clinical compliance software. All documentation requirements must be met at all times during any course with a clinical requirement. All documentation in the clinical compliance software must be updated and accurate at all times.

#### Notice:

1. In obtaining vaccines it is important to note that all live vaccines (MMR, Varicella, LAIV (Nasal flu) have to be given on the same day or separated by 28 days.
2. If a student is getting a PPD (tuberculin skin test) and a live vaccine it has to be done on the same day or they have to be separated by 30 days. If done sooner, there is a potential for a false positive, resulting in increased cost, and/or treatment (chest-x-rays) when not needed.

**If admitted to the nursing program, the mandatory requirements must be submitted by deadline. Students who do not upload all compliance documents in the clinical compliance software will not be allowed to begin classes until completed and compliant with all requirements.**

1. TB Skin Test
  - PPD (reported in mm) OR
  - Quantiferon (QFT) serum test OR
  - If New +TB Test results then Follow/Up by healthcare provider (chest X-ray, symptoms check and possible treatment,) may need to complete health questionnaire OR
  - If History of +TB results then provide proof of chest X-ray and submit negative symptom check from health care provider in past 12 months OR
  - If no proof of +TB Test available, then chest X-ray OR
  - If History of BCG vaccination then 2-Step TB Test or QFT OR
  - If history of +TB Test and +chest X-ray and symptoms: must see healthcare provider for treatment before school entry
2. Hepatitis B
  - 3 doses, initial dose followed by 2<sup>nd</sup> dose 4 weeks later followed by 3<sup>rd</sup> dose 6 months later OR
  - A titer showing immunity OR
  - Signed waiver for students who decline vaccination
3. MMR (Measles, Mumps, Rubella)
  - Proof of vaccination (2 doses) OR
  - Proof of immunity by titer to all three (MMR)
4. Varicella (Chicken Pox)
  - One dose if received 1<sup>st</sup> dose before age 12. If not, 2 doses with 2nd dose at least 4 weeks after 1st dose OR
  - Proof of immunity by titer.
5. Tetanus, Diphtheria, Pertussis
  - Tdap within last 10 years required one time at admission

## 6. CPR

- Health provider level (adult, infant, child, AED) by the American Heart Association Healthcare Provider CPR

## 7. Influenza

- Proof of annual vaccination(s)
- Note: the flu vaccination may be delayed until after program admission if admission occurs before the vaccine is available

- 8. Completed Urine Drug Screen -Additional drug screens may be required by clinical agencies, randomly, and/or for cause.

- 9. Proof of Personal Health Insurance Coverage

**Ongoing Requirements That Must Be Updated During the Nursing Program:**

## 1. TB Skin Test

- New one-step PPD (reported in MM) OR
- New Quantiferon Serum Test OR
- If New + TB Test results# Follow/Up with healthcare provider, chest X-ray, & symptom check OR
- Known +TB skin results and prior negative chest X-ray results: submit annual symptom check from healthcare provider

## 2. CPR

- Health provider level (adult, infant, child, AED)

## 3. Influenza vaccination

## 4. Proof of Personal Health Insurance Coverage

- 5. All immunizations that expire during enrollment in the nursing program.

**Curriculum for the Bachelor of Science in Nursing Degree**

- The curriculum for the Bachelor of Science Degree in Nursing requires a minimum of 120 semester hours.
- All students must complete all degree requirements with a grade of "C" or better per the School of Nursing grading policy, including the university general education requirements and courses required for the major.

**The Bachelor of Science in Nursing Degree****Required Courses**

**All students must complete all degree requirements with a grade of "C" or better including the university general education requirements (<http://catalog.tarleton.edu/undergrad/academicaffairs/>) and courses required for the major.**

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>		42
BIOL 2401 [shared]	Anatomy and Physiology I	
BIOL 2402 [shared]	Anatomy & Physiology II	
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
MATH 1342 [shared]	Elementary Statistical Methods	
BIOL 2420	Microbiology for Non-Science Majors	4
CHEM 1407	Fundamentals of Chemistry	4
HECO 1322	Nutrition and Diet Therapy	3
PSYC 2301 [shared]	General Psychology	
PSYC 2314	Life Span Growth & Development	3
Total Hours		56

**Additional Required Courses for Concentrations****Traditional (Generic) BSN Stephenville Program Entry**

NURS 1100 [shared]	Transitioning to University Studies in Nursing	
NURS 2150	Communication and Professional Nursing	1
NURS 2356	Nursing Concepts and Competencies	3
NURS 2370	Introduction to Nursing Pathophysiology and Pharmacology	3
NURS 3310	Nursing Pathophysiology and Pharmacology	3
NURS 3620	Foundations of Nursing Care	6
NURS 3325	Health Assessment	3
NURS 3320 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Nursing Research, Inquiry, and Evidenced Based Decision Making	3
NURS 3625	Nursing Care of Adults and Families	6
NURS 3340	Nursing Care of the Older Adults and Families	3
NURS 3175	Nursing Synthesis 1	1
NURS 3315	Behavioral Health Nursing Care	3
NURS 4310	Nursing Care of Children and Families	3
NURS 4305	Nursing Care of Maternal, Newborn and Families	3
NURS 4325 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Community and Population Health Nursing	3

NURS 4250	Nursing Synthesis 2	2
NURS 4245	Healthcare Informatics	2
NURS 4698	Leadership and Transitions for Professional Nursing	6
NURS 4275	Synthesis for Professional Nursing Practice	2
NURS 4550	Nursing Care of Adults with Complex Needs	5
Advised Advanced Elective		3
Total Hours		64

### LVN to BSN Waco Program Entry

The LVN is awarded 9 SCH of credit for past education upon successful completion of nursing courses.		9
NURS 1100 [shared]	Transitioning to University Studies in Nursing	
NURS 3417	Pathophysiology and Pharmacology for Licensed Nurses	4
NURS 3370	Introduction to Nursing Care as a Professional Nurse	3
NURS 3230	Professional Role Transition for Licensed Nurses	2
NURS 3325	Health Assessment	3
NURS 3320 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Nursing Research, Inquiry, and Evidenced Based Decision Making	3
NURS 3450	Nursing Care of Adults and Families for Licensed Nurses	4
NURS 3340	Nursing Care of the Older Adults and Families	3
NURS 3280	Synthesis 1 for Licensed Nurses	2
NURS 3315	Behavioral Health Nursing Care	3
NURS 4310	Nursing Care of Children and Families	3
NURS 4305	Nursing Care of Maternal, Newborn and Families	3
NURS 4325 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Community and Population Health Nursing	3
NURS 4280	Synthesis 2 for Licensed Nurses	2
NURS 4245	Healthcare Informatics	2
NURS 4698	Leadership and Transitions for Professional Nursing	6
NURS 4275	Synthesis for Professional Nursing Practice	2
NURS 4460	Nursing Care Adults with Complex Needs for Licensed Nurses	4
Advised Advanced Elective		3
Total Hours		64

### RN to BSN Fort Worth Online or Hybrid Program Entry

The RN is awarded 34 SCH of credit for past education upon successful completion of nursing courses.		34
NURS 1100 [shared]	Transitioning to University Studies in Nursing	
NURS 3305	Professional Role Transitions for RNs	3
NURS 3342	Health Assessment and Clinical Skills for RNs	3
NURS 3345	Healthcare Informatics for RNs	3
NURS 3460	Nursing Pathophysiology and Pharmacology for RNs	4
NURS 3348 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Evidence Based Practice for RNs	3
NURS 4465 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Leadership for Professional Nursing Practice	4
NURS 4330	Nursing Care of the Older Adult and Family for RNs	3
NURS 4470	Community and Population Health Nursing for RNs	4
NURS 4314	Policy, Politics, and Ethics	3
Total Hours		64

<sup>1</sup> Please see Academic Information section.

## Courses

### NURS 1100. Transitioning to University Studies in Nursing. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from a Department of Nursing perspective.

### NURS 2150. Communication and Professional Nursing. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).

Introduces the pre-nursing student to the concepts and processes of communication, the language of nursing, and the interpersonal skills required for working with people. Personal evolution, beginning professional evolution and evolution of nursing as a profession are described. Prerequisites: Completion of 53 hours of general education courses including ENGL 1301, ENGL 1302, BIOL 2401, BIOL 2402, BIOL 2420, and CHEM 1407 or 1411. Acceptance to take pre-nursing courses.

### NURS 2356. Nursing Concepts and Competencies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course introduces the pre-nursing student concepts in nursing, nursing process, competencies and nursing care. Nursing theory, core professional standards attitudes, legal and ethical nursing issues, and values fundamental to the discipline of nursing are explored. Prerequisites: Completion of 53 hours of general education courses including ENGL 1301, ENGL 1302, BIOL 2401, BIOL 2402, BIOL 2420, and CHEM 1407 or 1411. Acceptance to take pre-nursing courses.

**NURS 2370. Introduction to Nursing Pathophysiology and Pharmacology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the pathophysiologic alterations, interactions, and effects of selected diseases (exemplars) across the life span taking into consideration genetic, ethnic, and cultural variables. This course also introduces current concepts of pharmacology and their relationship to nursing practice. Included are basic principles of mechanism of drug actions, side effects for major drug classifications through discussions utilizing drug prototypes and the role of the nurse in drug therapeutics. Ethical/legal and cultural considerations are explored. Nursing concepts are approached from a cellular and multi-system perspective. Content aims at stimulating critical thinking for application to nursing practice. Prerequisites: Completion of 53 hours of general education courses including ENGL 1301, ENGL 1302, BIOL 2401, BIOL 2402, BIOL 2420, and CHEM 1407 or 1411. Acceptance to take pre-nursing courses.

**NURS 3175. Nursing Synthesis 1. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course is the synthesis and application of critical thinking in level one courses with use of the nursing process, nursing concepts, and disease processes (exemplars). Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 3230. Professional Role Transition for Licensed Nurses. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course facilitates socialization as a BSN prepared nurse. Professional standards, attitudes and values central to the profession of nursing are explored. Responsibility and accountability for role transition, professional growth, and practice are addressed. Concepts in nursing, nursing process, competencies and nursing care are explored.

**NURS 3280. Synthesis 1 for Licensed Nurses. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course is the synthesis and application of critical thinking in level one with use of the nursing process, nursing concepts, disease processes (exemplars), and other considerations for licensed nurses. Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 3305. Professional Role Transitions for RNs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course facilitates socialization as a BSN prepared nurse. Professional standards, attitudes and values central to the profession of nursing are explored. Responsibility and accountability for role transition, professional growth and practice are addressed. Prerequisite: Admission to the nursing program.

**NURS 3310. Nursing Pathophysiology and Pharmacology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course focuses on pharmacotherapeutic aspects of nursing care and nursing concepts through exploration and support by evidenced based findings to improve client care. Emphasis is on principles of safe administration of medications and client education for major drug classifications. The impact of technology, economic, and regulatory forces, as well as collaboration with the health team are discussed. Experiences will occur within the simulation lab, lab, virtual simulation experiences, and appropriate care settings and will focus on critical thinking and client safety. Prerequisite: Admission to the nursing program.

**NURS 3314. Perioperative Nursing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Allows students to expand their understanding and skill in providing care to patients during all phases of the perioperative period. Clinical experiences include outpatient surgery and diagnostic procedure areas of hospitals as well as traditional surgical areas. Prerequisite: Completion of the Sophomore II Nursing semester. Lab fee: \$2.

**NURS 3315. Behavioral Health Nursing Care. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This courses focuses on nursing concepts, the nursing process, and exemplars of behavioral health of mentally and emotionally disabled clients and their families. Knowledge of specific psychopharmacological agents is applied to treatment outcomes. Clinical practicum provides opportunities to examine common psychopathologies, developmental disorders, and community mental health phenomena in a variety of settings.

**NURS 3320. Nursing Research, Inquiry, and Evidenced Based Decision Making. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

As a writing intensive course, this course provides an applied understanding of research methods and critical appraisal of published studies with the goal for graduates to use evidence as the foundation for practice. Course focuses on critiquing research guidelines and processes, development of clinical questions using the PICO format, and nursing informatics using electronic databases to support evidence-based nursing practice. Use of information retrieval and evaluation, appropriate citation using APA formatting in professional papers, and the legal ethical responsibilities of nursing research are included. Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 3325. Health Assessment. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course fosters the acquisition of skills and techniques used in comprehensive health assessment and further exploration of nursing concepts. Emphasis is placed on gathering detailed health history, differentiation, interpretation, and documentation of normal and abnormal findings with consideration given to developmental and cultural variations. Laboratory experiences and virtual simulations focus on norms in well clients while identifying common deviations in health status of adults. Prerequisite: Admission to the nursing program.

**NURS 3340. Nursing Care of the Older Adults and Families. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This courses focuses on nursing concepts, nursing process, and disease process (exemplars) in the older adult. Emphasis is placed on integrating assessment, data analysis, therapeutic communication, and critical thinking skills to direct culturally sensitive care of older adults and their families and caregivers. Other emphasis will be placed on generational and vulnerability issues of the older adult client, as well as role adaptability and professional boundaries of the nurse. Clinical experiences are conducted in a variety of health care settings, virtual simulation, and the simulation lab. Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 3342. Health Assessment and Clinical Skills for RNs. 3 Credit Hours (Lecture: 2.5 Hours, Lab: 1.5 Hour).**

The course fosters expansion of skills and techniques used in comprehensive health assessment of clients from infancy to older adult. Experiential learning focuses on norms in well clients while identifying common deviations in health status of clients of all ages. Prerequisite: Admission to the nursing program.

**NURS 3345. Healthcare Informatics for RNs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In this course students will examine theories and standards related to healthcare informatics. The course will explore digital literacy, protection and confidentiality of health information, and issues related to healthcare informatics and nursing care. Prerequisite: Admission to the nursing program.

**NURS 3348. Evidence Based Practice for RNs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The course is designed for students to develop skills as a consumer of research. The research process, critical appraisal of published research studies that use a variety of research designs, and the role of research in evidence-based practice are addressed. Prerequisite: Admission to the nursing program.

**NURS 3370. Introduction to Nursing Care as a Professional Nurse. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course facilitates understanding and application of nursing concepts, nursing process, and disease processes (exemplars) built on nursing fundamentals and medical surgical client experiences as a licensed nurse. Clinical experiences in a variety of healthcare and community settings, simulation lab, virtual simulation, and lab incorporates a collaborative approach in the delivery of care. Prerequisite: Admission to the nursing program.

**NURS 3417. Pathophysiology and Pharmacology for Licensed Nurses. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course focuses on the pathophysiologic alterations, interactions, and effects of selected diseases (exemplars) across the life span taking into consideration genetic, ethnic, and cultural variables. Nursing concepts are approached from a cellular and multi-system perspective. This course introduces current pharmacology and their relationship to nursing practice. Content aims at stimulating critical thinking for application to professional nursing practice for the licensed nurse. Prerequisite: Admission to the nursing program.

**NURS 3450. Nursing Care of Adults and Families for Licensed Nurses. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course expands on the nursing process and nursing concepts learned in Introduction to Nursing Care as a Professional Nurse course using additional and more complex disease processes (exemplars) in adult medical-surgical clients. Application of teaching and learning principles will occur in the plan of care of adults and their families. Emphasis is on clinical judgment, therapeutic and professional communication, use of the nursing process, and provision of safe, compassionate, multidimensional care of adult clients and families in a variety of health care settings, lab, virtual simulation and simulation lab. Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 3460. Nursing Pathophysiology and Pharmacology for RNs. 4 Credit Hours (Lecture: 4 Hours, Lab: 0 Hours).**

This course focuses on nursing concepts, nursing process, and disease processes (exemplars) related to the pathophysiologic alterations, interactions, and effects of selected diseases (exemplars), taking into consideration genetic, ethnic, environmental, and cultural variables in pharmacologic and nursing management.

**NURS 3620. Foundations of Nursing Care. 6 Credit Hours (Lecture: 3 Hours, Lab: 9 Hours).**

This course introduces foundational nursing care. Nursing concepts, nursing process, and disease process (exemplars) based approach to teaching and learning will be emphasized as the foundation of nursing care and will build in complexity throughout the nursing program. Clinical experiences will occur within the simulation lab, lab, virtual simulation experiences, and appropriate care settings and will focus on critical thinking and client safety in the performance of direct care skills. Prerequisite: Admission to the nursing program.

**NURS 3625. Nursing Care of Adults and Families. 6 Credit Hours (Lecture: 3 Hours, Lab: 9 Hours).**

This course expands on the nursing process and nursing concepts learned in Foundations of Nursing course using additional and more complex disease processes (exemplars) in adult medical-surgical clients. Application of teaching and learning principles will occur in the plan of care of adults and their families. Emphasis is on clinical judgment, therapeutic and professional communication, use of the nursing process, and provision of safe, compassionate, multidimensional care of adult clients and families in a variety of health care settings, lab, virtual simulation and simulation lab. Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 4086. Nursing Problems. 4 Credit Hours (Lecture: 0-4 Hours, Lab: 0-4 Hours).**

This course allows the student to explore a topic of special interest while working independently under the guidance of an instructor. The student formulates objectives and a plan of evaluation of the project. May be repeated for credit, subject to approval by the head of the Department of Nursing. Prerequisite: Upper-division standing in the nursing major or approval of department head.

**NURS 4245. Healthcare Informatics. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

In this course students will examine theories and standards related to healthcare informatics. The course will explore digital literacy, protection and confidentiality of health information, and issues related to healthcare informatics and nursing care. Prerequisites: Admission to the nursing program and successful completion of Level II courses.

**NURS 4250. Nursing Synthesis 2. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course is the synthesis and application of critical thinking in level one and first semester of level two courses with use of the nursing process, nursing concepts, disease processes (exemplars), and other considerations. Prerequisites: Successful completion of junior 1 and junior 2 nursing courses.

**NURS 4275. Synthesis for Professional Nursing Practice. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course is the synthesis of the nursing concepts, nursing process, disease process (exemplars), and other content taught throughout the BSN program. Prerequisites: Successful completion of Junior 1, Junior 2, and Senior 1 nursing courses.

**NURS 4280. Synthesis 2 for Licensed Nurses. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course is the synthesis and application of critical thinking in level one and 1st semester of level two with use of the nursing process, nursing concepts, disease processes (exemplars), and other considerations for licensed nurses. Prerequisites: Successful completion of Junior 1 and Junior 2 nursing courses.

**NURS 4301. Emergency Nursing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Refines the nursing process in caring for clients of all ages experiencing medical/surgical emergencies, psychosocial crises, and trauma. Clinical experiences include provision of emergency care to individuals and diverse populations in acute care facilities and rural community settings. Transcultural competencies and critical reasoning are reinforced. Pre- or corequisites: NUR 315, 321.

**NURS 4302. Transcultural Nursing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Considers assumptions about health, illness, and death that are deeply entwined within cultural, social, and religious beliefs. Alternative healing systems and practices in contemporary society will be explored, as well as differences between provider and client cultures. Clinical experiences among diverse ethnocultural populations will enhance self awareness and culturally competent care. Prerequisites: NUR 315, 321.

**NURS 4303. Nursing in the United Kingdom. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This is a study abroad course that examines nursing history, healthcare delivery, nursing practice and nursing education in the United Kingdom as compared to the United States. Study abroad is optional and at the student's expense. The course serves as an Applied Learning Experience (ALE).

**NURS 4305. Nursing Care of Maternal, Newborn and Families. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course expands on nursing concepts and nursing process in provision of culturally sensitive care to the childbearing family during ante-partum, intra-partum and postpartum periods in a variety of healthcare settings, virtual simulation, lab, and simulation. Care of the newborn through the first year of life is addressed. Health issues relating to growth and development of the first year of life are explored. Prerequisites: Successful completion of junior 1 and junior 2 nursing courses.

**NURS 4310. Nursing Care of Children and Families. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course focuses on nursing concepts, nursing process, disease process (exemplars), and other considerations in children of 1 year of age and older and the impact on their families. Clinical experiences in a variety of healthcare and community settings, simulation lab, virtual simulation, lab incorporates an interdisciplinary collaborative approach in the delivery of care. Prerequisites: Successful completion of junior 1 and junior 2 nursing courses.

**NURS 4314. Policy, Politics, and Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines political structures and social forces that shape nursing and healthcare delivery. Communication strategies, conflict resolution, ethical resource management, quality improvement outcomes, and ethical decision making are addressed. Involvement in professional and policy making organizations is encouraged. Prerequisite: Admission to the nursing program.

**NURS 4325. Community and Population Health Nursing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The course presents nursing concepts, nursing process, and theory and systems to provide health care services to communities and populations as units of care. Community and population-based assessment, program management, and resource development are addressed. Utilization of evidence-based practices to guide health teaching, health counseling, screening, outreach, disease and outbreak investigation, disaster preparedness, referral and follow-up is also emphasized. Prerequisites: Successful completion of junior 1 and junior 2 nursing courses.

**NURS 4330. Nursing Care of the Older Adult and Family for RNs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses is on risk reduction, disease prevention, and strategies for health promotion, restoration, and maintenance in a vulnerable older population. Emphasis is placed on integrating assessment, data analysis, therapeutic communication, and critical thinking skills to direct culturally sensitive care of older adults and their families.

**NURS 4460. Nursing Care Adults with Complex Needs for Licensed Nurses. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course continues to consistently reinforce the nursing process, nursing concepts, and disease process (exemplars) with focus on recognition and care of adult experiencing major and complex alterations in health for licensed nurses. Clinical experiences occur in the healthcare setting, virtual simulation, lab and simulation. Prerequisites: Completion of junior 1, junior 2, and senior 1 nursing courses.

**NURS 4465. Leadership for Professional Nursing Practice. 4 Credit Hours (Lecture: 3.25 Hours, Lab: 2.25 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course explores organizational practices and strategies, leadership theories and societal trends with implications for decision making in healthcare. Emphasizes leadership theories with practical application to issues in nursing leadership positions and healthcare. Clinical experiences focus on management of multiple patients in acute care and interactive observation of leaders and managers in a variety of settings.

**NURS 4470. Community and Population Health Nursing for RNs. 4 Credit Hours (Lecture: 3.5 Hours, Lab: 1.5 Hour).**

The course presents the theory and systems to provide health care services to communities and populations as units of care for RNs. Community and population-based assessment, program management, and resource development are addressed. Utilization of evidence-based practices to guide health teaching, health counseling, screening, outreach, disease and outbreak investigation, referral and follow-up is also emphasized. Experiential learning is individualized.

**NURS 4498. Transition to Professional Nursing Practice. 4 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Course fosters synthesis of the curricular concepts of communication, professionalism, critical thinking, patient centered care, diversity, and leadership as experientially gained in prior semesters. Immersion experience to promote transition to practice is facilitated. Prerequisites: Admission to the nursing program and successful completion of Level III courses.

**NURS 4550. Nursing Care of Adults with Complex Needs. 5 Credit Hours (Lecture: 3 Hours, Lab: 6 Hours).**

This course continues to consistently reinforce the nursing process, nursing concepts, and disease process (exemplars) with focus on recognition and care of adult experiencing major and complex alterations in health. Clinical experiences occur in the healthcare setting, virtual simulation, lab and simulation. Prerequisites: Successful Completion of Junior 1, Junior 2, and Senior 1 nursing courses.

**NURS 4698. Leadership and Transitions for Professional Nursing. 6 Credit Hours (Lecture: 3 Hours, Lab: 9 Hours).**

This course explores organizational practices and strategies, professional leadership and societal trends with implications for decision making in healthcare. Course fosters communication, professionalism, critical thinking, client centered care, diversity, and leadership as experientially gained in prior semesters. Immersion experience to promote transition and leadership in practice is facilitated. Prerequisites: Successful Completion of Junior 1, Junior 2, and Senior 1 nursing courses.

## College of Liberal & Fine Arts

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254-968-9141  
morrow@tarleton.edu  
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Dr. Ben Sword, Interim Assistant Dean  
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The College of Liberal and Fine Arts has two missions. First, to provide courses in the humanities, social sciences, and fine arts that comprise part of the general education requirements required of all University students; and secondly, to provide major fields of study in the social sciences, humanities, fine arts, and criminal justice.

Degree programs available in the College of Liberal and Fine Arts provide the foundation required for many professional and related fields. Also included are specialized programs that are professionally oriented and lead to careers in such fields as teaching, criminal justice, and the performing arts. The College of Liberal and Fine Arts is organized into five departments and one school:

1. **Department of Communication Studies**
2. **Department of English and Languages**, including Foreign Languages
3. **Department of Fine Arts**, including Art, Digital Media, Fashion Studies, Music, and Theatre
4. **Department of Government, Legal Studies and Philosophy**
5. **Department of History, Sociology, and Geography**
6. **School of Criminology, Criminal Justice, and Strategic Studies**
  - a. **Department of Criminal Justice**

The College of Liberal and Fine Arts also offers discipline specific minors, interdisciplinary minors, and certificates. A minor consists of 18 hours (six hours must be advanced level 3000 or 4000 courses), and certificate requirements vary (see below for respective requirements). Below are a list of minors and certificates offered in the College of Liberal and Fine Arts:

### The College of Liberal and Fine Arts offers the following minors:

#### Minor in Criminal Justice

##### Required Courses

CRIJ 1301	Introduction to Criminal Justice	3
CRIJ 3305	Criminology	3
CRIJ 4301	Gender, Crime, and the Criminal Justice System	3
or CRIJ 4303	Crime, Justice, and Social Diversity	
CRIJ Electives		9
Total Hours		18

#### Minor in Criminal Law

##### Required Courses

CRIJ 1301	Introduction to Criminal Justice	3
CRIJ 1306	Court Systems and Practices	3
CRIJ 1310	Fundamentals of Criminal Law	3
CRIJ 3315	Rules of Criminal Evidence	3
CRIJ 4326	Criminal Procedure	3
CRIJ 4383	Seminar: Special Topics in Criminal Law	3
Total Hours		18

## Minor in Digital Media Studies

### Required Courses

ARTS 1316	Drawing I	3
ARTS 2348	Digital Art I	3
or ARTS 2356	Photography I	
Digital Art Electives in Design or Technology		6
Advanced Digital Art Electives in Design or Technology		6
Total Hours		18

\* Minor in Digital Media Studies advisor: Chris Ireland (ireland@tarleton.edu)

## Minor in Ethnic and Cultural Studies

### Required Courses

Select 18 Hours from the following (6 hours must be advanced): 18

#### Anthropology:

ANTH 2302	Introduction to Archeology
ANTH 2351	Cultural Anthropology

#### Art:

ARTS 1301	Art Appreciation
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#### Communication:

COMM 3332	Intercultural Communication
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#### Criminal Justice:

CRIJ 3308	Comparative Criminal Justice
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#### English:

ENGL 2340	Literature and Film
ENGL 3341 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Cultural Studies
ENGL 3342 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Genre Studies

#### Fine Arts:

FINA 1360	The Art of Film
FINA 3301	The Arts in Contemporary Society

#### Geography:

GEOG 1320	Introduction to Human Geography
GEOG 2301	The Geography of Texas

#### History:

HIST 3323	Women and Gender in U.S. History
HIST 4303	History of the American Borderlands
HIST 4315	Slavery and the American South

#### Humanities:

HUMA 1315	Fine Arts Appreciation
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#### Philosophy:

PHIL 3304	World Religions
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#### Music:

MUSI 1306	Music Appreciation
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#### Political Science:

POLS 3301	Political Economy of Globalization
POLS 3308	International Politics
POLS 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Policy
POLS 3314	Comparative Politics
POLS 4306	European Politics
POLS 4307	Nationalism
POLS 4308	Politics of Latin America
POLS 4309	Politics of the Middle East
POLS 4310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	International Environmental Issues
POLS 4311 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Law
POLS 4315	Foreign Policy

#### Religion:

RELI 3304	World Religions
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#### Social Work:

SOCW 2362	Social Welfare in America
SOCW 3303	Social Work with Diverse Populations



SOCW 4352	Women's Issues	
<b>Sociology:</b>		
SOCI 1301	Introductory Sociology	
SOCI 2303	Race and Ethnic Relations	
SOCI 3312	Environmental Sociology	
SOCI 3320	Social Stratification and Inequality	
SOCI 4303 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Sociological Theory	
SOCI 4304	Sociology of Religion	
SOCI 4305	Social Psychology	
SOCI 4312	Gender in Society	
SOCI 4313	Globalization	
SOCI 4322	Age and Ethnic Stratification	

\* Minor in Ethnic and Cultural Studies advisors: Dr. Marcy Tanter ([tanter@tarleton.edu](mailto:tanter@tarleton.edu)) and Dr. Lora Helvie-Mason ([helviemason@tarleton.edu](mailto:helviemason@tarleton.edu)).

## Minor in Film Production

### Required Courses

FINA 1360	The Art of Film	3
ENGL 2340	Literature and Film	3
ARTS 2348	Digital Art I	3
COMM 3308	Digital Video Production	3
Choose two of the following:		6
COMM 3384	Documentary Film	
ENGL 4335	Film Studies	
ARTS 3368	Narrative Film Arts I	
ARTS 4368	Narrative Film Arts II	
ARTS 3361	Photography II	
ARTS 4361	Photography III	
ARTS 4367	3D Rendering and Lighting	

Total Hours 18

\* Minor in Film Production advisors: Dr. Robert Anderson ([randerson@tarleton.edu](mailto:randerson@tarleton.edu)) and Mr. Chris Ireland ([ireland@tarleton.edu](mailto:ireland@tarleton.edu)).

## Minor in Gender and Sexuality Studies

### Field of Study Courses

Choose from the following:		15
CRIJ 4301	Gender, Crime, and the Criminal Justice System	
HIST 4312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Social History of the United States Before 1865	
HIST 4313	Social History of the United States Since 1865	
HIST 3323	Women and Gender in U.S. History	
SOCI 3301	Sociology of the Family	
SOCI 3308	Deviant Behavior	
SOCI 4312	Gender in Society	
SOCW 3311	Social Issues	
SOCW 3303	Social Work with Diverse Populations	
SOCW 3339	Human Behavior and Social Environment II	
SOCW 4313	Human Rights	
SOCW 4352	Women's Issues	

### Other Required Courses

SOCI 1301	Introductory Sociology	3
Total Hours		18

\* Minor in Gender and Sexuality Studies advisor: Dr. Jensen Branscombe ([branscombe@tarleton.edu](mailto:branscombe@tarleton.edu)).

## Minor in Geography

### Required Courses

GEOG 1303	World Regional Geography	3
GEOG 1320	Introduction to Human Geography	3
GEOG 1451	Pre-GIS: GPS, VGI and Cartography	4
GEOG 2312	Economic Geography	3
GEOG 3300	Geography of Latin America	3
GEOG 3301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Intro to Travel, Cultural Experience, & Study Abroad	3

Total Hours 19

\* Minor in Geography advisor: Dr. Kelly Lemmons (lemmons@tarleton.edu).

## Minor in Hispanic Studies

### Field of Study Courses

Students choose from the list below

HIST 3336	History of Mexico 1821-Present	3
POLS 4308	Politics of Latin America	3
HIST 4303	History of the American Borderlands	3
SOCI 2300	Hispanics in the United States	3

### Other Required Courses

SPAN 3301 or SPAN 3302	Oral Proficiency in Spanish Spanish for Heritage or Native Speakers	3
SPAN 3303	Spanish Grammar for Composition	3
SPAN 4306	Culture and Civilization of Spain and Latin America	3
GEOG 3300	Geography of Latin America	3

Total Hours 24

\* Minor in Hispanic Studies advisor: Dr. Cecelia Marrugo Puello (mpuello@tarleton.edu).

## Minor in History

### Required Courses

HIST 1301	United States History I	3
HIST 1302	United States History II	3
HIST 3340 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Historical Methods	3
One of the following:		3
HIST 2321	World Civilizations I	
HIST 2322	World Civilizations II	

Upper Level History Electives 6

Total Hours 18

\* Minor in History advisor: Ted Roberts (troberts@tarleton.edu)

## Minor in International Studies

### Required Courses

Select four: 12

GEOG 3312	Economic Geography	
GEOG 2451	Introduction to Geographic Information Systems	
HIST 4331 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	World Since 1919	
INTL 4390 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	International Studies Capstone	
PHIL 3304	World Religions	
POLS 3301	Political Economy of Globalization	
POLS 3308	International Politics	
POLS 3314	Comparative Politics	
POLS 3316 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Political Science Research Methods	
POLS 4310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	International Environmental Issues	
SOCI 3320	Social Stratification and Inequality	
SOCI 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Methods of Social Research	
SOCI 4313	Globalization	
SOCI 4341	Migration and Society	

Select two: 6

AGEC 4302	International Trade and Agriculture	
AGSD 4355	Mexican Agricultural Relations	
BLAW 4384	International Business Law	
BUSI 4344	Introduction to International Business	
CRIJ 3340	Homeland Security	
ECON 4301	International Economics	
ENGL 3341 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Cultural Studies	

GEOG 3300	Geography of Latin America
GEOG 3301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Intro to Travel, Cultural Experience, & Study Abroad
HIST 3306	British History from 1603 to Modern Times
HIST 3332	Latin America After Independence
HIST 3335 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	History of Mexico
HIST 4301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	United States and the World
HIST 4324	National Histories
HIST 4325	European Intellectual and Cultural History
MGMT 4354	International Management
MGMT 4389	Global Management Practices
MKTG 4354	International Marketing
POLS 4306	European Politics
POLS 4307	Nationalism
POLS 4308	Politics of Latin America
POLS 4309	Politics of the Middle East
POLS 4313 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	East and South Asian Politics
POLS 4314 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	African Politics
POLS 4315	Foreign Policy
POLS 4385	Political Science Seminar
SOCI 3330	Social Science Statistics
SOCI 4340	Sociology of Contemporary Japan
SOCI 4399	Sociology of Foreign Culture
SOCW 4059	International Social Work
SOCW 4313	Human Rights
SPAN 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Survey of Spanish-America Literature
SPAN 4304	The Caribbean Experience
SPAN 4306	Culture and Civilization of Spain and Latin America
WSES 4341	Southern African Ecology and Culture
WSES 4342	Study Abroad
Any courses offered via study abroad	

Total Hours 18

\* Minor in International Studies: Nathaniel Cogley ([cogley@tarleton.edu](mailto:cogley@tarleton.edu))

## Minor in Legal Studies

### Required Courses

PHIL 2303	Introduction to Logic	3
LEGL 2330	Introduction to Legal Studies	3
LEGL 3332	Legal Ethics	3
LEGL 3340 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Legal Research & Writing	3
LEGL 3388	Civil Procedure	3
Select one:		3
CRIJ 3315	Rules of Criminal Evidence	
CRIJ 4326	Criminal Procedure	
BLAW 4333	Business Law II	
BLAW 4334	Employment Law	
BLAW 4384	International Business Law	
POLS 3305	Legislation	
POLS 3309	The Judiciary	
POLS 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Constitutional Law II	
POLS 4311 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Law	

Total Hours 18

\* Minor in Legal Studies advisor: Dr. Benjamin Newton ([bnewton@tarleton.edu](mailto:bnewton@tarleton.edu))

\* Minor in Military Science advisor: Richard Cummins (cummins@tarleton.edu)

## Minor in Music

### Required Courses

MUSI 1311	Music Theory I	3
MUSI 1116	Aural Skills I	1
MUSI 1306	Music Appreciation	3
Music Elective <sup>1</sup>		5
Advanced Music Electives <sup>1</sup>		6
Total Hours		18

<sup>1</sup> Including applied lessons and ensembles.

\* Minor in Music advisor: Teresa Davidian (davidian@tarleton.edu)

## Minor in Music Business

### Required Courses

MUSI 1330	Introduction to Music Business	3
MUSI 3202	Artist and Self Management	2
MUSI 3300	Music Publishing	3
MUSI 1320	Introduction to Audio Technology	3
MKTG 3312	Marketing	3
Electives - Select 5 credit hours from the following:		5
MUSI 3201	Digital Music and Beat Production	
MUSI 3330	Pro Tools I	
MUSI 3331	Pro Tools II	
ARTS 2348	Digital Art I	
COMM 3308 or COMM 4301	Digital Video Production Media Management	
ARTS 2356	Photography I	
ARTS 3360	Graphic Design I	
MGMT 4312	Entrepreneurship	
BCIS 3315	Web Development	
MKTG 4302	Services Marketing	
COMM 3321	Advertising	
Total Hours		19

\* Minor in Music Business advisor: Dr. Doug Tejada (tejada@tarleton.edu)

## Minor in Philosophy

### Required Courses

PHIL 1301	Introduction to Philosophy	3
PHIL 2303	Introduction to Logic	3
<b>Choose 12 hours from the following (6 hours must be advanced):</b>		<b>12</b>
PHIL 3301	Ethics in the Professions	
PHIL 3304	World Religions	
PHIL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	History of Christianity and Christian Thought to the Reformation	
PHIL 3311	Political Philosophy I	
PHIL 3312	Political Philosophy II	
PHIL 4086	Problems in Philosophy	
PHIL 4305	Environmental Ethics	
PHIL 4385	Philosophy Seminar	
Total Hours		18

\* Minor in Philosophy advisor: Matthew Hallgarth (hallgarth@tarleton.edu)

## Minor in Political Science

### Required Courses

GOVT 2305	Federal Government (Federal Constitution and Topics)	3
GOVT 2306	Texas Government (Texas Constitution and Topics)	3
Advanced Electives in Political Science		12
Total Hours		18

\* Minor in Political Science advisor: Eric Morrow (morrow@tarleton.edu)

## Minor in Public Policy

### Required Courses

POLS 4340	US Public Policy	3
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Elective Options (9 advanced hours required) <sup>1</sup>

15

<b>Criminal Justice</b>	
CRIJ 2313	Correctional Systems and Practices
CRIJ 3300	Juvenile Delinquency
CRIJ 3308	Comparative Criminal Justice
CRIJ 3330	Community Corrections
CRIJ 3340	Homeland Security
CRIJ 4303	Crime, Justice, and Social Diversity
<b>Social Work</b>	
SOCW 2362	Social Welfare in America
SOCW 3306	Social Welfare Policy
SOCW 3310	Social Work with Aging Populations
SOCW 4059	International Social Work
SOCW 4311	Child Welfare
SOCW 4313	Human Rights
SOCW 4321	Death and Dying
SOCW 4352	Women's Issues
<b>Political Science</b>	
POLS 3310	Environmental Politics
POLS 3320	Terrorism and Political Violence
POLS 4310	International Environmental Issues
POLS 4311	Environmental Law
POLS 4312	Religion and Politics
POLS 4315	Foreign Policy
POLS 4320	Weapons of Mass Destruction
POLS 4321	Civil Wars and Military Intervention
POLS 4380	Administration of Justice
<b>Economics</b>	
ECON 3303	Money And Banking
ECON 3304	Environmental Economics
ECON 3305	Economics of Financial Markets
ECON 3306	Political Economy
ECON 4301	International Economics
<b>Sociology</b>	
SOCI 2303	Race and Ethnic Relations
SOCI 3305	Criminology
SOCI 3307	Rural Sociology
SOCI 3320	Social Stratification and Inequality
SOCI 4312	Gender in Society
SOCI 4314	Medical and Health Care Policy
SOCI 4322	Age and Ethnic Stratification
SOCI 4341	Migration and Society
<b>Business</b>	
MGMT 4306	Employee and Labor Relations
BUSI 2301	Business Law I
BLAW 4333	Business Law II
BLAW 4334	Employment Law
BLAW 4384	International Business Law
<b>Communications</b>	
COMM 3310	Communication Law
<b>Agriculture</b>	
AGEC 4301	Public Agricultural Food Programs
AGEC 4302	International Trade and Agriculture
AGEC 4306	Commodity Futures Markets
AGEC 4325	Recreation and Tourism Economics
AGSD 3380	Formulation of Agriculture & Food Policy
AGSD 4355	Mexican Agricultural Relations
WSES 2322	Principles of Wildlife Conservation and Management
WSES 3315	Sustainability
WSES 3375	Population, Pollution, and Resource Depletion
WSES 3385	Fish and Wildlife Laws and Administration
WSES 4306	Water Resources Policy and Management
<b>Public Health</b>	
PBHL 4310	Introduction to Health Management and Policy
PBHL 4320	Public Health Law
<b>Nursing</b>	
NURS 4314	Policy, Politics, and Ethics
<b>Engineering</b>	

ENGT 4320	Occupational Safety and Health	
<b>Education</b>		
CHFS 4350	Policies and Ethical Standards	
Total Hours		18

1 Some courses may require prerequisites or permission of department head/instructor. Please consult with the Minor advisor in the Department of Social Sciences to review prior to registration.

\* Minor in Public Policy advisor: Dr. Eric Morrow (morrow@tarleton.edu)

## Minor in Sociology

### Required Courses

SOCI Courses		12
Advanced SOCI Courses		6
Total Hours		18

\* Minor in Sociology: Dr. Jason LaTouche (latouche@tarleton.edu)

## Minor in Spanish

### Required Courses

SPAN 1303	Basic Spanish for Vocations	3
or SPAN 1411	Beginning Spanish I	
SPAN 1412	Beginning Spanish II	4
SPAN 2311	Intermediate Spanish I	3
SPAN 2312	Intermediate Spanish II	3
SPAN 3301	Oral Proficiency in Spanish	3
or SPAN 3302	Spanish for Heritage or Native Speakers	
SPAN 3303	Spanish Grammar for Composition	3
Total Hours		19

\* Minor in Spanish advisor: Ivelisse Urban (urban@tarleton.edu)

## Minor in Technical Writing

### Required Courses

ENGL 1301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	3
ENGL 1302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	3
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical writing and Document Design	3
Sophomore Literature		3
Select two of the following:		6
ENGL 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Editing	
ENGL 3312	Graphics and Technical Writing	
ENGL 4312	Technical Writing and Computer Applications	
ENGL 4320	Writing for Electronic Mediums	
Total Hours		18

\* Minor is Technical Writing advisor: Cynthia McPherson (mcpherson@tarleton.edu)

## The College of Liberal and Fine Arts offers the following certificates:

### Certificate in Alternative Dispute Resolution

#### Required Courses

Required Courses		9
ADRI 5341	Mediation-Methods of Dispute Resolution	
ADRI 5343	Advanced Mediation Strategies	
ADRI 5344	Effective Communication Skills for ADR Specialists	
Electives - Choose 1		3
ADRI 5345	Arbitration-Methods of Alternative Dispute Resolution	
ADRI 5346	Advanced Arbitration Theory and Methods	
ADRI 5347	Negotiations and Collective Bargaining	
ADRI 5384	Mediation Practicum/Internship	
Total Hours		12

\* Alternative Dispute Resolution Certificate advisor: Dr. Rhonda Dobbs (dobbs@tarleton.edu)

**Certificate in Crime Analysis****Required Courses**

CRIJ 3370	Introduction to Crime Analysis	3
CRIJ 3371/GEOG 3352	Introduction to Crime Mapping	3
CRIJ 4316 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Methods of Criminal Justice Research	3
CRIJ 4318	Criminal Justice Statistics	3
CRIJ 4332	Field Experience in Crime Analysis	3
Total Hours		15

**Certificate in Cybercrime Field Response****Required Courses**

CRIJ 5353	Global Cyber-Security	3
CRIJ 5354	Introduction to Digital Forensics	3
CRIJ 5355	Cellular Forensics	3
CRIJ 5356	Digital Forensics Analysis	3

\* Cyber Field Response Certificate advisor: Dr. Rhonda Dobbs ([dobbs@tarleton.edu](mailto:dobbs@tarleton.edu))

**Certificate in Environmental Policy****Required Courses**

ECON 3304	Environmental Economics	3
POLS 3310	Environmental Politics	3
GEOL 1407	Introduction to Environmental Science	4
Choose one of the following electives:		3
COMM 3305	Environmental Communication	
PHIL 4305	Environmental Ethics	
POLS 4310	International Environmental Issues	
POLS 4311	Environmental Law	
SOCI 3312	Environmental Sociology	
SOCI 4306	Water Policy	
Total Hours		13

\* Environmental Policy Certificate advisor: Dr. Anne Egelston ([egelston@tarleton.edu](mailto:egelston@tarleton.edu))

**Certificate in Geographic Information Systems****Required Courses**

GEOG 2451	Introduction to Geographic Information Systems	4
GEOG 3450	Intermediate Geographic Information Systems	4
GEOG 4450	Advanced Geographic Information Systems	4
Choose two of the following		6-8
GEOG 1451	Pre-GIS: GPS, VGI and Cartography	
EASC 3360	Remote Sensing	
GEOG 4451	Applied Remote Sensing	
GEOG 3352	Introduction to Crime Mapping	
WSES 3305	GIS for Natural Resource Scientists	
ENVS 3302	Soils, Land Use, and The Environment	
AGSD 3318	Land Surveying and Soil/Water Conservation Practices	
BCIS 3332	Java Programming	
BCIS 3342	Advanced Java Programming	
BCIS 3333	C# Programming	
BCIS 3343	Advanced C# Programming	
Total Hours		18

\* GIS Certificate advisor: Dr. Opeyemi Zubair ([zubair@tarleton.edu](mailto:zubair@tarleton.edu))

**Certificate in Jazz Studies****Required Courses**

MUSI 2360	Jazz Harmony	3
MUSI 3360	Jazz Improvisation I	3
MUSI 3361	Jazz Improvisation II	3
MUSI 4245	Jazz Arranging	2
Total Hours		11

\* Jazz Studies certificate advisor: Dr. Andrew Stonerock ([stonerock@tarleton.edu](mailto:stonerock@tarleton.edu))

\* Leadership Studies Certificate advisor: Dr. Richard Cummins ([cummins@tarleton.edu](mailto:cummins@tarleton.edu))

## Certificate in Homeland Security

### Required Courses

Required Courses		6
CRIJ 5351	Terrorism	
CRIJ 5352	Homeland Security	
Electives - Choose 2		6
CRIJ 5353	Global Cyber-Security	
CRIJ 5317	Special Topics in Homeland Security	
CRIJ 5365	Intersection of Domestic and Military Policing	
CRIJ 5349	Transnational Trafficking	
Total Hours		12

## School of Criminology, Criminal Justice, and Public Administration

Dr. Alex del Carmen  
 School of Criminology, Criminal Justice, and Public Administration  
 Box T-0008  
 Stephenville, TX 76402  
 254-968-9106  
 delcarmen@tarleton.edu  
[www.tarleton.edu/criminology](http://www.tarleton.edu/criminology) (<http://www.tarleton.edu/criminology/>)

Dr. Galia Cohen, Director  
 Division of Public Administration  
 Box T-0008  
 Stephenville, TX - Texas 76402  
 254-968-9106  
 cohen@tarleton.edu  
[www.tarleton.edu/criminology](http://www.tarleton.edu/criminology) (<http://www.tarleton.edu/criminology/>)

The School of Criminology, Criminal Justice, and Public Administration includes the Department of Criminal Justice, the Department of Public Administration, the Institute for Predictive and Analytic Policing Science, the Institute for Homeland Security, Cyber Crime and International Criminal Justice Studies, the Institute for Mediation, Arbitration, Legal Studies and Forensics, and the Institute for Criminal Justice Leadership and Public Policy. The mission of the School of Criminology, Criminal Justice, and Public Administration is to provide students in criminal justice, public administration, leadership studies, and military science with a quality education through academic and leadership experiences, as well as to provide service to the community and profession through research and scholarship.

Degree programs offered include the Bachelor of Science in Criminal Justice, the Bachelor of Applied Arts and Sciences in Criminal Justice Administration, the Bachelor of Science in Public Administration, the Master of Criminal Justice, and the Master of Public Administration.

### The Bachelor of Science in Public Administration Information

The School of Criminology, Criminal Justice, and Public Administration offers a Bachelor of Science in Public Administration. This program is only offered on the Tarleton State University RELLIS - Bryan campus in Bryan, Texas.

**The Bachelor of Science in Public Administration** equips students with knowledge and skills that cover a wide range of topics and disciplines related to the public sector. Students acquire knowledge about government bodies and agencies, including municipal, state and federal operations in areas such as intergovernmental relations, human resource management, public policy, and budgeting and finance.

Standout features of the Tarleton program offerings at RELLIS-Bryan will include small class sizes, exceptional, qualified faculty and majors in high-demand professions.

Additional information about Tarleton's offerings at RELLIS-Bryan can be found at the following location:

<https://www.tarleton.edu/rellis/index.html> (<https://www.tarleton.edu/rellis/>)

### The Bachelor of Science Degree in Public Administration

#### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
Communication Requirement [shared] - Choose one of the following:		
COMM 1311	Introduction to Speech Communication	
COMM 1315	Public Speaking	
COMM 2302	Business and Professional Speaking	
ENGL 1301 [shared] [WI] ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )	Composition I	
ENGL 1302 [shared] [WI] ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )	Composition II	
MATH 1342 [shared]	Elementary Statistical Methods	
SOCI 1301	Introductory Sociology	3
ECON 1301	Introduction To Economics	3
or ECON 2301	Principles of Macroeconomics	
or ECON 2302	Principles of Microeconomics	
PSYC 2301 [shared]	General Psychology	
PHIL 2303	Introduction to Logic	3
PUAD 3301	Principles of Public Administration	3
PUAD 3302	Intergovernmental Relations	3
PUAD 3303 [WI] ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )	Introduction to Public Policy	3



PUAD 3305	Introduction to Public Budgeting	3
PUAD 4304	Organizational Behavior in Public Administration	3
PUAD 4305	Human Resource Management in Public Administration	3
PUAD 4317 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Capstone in Public Administration	3
PUAD 4318 or CRIJ 4312	Public Administration Ethics Criminal Justice Ethics	3
PUAD 4319 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )] or CRIJ 3313 or ENGL 3309	Professional Writings in Public Administration Professional Writings in Criminal Justice Technical Writing and Document Design	3
Choose from the following Advanced Electives in Public Administration (PUAD):		18
PUAD 3304	Texas and Local Governmental Intergovernmental Relations	
PUAD 3306	Leadership in Public Administration	
PUAD 3307	Futures Studies in Public Administration	
PUAD 3308	Seminar in Professional Practices in Public Administration	
PUAD 4301	Legitimacy in Public Administration	
PUAD 4302	Evidence Based Decision Making in Public Administration	
PUAD 4303	Emergency Management in Public Administration	
PUAD 4306	Project Management in the Public Sector	
PUAD 4307	Public Policy Domains in Public Administration	
PUAD 4308	Public Policy Analysis	
PUAD 4309	Basic GeoSpatial Techniques and Technologies	
PUAD 4310	GeoSpatial Methods for Public Administration	
PUAD 4311	Emerging Issues in Public Administration	
PUAD 4312	Non-Profit Sector Management	
PUAD 4313	Alternative Dispute Resolution and Mediation for Public Administration	
PUAD 4384	Internship in Public Administration	
PUAD 4315 or CRIJ 4316	Research Methods in Public Administration Methods of Criminal Justice Research	
PUAD 4316 or CRIJ 4318	Statistics in Public Administration Criminal Justice Statistics	
PUAD 4386	Problems in Public Administration	
PUAD 4390	Special Topics in Public Administration	
Advised Electives		12
Advanced Electives		12
Total Hours		120

### Executive Director and Professor

- del Carmen, Alex Dr.

### Assistant professors

- Abernathy, Jackie Dr.
- Bagwell, Matt Dr.
- Helligso, Jesse Dr.

## Department of Criminal Justice

Dr. Rhonda R. Dobbs, Department Head  
 Department of Criminal Justice  
 O.A. Grant Building, Room 375  
 Box T-0665  
 Stephenville, Texas 76402  
 254-968-9024  
 dobbs@tarleton.edu  
[www.tarleton.edu/criminaljustice/](http://www.tarleton.edu/criminaljustice/)

The Department of Criminal Justice offers programs of study leading to a Bachelor of Science in Criminal Justice, a Bachelor of Applied Arts and Sciences in Criminal Justice Administration, and a Master of Criminal Justice (p. 422). The Department also offers minors in the following areas: Criminal Justice, Criminal Law, Homeland Security, and Social Equity and Criminal Justice. Students can also choose to pursue undergraduate certificates in Crime Analysis or Cyber Security as part of their undergraduate degree program.

### The Bachelor of Science Degree in Criminal Justice

#### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	

CRIJ 1301 [shared]	Introduction to Criminal Justice	
CRIJ 1306	Court Systems and Practices	3
CRIJ 1310	Fundamentals of Criminal Law	3
CRIJ 2313	Correctional Systems and Practices	3
CRIJ 2328	Police Systems and Practices	3
CRIJ 3305	Criminology	3
CRIJ 3310	Criminal Justice Supervision and Management	3
CRIJ 3313 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Professional Writings in Criminal Justice	3
or ENGL 3309	Technical Writing and Document Design	
CRIJ 3315	Rules of Criminal Evidence	3
CRIJ 3340	Homeland Security	3
CRIJ 4312	Criminal Justice Ethics	3
CRIJ 4316 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Methods of Criminal Justice Research	3
CRIJ 4303	Crime, Justice, and Social Diversity	3
or CRIJ 4301	Gender, Crime, and the Criminal Justice System	
Select one of the following:		3
CRIJ 4318	Criminal Justice Statistics	
SOCI 3330	Social Science Statistics	
Advanced CRIJ Electives		6
CRIJ 4398 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Criminal Justice Capstone	3
or CRIJ 4331	Criminal Justice Internship	
or CRIJ 4387	Seminar: Study Away/Abroad	
SPAN 1303	Basic Spanish for Vocations	3
or SPAN 1411	Beginning Spanish I	
Electives (9 Hours Advanced)		27
Total Hours		120

## The Bachelor of Applied Arts and Sciences Degree in Criminal Justice Administration

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
<b>Prior Learning Credit</b>		<b>12-33</b>
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
CRIJ 3313 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Professional Writings in Criminal Justice	3
or ENGL 3309	Technical Writing and Document Design	
CRIJ 3305	Criminology	3
CRIJ 3310	Criminal Justice Supervision and Management	3
CRIJ 3315	Rules of Criminal Evidence	3
CRIJ 3340	Homeland Security	3
CRIJ 4301	Gender, Crime, and the Criminal Justice System	3
or CRIJ 4303	Crime, Justice, and Social Diversity	
CRIJ 4312	Criminal Justice Ethics	3
CRIJ 4316 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Methods of Criminal Justice Research	3
CRIJ 4318	Criminal Justice Statistics	3
CRIJ 4398 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Criminal Justice Capstone	3
or CRIJ 4331	Criminal Justice Internship	
or CRIJ 4387	Seminar: Study Away/Abroad	
CRIJ Electives		9
Advanced CRIJ Electives		6
CRIJ Electives		0-21
Total Hours		120

### Peace Officer Exemption Information

To be eligible for the exemption, a Peace Officer must:

1. Be employed as a Peace Officer by the State of Texas or by a political subdivision of Texas
2. Apply for admission and be accepted to the university
3. Provide the Department of Criminal Justice proof of employment as a currently paid Peace Officer (required each semester in which the exemption will be used). A letter from the employer on official letterhead, an email from your employer's official email account, or a recent two week pay stub will fulfill this requirement.
4. Have a degree plan on file in the Registrar's Office for an eligible Criminal Justice degree program at the institution:  
BS, Criminal Justice  
BAAS, Criminal Justice Administration
5. Apply for the exemption at least one week before the last day of the institution's regular registration period for that semester.
6. Submit the completed Application for Texas Peace Officer Exemption form (<http://tarleton.edu/registrar/forms/TexasPeaceOfficerExemptionapplication.pdf>)
7. Be in compliance with the institution's financial aid satisfactory academic progress requirement

**NOT ALL TUITION AND FEES MAY BE COVERED BY THE EXEMPTION. STUDENTS ARE RESPONSIBLE FOR ANY ADDITIONAL TUITION AND FEES THAT MAY NOT BE COVERED.**

**ELIGIBLE COURSES:**

- The date you submit your application will be used to determine the eligibility of courses.
- No more than 20 percent of the maximum student enrollment designated by the institution for a given law enforcement or criminal justice class may receive an exemption under this program (**this will be determined on a first come, first served basis**).
- Only undergraduate courses pertaining to the major requirement of criminal justice degrees are eligible for the tuition and laboratory fees exemption.

**SUBMITTING THE PEACE OFFICER TUITION EXEMPTION FORM:**

All exemption forms must be submitted online via <http://tarleton.wufoo.com/forms/z7q5q1/>. Any questions about exemptions can be directed to [cjbaas@tarleton.edu](mailto:cjbaas@tarleton.edu).

**QUESTIONS:**

For information and questions please contact Casey Heath at 254-968-9024 or [heath@tarleton.edu](mailto:heath@tarleton.edu) or Dr. Brittany Rodriguez at 254-968-9825 or [brodriguez@tarleton.edu](mailto:brodriguez@tarleton.edu).

## Minor in Criminal Justice

**Required Courses**

CRIJ 1301	Introduction to Criminal Justice	3
CRIJ 3305	Criminology	3
CRIJ 4301	Gender, Crime, and the Criminal Justice System	3
or CRIJ 4303	Crime, Justice, and Social Diversity	
CRIJ Electives		9
Total Hours		18

## Minor in Criminal Law

**Required Courses**

CRIJ 1301	Introduction to Criminal Justice	3
CRIJ 1306	Court Systems and Practices	3
CRIJ 1310	Fundamentals of Criminal Law	3
CRIJ 3315	Rules of Criminal Evidence	3
CRIJ 4326	Criminal Procedure	3
CRIJ 4383	Seminar: Special Topics in Criminal Law	3
Total Hours		18

## Minor in Homeland Security

**Required Courses**

Required courses:		9
CRIJ 3340	Homeland Security	
CRIJ 3341	Terrorism	
CRIJ 4353	Global Cyber-Security	
Take 9 hours from:		9
CRIJ 3308	Comparative Criminal Justice	
CRIJ 4384	Seminar: Special Topics in Homeland Security	
POLS 3308	International Politics	
Total Hours		18

## Minor in Social Equity and Criminal Justice

**Required Courses**

CRIJ 3309	Victimology	3
CRIJ 4303	Crime, Justice, and Social Diversity	3
COMM 3332	Intercultural Communication	3
Electives- Pick 3		9
ADRI 4341	Mediation - Methods of Dispute Resolution	
CRIJ 3350	Media, Crime, and Criminal Justice	
CRIJ 4301	Gender, Crime, and the Criminal Justice System	
SOCI 2303	Race and Ethnic Relations	
SOCI 3320	Social Stratification and Inequality	

SOCI 3368

Social Movements

Total Hours 18

**Certificate in Crime Analysis****Required Courses**

CRIJ 3370	Introduction to Crime Analysis	3
CRIJ 3371/GEOG 3352	Introduction to Crime Mapping	3
CRIJ 4316 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Methods of Criminal Justice Research	3
CRIJ 4318	Criminal Justice Statistics	3
CRIJ 4332	Field Experience in Crime Analysis	3

Total Hours 15

**Certificate in Cyber Security****Required Courses**

CRIJ 3315	Rules of Criminal Evidence	3
BCIS 4320	Computer Forensics	3
BCIS 4342	Ethical Hacking & Network Defense	3
BCIS 4345	Network and Systems Security	3
CRIJ 4353	Global Cyber-Security	3

Total Hours 15

**Professors**

- del Carmen
- Eichenberg
- Shelley

**Associate professors**

- Dobbs
- Hankhouse
- Semukhina
- Styron

**Assistant professors**

- Copeland
- Glassner
- Morrow
- O

**Professional Associate Professor**

- Brown
- Rodriguez

**Instructor**

- Heath

**Visiting Assistant Professor**

- Petrowski

**Courses****CRIJ 1100. Transitioning to University Studies in Criminal Justice. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of criminal justice, military, and civil service disciplines.

**CRIJ 1301. Introduction to Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the history, philosophy, and operations of the American criminal justice system. Topics include the nature of crime and justice, the history and development of the modern criminal justice system and the role of police, judiciary, and corrections in society.

**CRIJ 1306. Court Systems and Practices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to the role of the judiciary in the criminal justice system. Topics include right to counsel, pre-trial release, grand juries, adjudication process, and sentencing. Prerequisite: In progress CRIJ 1301.

**CRIJ 1310. Fundamentals of Criminal Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the nature of criminal law, philosophical and historical development, major definitions and concepts, classification of crime, elements of crimes and penalties using Texas statutes as illustrations, and criminal responsibility. Prerequisite: in progress CRIJ 1301.

**CRIJ 1313. Juvenile Justice System. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the juvenile justice process to include specialized juvenile law, role of the juvenile courts, role of police agencies, role of correctional agencies, and theories concerning delinquency. Prerequisite: CRIJ 1301 Intro to CJ.

**CRIJ 2313. Correctional Systems and Practices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to corrections as a profession. Topics include organization of correctional agencies, the role of corrections in society, correctional philosophies and agency operations, and current and emerging issues. Prerequisite: in progress CRIJ 1301.

**CRIJ 2314. Criminal Investigation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the investigative theory, collection, and preservation of evidence, sources of information, interview and interrogation, uses of forensic sciences, and case and trial preparation. Prerequisite: In progress CRIJ 1301 Intro to CJ.

**CRIJ 2328. Police Systems and Practices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to the police profession. Topics include organization of law enforcement agencies, the police role in society, police operations, discretion, corruption, and current and emerging issues. Prerequisite: In progress CRIJ 1301.

**CRIJ 3301. Survey of Forensic Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduces the scientific methods that currently play a major role in solving crimes. It provides background information on various forensic disciplines together with the basic techniques utilized by forensic scientists in analyzing common types of physical evidence.

**CRIJ 3305. Criminology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study and critical appraisal of various theories of crime causation, including an examination of classical, biological, psychological, and sociological perspectives on the etiology of crime.

**CRIJ 3308. Comparative Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of criminal justice systems around the world. The organization, administration, and philosophy of various criminal systems will be examined, along with the cultural and historical environment in which they developed and exist.

**CRIJ 3309. Victimology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is an introduction to the field of victimology. Emphasis will be given to characteristics of crime victimization and victims, the impact of victimization, and the treatment of victims within the criminal justice system.

**CRIJ 3310. Criminal Justice Supervision and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of theories and principles of supervision as applied to criminal justice agencies. Topics include organization, leadership, motivation, human resources flow, and managerial ethics.

**CRIJ 3311. Techniques of Interviewing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of interview and interrogation techniques. Topics include preparation, environmental and psychological factors, legal issues, and ethics.

**CRIJ 3313. Professional Writings in Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The process of developing and documenting information related to criminal justice field work and graduate studies in criminology and criminal justice, including researching, editing, revising, and creating technical reports, case narratives, grant applications and reports, academic and field related research proposals, training modules, and correspondence. Students will use word processing and related graphic software. Prerequisite: Criminal Justice major (BS and BAAS) and ENGL 1301 and ENGL 1302.

**CRIJ 3315. Rules of Criminal Evidence. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An analysis of the procedures and rules of evidence applied to the acquisition, offering, admissibility, and presentation of evidence from the crime scene, courtroom, and appellate court perspectives.

**CRIJ 3320. Serial Killers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the evolution of serial homicide and the role of social influences on serial killers. Various criminological and psychological theories are discussed and applied to some of the more infamous serial killers in American society.

**CRIJ 3330. Community Corrections. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the philosophy, administrative procedures, and operational techniques used in the community based treatment and supervision of offenders.

**CRIJ 3340. Homeland Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in-depth study of strategic, legal, policy, operational, and organizational issues associated with the defense of the U.S. homeland from foreign and domestic terrorist threats. Topics include psychology of mass movements, terrorists' ideology, religion and terror, legal issues in homeland security, weapons of mass destruction, effective interfacing between local, state, and federal agencies, emergency management operations and dealing with mass casualties.

**CRIJ 3341. Terrorism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an in depth study of domestic and international terrorism. Major issues to be considered include history and development of terrorism, types of terrorism and terrorist groups, the role of terrorist organizations, motivations for terrorism, and the techniques of terrorism.

**CRIJ 3350. Media, Crime, and Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine the representation of crime and criminal justice in popular culture, in particular in television and film. The purpose of this class is to explore the role of media representation in the understanding of criminal justice issues and policies.

**CRIJ 3360. Sex Crimes. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine sexual offenses and sexual offenders; including pornography, rape, sexually motivated homicides, and nuisance and dangerous sex crimes. The course will study the various typologies of these offenders, as well as their impact on the Criminal Justice System.

**CRIJ 3370. Introduction to Crime Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides introductory skills needed for efficient data management. The manipulation and conversion of crime data to useful information are a basic requisite to accomplish data-driven management and support intelligence-led policing. Several data management applications are examined including MS Excel and Access. No prerequisites.

**CRIJ 3371. Introduction to Crime Mapping. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course provides conceptual knowledge and practical skills to design and implement a GIS-based analysis of community crime problems. This course constitutes an introduction to the scope and methods of crime mapping and analysis. The theory, logic, and practical applications of mapping and analysis are examined with a focus on developing a knowledge base, skills, and integration of mapping and analysis concepts that are applicable to crime detection and prevention. No prerequisites.

**CRIJ 4086. Problems in Criminal Justice. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Independent reading, research and discussion. Entry into this course will be arranged with the department head.

**CRIJ 4301. Gender, Crime, and the Criminal Justice System. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to the issues related to women as victims, offenders, and professionals in the criminal justice system.

**CRIJ 4303. Crime, Justice, and Social Diversity. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to the complex interrelationship between cultural diversity, crime, and the American Criminal Justice System.

**CRIJ 4312. Criminal Justice Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course presents an analysis of contemporary ethical issues in crime and justice. Classical and contemporary ethical theories will be applied to the discussion of such issues as discretion, corruption, use of force, racism, deception, professionalism, and the nature and meaning of justice.

**CRIJ 4316. Methods of Criminal Justice Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course is an introduction to the methods of criminological and criminal justice research, with emphasis on research ethics, research design, and methods of data collection and analysis. Prerequisites: Criminal Justice major (BS and BAAS) and ENGL 1301 and ENGL 1302.

**CRIJ 4318. Criminal Justice Statistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to the elementary forms of statistical analysis, including measures of central tendency, variation, the normal curve and Z scores, measures of difference, regression analysis, and correlations. Emphasis will be placed on application of statistical analysis to criminal justice research and planning using the SPSS data analysis program. Prerequisite: CRIJ 4316.

**CRIJ 4324. Penology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the structure and function of correctional systems and how various philosophies of correctional treatment affect the operation of confinement institutions.

**CRIJ 4325. Advanced Investigation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced criminal and civil investigation topics will be covered. An examination of frequently used, yet special investigative techniques will also be introduced. Emphasis will be placed on crime scene processing, crime scene analysis, forensic evaluations, investigative techniques, and investigative surveys.

**CRIJ 4326. Criminal Procedure. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the fundamental principles of criminal procedural, including key concepts related to the Fourth, Fifth, Sixth, and Fourteenth Amendments.

**CRIJ 4331. Criminal Justice Internship. 3 Credit Hours (Lecture: 0 Hours, Lab: 8 Hours).**

This course examines the application and integration of academic content and development of skills within a criminal justice setting. Entry into this course will be arranged with the internship coordinator. The student is required to complete 100 documented hours with a criminal justice-related agency and approved by the coordinator. The internship cannot be completed at a student's place of current or former employment. May be taken more than once for credit. Maximum 6 hours of credit. Prerequisite: In progress Junior Classification.

**CRIJ 4332. Field Experience in Crime Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Application and integration of academic content and development of skills within a criminal justice setting. Entry into this course will be arranged with the internship coordinator. May be taken more than once for credit.

**CRIJ 4353. Global Cyber-Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course presents a conceptual overview of information security and its impact on the global stage. Topics include: current trends and over all landscape in information warfare, cybercrime techniques, cyber-terrorism, and information security fundamentals. Included is an emphasis on policy implications for law enforcement at the national level.

**CRIJ 4383. Seminar: Special Topics in Criminal Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics pertaining to criminal law and the criminal court system. Specific topics will vary according to timeliness and need. May be taken more than once for credit as the topic varies.

**CRIJ 4384. Seminar: Special Topics in Homeland Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will vary according to timeliness and need. May be taken more than once for credit as topic varies.

**CRIJ 4385. Seminar: Special Topics in Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will vary according to timeliness and special needs. May be taken more than once for credit. Prerequisites: CRIJ 1301 or approval of the department head.

**CRIJ 4387. Seminar: Study Away/Abroad. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will vary according to timeliness and special needs. May be taken more than once for credit. This course requires travel within the US or internationally.

**CRIJ 4398. Criminal Justice Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course is designed for upper level students in Criminal Justice. Students will learn the applicability of research methods, criminal justice theory; along with current issues into real-life job related scenarios. Specifically, students will have the opportunity to implement what they have learned in prior criminal justice classes to their current and/or future careers. This is a writing intensive course. Prerequisites: In progress Senior classification. Restricted to Criminal Justice majors. CRIJ 3305 and CRIJ 4316 and ENGL 1301 and ENGL 1302.

**CRIJ 4431. Criminal Justice Field Experience. 3 Credit Hours (Lecture: 0 Hours, Lab: 8 Hours).**

Application and integration of academic content and development of skills within a criminal justice setting. Entry into this course will be arranged with the internship coordinator. May be taken more than once for credit. Prerequisite: In progress junior classification.

## Department of Public Administration

Dr. Galia Cohen  
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2549689106  
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### The Bachelor of Science in Public Administration Information

The School of Criminology, Criminal Justice, and Public Administration offers a Bachelor of Science in Public Administration. This program is only offered on the Tarleton State University RELLIS - Bryan campus in Bryan, Texas.

The Bachelor of Science in Public Administration equips students with knowledge and skills that cover a wide range of topics and disciplines related to the public sector. Students acquire knowledge about government bodies and agencies, including municipal, state and federal operations in areas such as intergovernmental relations, human resource management, public policy, and budgeting and finance.

Standout features of the Tarleton program offerings at RELLIS-Bryan will include small class sizes, exceptional, qualified faculty and majors in high-demand professions.

Additional information about Tarleton's offerings at RELLIS-Bryan can be found at the following location:

<https://www.tarleton.edu/rellis/index.html> (<https://www.tarleton.edu/rellis/>)

### The Bachelor of Science Degree in Public Administration

#### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )	42
Communication Requirement [shared] - Choose one of the following:	
COMM 1311	Introduction to Speech Communication
COMM 1315	Public Speaking
COMM 2302	Business and Professional Speaking
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II

MATH 1342 [shared]	Elementary Statistical Methods	
SOCI 1301	Introductory Sociology	3
ECON 1301	Introduction To Economics	3
or ECON 2301	Principles of Macroeconomics	
or ECON 2302	Principles of Microeconomics	
PSYC 2301 [shared]	General Psychology	
PHIL 2303	Introduction to Logic	3
PUAD 3301	Principles of Public Administration	3
PUAD 3302	Intergovernmental Relations	3
PUAD 3303 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Introduction to Public Policy	3
PUAD 3305	Introduction to Public Budgeting	3
PUAD 4304	Organizational Behavior in Public Administration	3
PUAD 4305	Human Resource Management in Public Administration	3
PUAD 4317 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Capstone in Public Administration	3
PUAD 4318	Public Administration Ethics	3
or CRIJ 4312	Criminal Justice Ethics	
PUAD 4319 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Professional Writings in Public Administration	3
or CRIJ 3313	Professional Writings in Criminal Justice	
or ENGL 3309	Technical Writing and Document Design	
Choose from the following Advanced Electives in Public Administration (PUAD):		18
PUAD 3304	Texas and Local Governmental Intergovernmental Relations	
PUAD 3306	Leadership in Public Administration	
PUAD 3307	Futures Studies in Public Administration	
PUAD 3308	Seminar in Professional Practices in Public Administration	
PUAD 4301	Legitimacy in Public Administration	
PUAD 4302	Evidence Based Decision Making in Public Administration	
PUAD 4303	Emergency Management in Public Administration	
PUAD 4306	Project Management in the Public Sector	
PUAD 4307	Public Policy Domains in Public Administration	
PUAD 4308	Public Policy Analysis	
PUAD 4309	Basic GeoSpatial Techniques and Technologies	
PUAD 4310	GeoSpatial Methods for Public Administration	
PUAD 4311	Emerging Issues in Public Administration	
PUAD 4312	Non-Profit Sector Management	
PUAD 4313	Alternative Dispute Resolution and Mediation for Public Administration	
PUAD 4384	Internship in Public Administration	
PUAD 4315	Research Methods in Public Administration	
or CRIJ 4316	Methods of Criminal Justice Research	
PUAD 4316	Statistics in Public Administration	
or CRIJ 4318	Criminal Justice Statistics	
PUAD 4386	Problems in Public Administration	
PUAD 4390	Special Topics in Public Administration	
Advised Electives		12
Advanced Electives		12
Total Hours		120

## Courses

### PUAD 3301. Principles of Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

An introductory course in public administration and PA theory.

### PUAD 3302. Intergovernmental Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

An introductory course exploring and describing the duties, responsibilities and relationships of the American Federalism system.

### PUAD 3303. Introduction to Public Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An introductory course in the public policy making process to include formulation, negotiation and implementation of public policy as well as policy evaluation.

### PUAD 3304. Texas and Local Governmental Intergovernmental Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A course on the intergovernmental relationships and responsibilities between state and local governments (counties, municipalities, schools districts and special districts). This course should be offered in a semester in which the state legislature is in session so that students can experience reality based field observation (field trip to the state legislature).

### PUAD 3305. Introduction to Public Budgeting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A course will introduce the processes, formats, and theories of public budgeting to include taxation, service delivery levels and expenditures at the federal, state and local levels.

### PUAD 3306. Leadership in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course will explore the various leadership theories as well as other related topics to leadership associated with the public sector and public governance.

**PUAD 3307. Futures Studies in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will offer an introduction into futures studies methods and processes and how futures studies can be utilized to improve public administration and prepare future public administration models and issues, particularly as they relate to future conditions, challenges and opportunities facing public administration, responsible government and public governance.

**PUAD 3308. Seminar in Professional Practices in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will offer an introduction into professions and professionalism in public administration. The course will address professional conduct, responsibilities and roles at the various levels of government as it relates to public administrators.

**PUAD 3309. Comparative Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introductory course in comparative public administration; exposure to other systems of governance and public administration (foreign).

**PUAD 4301. Legitimacy in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will explore legitimacy, legal authority and trust related to public administration. It will also delve into the US Constitution, Constitutional Law and the Federalists Papers and other sources of authority and legitimacy of public administration.

**PUAD 4302. Evidence Based Decision Making in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will explore utilizing information, research, statistics, other types of information and sources as it relates to the disciplined process of evidence based decision making in the public sector.

**PUAD 4303. Emergency Management in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This class will focus on all areas of emergency management, National Incident Management System (NIMS), Incident Management System (ICS), and the duties and responsibilities of the various players, at all levels of government in responding to natural, man-made, bio-hazard, chemical, medical and terrorist type incidents and how it relates to American Federalism. Included in this course will be the study of emergency management from the perspective of continuity of government and planning related to emergency management.

**PUAD 4304. Organizational Behavior in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Public sector organization behavior related processes, motivation, leadership, systems and other topics related to how public organizations perform, establish and pursue public sector objectives in the public interest paradigm.

**PUAD 4305. Human Resource Management in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Human resource management from the point of view of the unique demands and circumstances found in the public sector including motivation theories, talent management (recruitment, hiring, development, training, promotion and discipline) and strategic human resource needs of public sector organizations, now and into the future.

**PUAD 4306. Project Management in the Public Sector. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will focus on planning, executing and finishing public sector project utilizing a number of systems approaches and project management models.

**PUAD 4307. Public Policy Domains in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will focus on a variety of policy areas (domains), issues and challenges across the spectrum of public administration. This course can be repeated once, but requires the approval of the department head or academic advisor.

**PUAD 4308. Public Policy Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will focus on the policy analysis process to include problem identification, formulation of alternatives, measurement criteria, evaluation and decisions loops and the tools associated with decision-making in the public sector.

**PUAD 4309. Basic GeoSpatial Techniques and Technologies. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Basic introductory course in geospatial technologies and techniques associated with geographical information systems.

**PUAD 4310. GeoSpatial Methods for Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The use of GeoSpatial equipment and techniques, utilizing GIS information for intelligence led governance (aka smart governance), planning and project development and management. Prerequisite: PUAD 4309 or equivalent.

**PUAD 4311. Emerging Issues in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Seminar class on emerging issues across the political, cultural, economic, and social spheres that are related to World/USA issues that might impact public administration at any one or all levels of government -- federal, state and local.

**PUAD 4312. Non-Profit Sector Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will focus on management of nonprofit organizations delivering public goods and services.

**PUAD 4313. Alternative Dispute Resolution and Mediation for Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will focus on alternative dispute resolution methods and mediation for problem-solving associated with individual and community disputes.

**PUAD 4315. Research Methods in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will focus on research methods and processes associated with scholarly inquiry and the practical application of research and evaluation research in public administration.

**PUAD 4316. Statistics in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Dedicated course in statistical methodologies and applications associated with public administration. Prerequisite: PUAD 4315.

**PUAD 4317. Capstone in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course will provide for a capstone experience in public administration leading to the completion of a senior paper in some area of public administration. This course is a required course for the BSPA. Prerequisite: Junior or Senior Status.

**PUAD 4318. Public Administration Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course presents an analysis of contemporary ethical issues in public administration. Classical and contemporary ethical theories will be applied to the discussion of such issues as discretion, corruption, public interest, equity, deception, professionalism, and the nature and meaning of justice. Prerequisite: Junior classification or approval of instructor.

**PUAD 4319. Professional Writings in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The process of developing and documenting information related to undergraduate studies in public administration, including researching, editing, revising, and creating technical reports, case narratives, grant applications and reports, academic and field related research proposals, training modules, and formatting professional correspondence to include memoranda. Students will use word processing and related graphic software. Prerequisites: ENGL 1301 and ENGL 1302.

**PUAD 4384. Internship in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide an opportunity for a student to work in a public sector organization to gain experience, establish work ethic and create a network for career development. Prerequisite: Junior or Senior Status.

**PUAD 4386. Problems in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course provides flexibility of inquiry and study in an area of interest in public administration. Requires approval of department head or academic advisor.

**PUAD 4390. Special Topics in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is will examine and explore various topics of interests in public administration that will be determined on an rotational basis. Requires approval of the department head or academic advisor.



## Communication Studies

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The Department of Communication Studies offers a Bachelor of Arts and the more popular Bachelor of Science degree in Communication Studies. The department also offers a minor in Communication Studies. Recommendations concerning a student's minor course requirements are made to the department head by the student's academic advisor.

For the Bachelor of Science degree program, concentrations are offered in areas of Public Relations & Social Engagement, Journalism & Broadcasting, Sports Communication, Travel, Event, & Activity Management (TEAM), and Professional & Relational Communication. In the Bachelor of Arts program, concentrations are offered in the areas of Public Relations & Event Management, Journalism & Broadcasting, and Professional & Relational Communication.

Not all programs are offered on all campuses.

### The Bachelor of Science Degree in Communication Studies

#### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
COMM 1307	Introduction to Mass Communication	3
COMM 3310	Communication Law	3
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	3
PHIL 3301 [shared]	Ethics in the Professions	
Sophomore Literature [shared]		
Total Hours		51

#### Additional Required Courses for Concentrations

##### Public Relations Social Engagement

COMM 2302 [shared]	Business and Professional Speaking	
COMM 2311	News Gathering & Writing I	3
COMM 2325	Event Coordination	3
COMM 3308	Digital Video Production	3
COMM 3320	Public Relations	3
COMM 3328	Public Relations Writing	3
or ACOM 3314	Writing and Editing for Agricultural Publications	
COMM 4310	Computer-Mediated Communication	3
Select one of the following:		3
COMM 4320	Event Planning and Management	
COMM 4384	Communications Internship	
COMM 4085	Communications Seminar	
COMM 4325	Applied Public Relations and Event Planning	3
Select one of the following:		3
MKTG 3312	Marketing	
MKTG 3316	Consumer Behavior	
MKTG 3318	Promotional Strategy	
Select one of the following:		3
ENGL 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Editing	
ENGL 3312	Graphics and Technical Writing	
ENGL 4312	Technical Writing and Computer Applications	
ENGL 4320	Writing for Electronic Mediums	
Advanced COMM Electives		9
Electives		24

Advanced Electives	6
Total Hours	69

### Journalism and Broadcasting

Select one of the following [shared]:

COMM 1311	Introduction to Speech Communication	
COMM 1315	Public Speaking	
COMM 2302	Business and Professional Speaking	
COMM 1316	News Photography I	3
COMM 2311	News Gathering & Writing I	3
COMM 2333	Broadcast Journalism	3
COMM 3308	Digital Video Production	3
COMM 3311 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Feature Writing	3
COMM 3318	News and Magazine Editing	3
COMM 4309	Advanced Reporting	3
COMM 4312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Rhetorical & Communication Theory	3
ENGL 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Editing	3
ENGL 3312	Graphics and Technical Writing	3
ENGL 4312	Technical Writing and Computer Applications	3
ENGL 4320	Writing for Electronic Mediums	3
Electives		24
Advanced Electives		9
Total Hours		69

### Professional and Relational Communication

COMM 2302 [shared]	Business and Professional Speaking	
COMM 3303	Debate	3
or COMM 3340	Persuasion	
COMM 3304	Interpersonal Communication	3
COMM 3332	Intercultural Communication	3
COMM 4304	Organizational Communication	3
COMM 4312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Rhetorical & Communication Theory	3
COMM 4339	Group Processes and Decision Making	3
Advanced COMM elective		3
Select two of the following:		6
ENGL 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Editing	
ENGL 3312	Graphics and Technical Writing	
ENGL 3330 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Advanced Composition	
ENGL 4312	Technical Writing and Computer Applications	
ENGL 4320	Writing for Electronic Mediums	
Electives		33
Advanced Electives		9
Total Hours		69

### Sports Communication

Select one of the following [shared]:

COMM 1311	Introduction to Speech Communication	
COMM 1315	Public Speaking	
COMM 2302	Business and Professional Speaking	
COMM 1316	News Photography I	3
COMM 2308	Broadcast Production	3
COMM 2311	News Gathering & Writing I	3
COMM 2333	Broadcast Journalism	3
COMM 3308	Digital Video Production	3
COMM 3320	Public Relations	3
COMM 3321	Advertising	3
COMM 4310	Computer-Mediated Communication	3
Advanced KINE Electives		9

KINE 4682	Internship in Kinesiology	6
Electives		21
Advanced Electives		6
Writing Intensive Course		3
Total Hours		69

### Travel, Event and Activity Management

Choose one of the following [shared]:

COMM 1311	Introduction to Speech Communication	
COMM 1315	Public Speaking	
COMM 2302	Business and Professional Speaking	
COMM 1307	Introduction to Mass Communication	3
COMM 2311	News Gathering & Writing I	3
COMM 2325	Event Coordination	3
COMM 3304	Interpersonal Communication	3
or COMM 4339	Group Processes and Decision Making	
COMM 3312	Travel Writing and Blogging	3
COMM 3328	Public Relations Writing	3
COMM 3320	Public Relations	3
COMM 3329	Travel & Tourism	3
COMM 4320	Event Planning and Management	3
COMM 4325	Applied Public Relations and Event Planning	3
ENGL 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Editing	3
COMM 4384	Communications Internship	3
COMM 4384	Communications Internship	3
Electives		24
Advanced Electives		6
Total Hours		69

### The Bachelor of Arts Degree in Communication Studies

#### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>		42
COMM 1307	Introduction to Mass Communication	3
COMM 3310	Communication Law	3
ENGL 1301 [shared]	Composition I	
ENGL 1302 [shared]	Composition II	
ENGL 3309	Technical writing and Document Design	3
HIST 2321	World Civilizations I	3
HIST 2322	World Civilizations II	3
Foreign Language 1411, 1412, 2311, 2312		14
Sophomore Literature [shared]		
Total Hours		71

#### Additional Required Courses for Concentrations

##### Public Relations and Event Management

COMM 2302 [shared]	Business and Professional Speaking	
COMM 2311	News Gathering & Writing I	3
COMM 2325	Event Coordination	3
COMM 3320	Public Relations	3
COMM 3328	Public Relations Writing	3
COMM 4320	Event Planning and Management	3
COMM 4325	Applied Public Relations and Event Planning	3
Advanced COMM Electives		3
PHIL 3301 [shared]	Ethics in the Professions	
ENGL 3310	Technical Writing and Editing	3
ENGL 3312	Graphics and Technical Writing	3
ENGL 4312	Technical Writing and Computer Applications	3
or ENGL 4320	Writing for Electronic Mediums	
MKTG 3312	Marketing	3
MKTG 3316	Consumer Behavior	3
MKTG 3318	Promotional Strategy	3
Electives (6 hours advanced)		10
Total Hours		49

## Journalism and Broadcasting

Choose one of the following [shared]:

COMM 1311	Introduction to Speech Communication	
COMM 1315	Public Speaking	
COMM 2302	Business and Professional Speaking	
COMM 1316	News Photography I	3
COMM 2311	News Gathering & Writing I	3
COMM 2333	Broadcast Journalism	3
COMM 3308	Digital Video Production	3
COMM 3311	Feature Writing	3
COMM 3318	News and Magazine Editing	3
COMM 4309	Advanced Reporting	3
COMM 4312	Rhetorical & Communication Theory	3
PHIL 3301 [shared]	Ethics in the Professions	
ENGL 3310	Technical Writing and Editing	3
ENGL 3312	Graphics and Technical Writing	3
ENGL 4312	Technical Writing and Computer Applications	3
ENGL 4320	Writing for Electronic Mediums	3
Electives (9 hours advanced)		13
Total Hours		49

## Professional and Relational Communication

COMM 2302 [shared]	Business and Professional Speaking	
COMM 3303	Debate	3
or COMM 3340	Persuasion	
COMM 3304	Interpersonal Communication	3
COMM 3332	Intercultural Communication	3
COMM 4304	Organizational Communication	3
COMM 4312	Rhetorical & Communication Theory	3
COMM 4339	Group Processes and Decision Making	3
Advanced COMM elective		3
Select two of the following:		6
ENGL 3310	Technical Writing and Editing	
ENGL 3312	Graphics and Technical Writing	
ENGL 3330	Advanced Composition	
ENGL 4312	Technical Writing and Computer Applications	
ENGL 4320	Writing for Electronic Mediums	
Electives (9 hours Advanced)		19
PHIL 3301	Ethics in the Professions	3
Total Hours		49

<sup>1</sup> Please see Academic Information section.

## Professor

- Edwards, Jennifer

## Associate professors

- Anderson, Robert
- Gearhart, Christopher
- Goen, Karley
- Howard, Charles
- Stafford, Paul

## Assistant professors

- Benedict, Elizabeth
- Holley, Tracey
- Horton, Cristi
- Malone, Dan
- Maben, Sarah
- Winslow, Cessna

## Instructors

- Dawson, Winston
- Endres-Parnell, Prairie
- Wise, Kirk

## Courses

### **COMM 1100. Transitioning to University Studies in Human Communication. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of communication and languages disciplines.

### **COMM 1307. Introduction to Mass Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Places mass media in historical perspective; explores the relationships among media; examines the structure of the American communications system and compares it to international communications systems. Analyzes the social, economic, and political implications of modern society's reliance on mass communications. Explores the ways in which the mass media provides images of our world.

### **COMM 1311. Introduction to Speech Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to improve the individual's understanding of the human communication process. Classroom exercises involve the student in interpersonal, small group, and presentational speaking situations requiring critical thinking skills, teamwork, and personal responsibility. Special emphasis on developing communication skills needed to check and validate perceptions, control language usage, and analyze and improve reasoning processes.

### **COMM 1315. Public Speaking. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the principles and practice of presentational communication. Methods of topic analysis, research, evidence evaluation, organization, and delivery are covered and assignments require critical thinking skills, teamwork, and personal responsibility. Students participate in several classroom presentations.

### **COMM 1316. News Photography I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focus on camera operation, film development and printing. Study in the use and layout of photography in newspaper and magazines. Students will learn new photographic technology as well as traditional applications.

### **COMM 1342. Voice & Diction. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Oral presentation of literary forms with emphasis on the vocal mechanism and phonetics. Interpretative readings in prose, poetry, and drama are directed to help students gain a sensitivity to literary genre and develop effective speech habits through vocal analysis, guided practice, and class drills emphasizing pronunciation, enunciation, and articulation. Credit for both COMS 1342 and DRAM 2336 will not be awarded.

### **COMM 2302. Business and Professional Speaking. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of communication in business and professional organizations. Special emphasis will be given to applying thinking skills, teamwork, and personal responsibility to development of speaking skills, interviewing, team-building skills, and a knowledge of organizational communication.

### **COMM 2308. Broadcast Production. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will cover on air performance for both radio and TV, audio production, writing for broadcasting and producing radio and television programming. Areas will include radio, TV, podcasting and in studio and remote broadcast.

### **COMM 2311. News Gathering & Writing I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Fundamentals of news writing and reporting. Students will learn basic newspaper style and compose stories using traditional stylebook techniques. Students will learn how to write stories for both print, broadcast and online media. Prerequisites: ENGL 1301 and ENGL 1302.

### **COMM 2322. Survey of Social Media. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In this course students will look at the expansion of social media in the public relations field, learn basic strategies of social networks, blogs, RSS feeds, media sharing, tagging and other social media platforms, and practice the development of social media plans and infographics.

### **COMM 2325. Event Coordination. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Fundamentals for professional coordination of special events in various types and styles. Topics focus on event implementation as an essential element of public relations management. Activities center on event logistics, promotions, monitoring, and client liaison.

### **COMM 2333. Broadcast Journalism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of broadcast news practices. The basic rules of broadcast news writing will be reviewed and stories will be written and delivered for both radio and television. Studio and newsroom procedures will be examined. Prerequisites: COMM 2311.

### **COMM 3303. Debate. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the principles of argumentation and debate. Subject material will include research, evidence, reasoning, case construction, refutation, and delivery. Classroom debating will provide students with opportunities to observe and participate in competitive debating. This course is particularly applicable to those anticipating study in pre-law. Prerequisites: COMM 1311, or 1315, or 2302 or permission of the department head.

### **COMM 3304. Interpersonal Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course designed to improve individual communication skills relevant to human relationships. The development and maintenance of interpersonal (one-to-one) relations are examined, with special emphasis on identifying and correcting communication breakdown. A portion of the course will be devoted to exercises designed to improve interpersonal skills. Prerequisite: COMM 1311, or 1315, or 2302 or permission of the department head.

### **COMM 3305. Environmental Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to improve students' understanding of the human communication process in shaping perceptions of and relationships with nature and environmental decision making. Prerequisites: COMM 1311, 1315 or COMM 2302.

### **COMM 3308. Digital Video Production. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduces students to the collaborative process of narrative and non-narrative production while fostering the creation of an individual voice. Students learn the basic techniques and aesthetics of single-camera production, including shot composition, lighting and graphic effects. Students also learn techniques of digital post-production editing.

### **COMM 3310. Communication Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines First Amendment case law and state and federal regulations of speech and media. Provides historical and contemporary analyses of the laws of defamation; obscenity; fighting words; and time, place and manner restrictions. Issues such as copyright, privacy, and freedom of information will also be covered. Prerequisite: 3 hours of COMS or approval of department head.

### **COMM 3311. Feature Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course is a course in our journalism sequence. The class focuses on magazine writing, feature writing, editorial and review writing. The course also focuses on free lance and professional writing and reporting skills. Prerequisites: COMM 2311 or approval of department head.

### **COMM 3312. Travel Writing and Blogging. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines writing about travel and tourist destinations for different media. The course examines how traveling writing and blogging is done from different perspectives and examines the ethical and practical issues that guide the process. Prerequisite: COMM 2311.

### **COMM 3317. News and Feature Writing I. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course focuses on writing and reporting both hard news and feature stories. There will requirements that students report, write and edit features and news stories with the goal of publication. Prerequisites: COMM 2311. Lab fee: \$5.

### **COMM 3318. News and Magazine Editing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The basics of story placement and layout, copy and style editing. This course would emphasize the role and responsibilities of different editorial departments as well as the overall responsibility of editorial management. Prerequisites: ENGL 3310 or consent of the instructor.

**COMM 3319. News and Feature Writing II. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course focuses on writing and reporting both hard news and feature stories. There will be requirements that students report, write and edit features and news stories with the goal of publication. Prerequisites: COMS 211 or COMM 2311. Lab fee: \$5.

**COMM 3320. Public Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the theory, history, and principles of public relations programs for profit and nonprofit organizations, including media relations, crisis management, ethics, social responsibility, and related topics. Critical analysis of public relations is an integral part of the course as is extensive hands-on volunteer work.

**COMM 3321. Advertising. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analysis of advertising in modern society, including history, design and effects of advertising. Students will study the uses of different media for advertising purposes, working in teams to achieve common goals.

**COMM 3323. Political Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analysis of political campaigns in modern society, including history, design and effects of campaigns. Students will study the uses of different media for campaign purposes, working in teams to achieve common goals.

**COMM 3325. Organizational Spokespeople. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analysis of organizational spokespersons in modern society, including history, ghost writing, and effects of their roles and statements. Students will study the uses of different media for spokesperson purposes, working in teams to achieve common goals.

**COMM 3328. Public Relations Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Study and practice in the techniques of writing and producing public relations materials with an emphasis on creativity and aligning work to targeted publics. Teamwork and portfolio development are integral learning components of the course. Prerequisites: Have a C or better in COMM 2311 and COMM 3320 or permission of instructor.

**COMM 3329. Travel & Tourism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This class covers the way travel and tourism affects the local economy and how Convention & Visitor Bureaus (CVBs) and other local entities "sell" locals and properties to potential customers.

**COMM 3332. Intercultural Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of intercultural communication theories and how they shape interpersonal, small group, and public interactions. Students will observe, participate, and analyze intercultural interactions on campus and in the community.

**COMM 3340. Persuasion. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of persuasive communication theory in interpersonal, small group, and public settings. Emphasis on audience analysis, ethics, motivational factors, source credibility, compliance gaining and theories of attitude change. Prerequisites: COMM 1311, 1315 or 2302.

**COMM 3384. Documentary Film. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine the history of the international documentary film movement from 1923 to the present. Students will examine a variety of different documentary films from different cultures and time periods.

**COMM 3500. Sports Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the role of communication in the sports industry. The class will examine the history of sports journalism and the role of mass media as well as some of the common conceptual models and theories used in sports communication studies. Additionally, the influence of digital, mobile, and social media platforms will be considered, as well as the functions of marketing and public relations.

**COMM 4085. Communications Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Content varies according to the needs and desires of the students. When topic varies, course may be taken for credit more than once. Prerequisite: Junior classification or approval of department head.

**COMM 4086. Communication Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

A course featuring independent reading, research, and discussion under personal direction of instructor, topics vary according to student need. Open to students of senior classification with department head approval.

**COMM 4205. Practicum in Journalism. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

Practicum in Journalism requires a demonstrated proficiency in a variety of activities related to writing, reporting, editing and publishing.

**COMM 4301. Media Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will cover business and sales in a comprehensive media environment, as well as issues such as advertising sales, personnel and budget management, and planning and executing of media programming including documentaries.

**COMM 4304. Organizational Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced study of communication as it takes place in business and industrial settings. Special attention will be given to managerial communication, communicator style, channels and networks, and organizational communication consulting. Prerequisite: COMM 1311 or COMM 1315 or COMM 2302.

**COMM 4309. Advanced Reporting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A capstone course for Journalism students. This course will provide advanced studies for reporting, news writing, newsgathering, interviewing, records evaluation and investigative techniques. Students will be required to submit articles for publication and provide evidence of superior writing skills. Prerequisites: COMM 3310, 3311, and 3318, or with department head approval.

**COMM 4310. Computer-Mediated Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course designed to introduce students to key concepts of social networking websites/applications, enable students to interact with others through hands-on experiences on social networking websites/applications, and provide students with experiences to critically analyze the positive and negative aspects of communicating (interpersonal, small group, organizational, etc.) with others through social networking websites/applications.

**COMM 4312. Rhetorical & Communication Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A general survey of classical through contemporary rhetorical and communication theory. Emphasis on how theories have been and are being applied in criticism of public address and rhetorical movements and in contemporary communication research. Prerequisites: COMM 1311, or 1315, or 2302, or permission of the department head.

**COMM 4320. Event Planning and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Application of public relations processes to the planning and management of special events in various types and styles. Topics include theme development, budgeting, creative design, logistics, promotions, monitoring, client liaison, evaluation, and other relevant aspects of event planning and management. Prerequisite: COMM 2325 or permission of the instructor.

**COMM 4324. Trade Show Planning and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides background and practice in the processes and techniques of trade show planning and management. It applies public relations' four-step process (research, planning, execution, and evaluation) to trade shows. Specifically, students will develop budgets, creative designs, logistics, promotions, and appropriate monitoring and evaluation. Prerequisite: COMM 2325 (B or better).

**COMM 4325. Applied Public Relations and Event Planning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Hands-on application central to the professional practice of public relations and event planning. Emphasis is on collaboration, critical thinking, problem solving, decision-making, client work, portfolio development, and career preparation. Prerequisites: Must have a C or better in COMM 3320 and COMM 3328 or instructor permission.

**COMM 4339. Teamwork and Decision Making. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of work teams, small group theory and processes. Special attention will be given to leadership, organization, group analysis, and interaction. Students will observe and participate in work teams and discussions on contemporary issues regarding teamwork such as virtual work teams. Prerequisite: COMM 1307, 3304, 3310, and at least 6 hours of senior-level COMM.

**COMM 4384. Communications Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Approved and supervised work experience in communications related positions. May be repeated once for a total of 6 hours of academic credit. Prerequisites: Junior standing, 12 hours COMM, and approval of the department's appropriate concentration coordinator.

## English and Languages

Dr. Chris Morrow  
 Department of English & Languages  
 O.A. Grant Building, Room 327  
 Box T-0300  
 Stephenville, Texas 76402  
 (254) 968-9039  
 cfmorrow@tarleton.edu  
 www.tarleton.edu/english (<http://www.tarleton.edu/english/>)

The Department of English and Languages offers programs leading to Bachelor of Arts degrees in English and Spanish (either with or without secondary educator certification). A technical writing emphasis is available in conjunction with the BA in English. In addition, the department offers course sequences leading to academic minors in English, Technical Writing, and Spanish. (For details on the English minor, please consult an advisor or the Department Head.) On the graduate level, the department offers the Master of Arts degree in English. The graduate section of this catalog contains further information about the graduate program (p. 432).

### The Bachelor of Arts Degree In English

#### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>		42
ENGL 1301 [shared]	Composition I	
ENGL 1302 [shared]	Composition II	
Foreign Language 1411, 1412, 2311, 2312		14
HIST 2321	World Civilizations I	3
HIST 2322	World Civilizations II	3
ENGL 3315	Foundations of Literary Research and Analysis	3
Total Hours		65

#### Additional Required Courses for Concentrations

##### Without Teacher Certification

Select from the following:		3
ENGL 3309	Technical writing and Document Design	
ENGL 3310	Technical Writing and Editing	
ENGL 3330	Advanced Composition	
Sophomore English [shared]		
ENGL 4315	Senior Literacy Seminar	3
Advanced ENGL Electives		18
Advanced Electives		18
Electives		13
Total Hours		55

##### Teacher Certification

ENGL 2350 [shared]	Backgrounds of Western Literature	
Select two of the following:		6
ENGL 3309	Technical writing and Document Design	
ENGL 3310	Technical Writing and Editing	
ENGL 3330	Advanced Composition	
ENGL 4315	Senior Literacy Seminar	
ENGL 3301	American Literature to 1865	3
ENGL 3302	American Literature Since 1865	3
ENGL 3320	Advanced Grammar	3
ENGL 4300	Shakespeare	3
ENGL 4301	British Literature I	3
ENGL 4302	British Literature II	3
ENGL 4311	Studies in Rhetoric and Language	3
ENGL 4360	Advanced Studies in Secondary English	3
Select one of the following:		3
ENGL 3341	Cultural Studies	
ENGL 3342	Genre Studies	
EDUC 3321	Foundations of Teaching: Middle and Secondary Classrooms	3
EDSP 4361	Teaching Strategies for Adolescent Students with Learning Disabilities	3

EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
EDUC 4335	Issues of Professionalism	3
EDUC 4690	Clinical Teaching	6
Select one of the following:		3
PSYC 2308	Child Psychology	
PSYC 3303	Educational Psychology	
CHFS 3300	Child Development	
READ 3351	Content Area Literacy	3
Elective		3
Total Hours		60

### Technical Writing Emphasis

Sophomore English [shared]		
ENGL 3309	Technical writing and Document Design	3
ENGL 3310	Technical Writing and Editing	3
ENGL 3312	Graphics and Technical Writing	3
ENGL 3320	Advanced Grammar	3
ENGL 4312	Technical Writing and Computer Applications	3
ENGL 4320	Writing for Electronic Mediums	3
Select two of the following:		6
ENGL 3330	Advanced Composition	
ENGL 3370	An Introduction to Linguistics	
ENGL 4311	Studies in Rhetoric and Language	
Select one of the following:		3
ENGL 3342	Genre Studies	
ENGL 3343	Creative Writing	
ENGL 4335	Film Studies	
Advanced Electives		15
Electives		13
Total Hours		55

<sup>1</sup> Please see Academic Information section.

### The Bachelor of Arts Degree in Spanish

#### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>		42
SPAN 1411	Beginning Spanish I	4
SPAN 1412	Beginning Spanish II	4
SPAN 2311	Intermediate Spanish I	3
SPAN 2312	Intermediate Spanish II	3
SPAN 3303	Spanish Grammar for Composition	3
SPAN 4300 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundation in Literary Studies	3
SPAN 3301 or SPAN 3302	Oral Proficiency in Spanish Spanish for Heritage or Native Speakers	3
SPAN 4306	Culture and Civilization of Spain and Latin America	3
SPAN 4307 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Advanced Oral and Writing Skills	3
HIST 2321 [shared]	World Civilizations I	
HIST 2322	World Civilizations II	3
Total Hours		74

#### Additional Required Courses for Concentrations

##### Without Teacher Certification

Select three of the following (one of which must be SPAN 4301 or SPAN 4302): <sup>2</sup>		9
SPAN 4301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Survey of Peninsular Literature	
SPAN 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Survey of Spanish-America Literature	
SPAN 4303	Chicano Literature in Spanish	
SPAN 4304	The Caribbean Experience	
SPAN 4305	Modernismo	
SPAN 4308 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	The Short Latin American Novel	
Sophomore Literature		3



Electives (21 hours Advanced)		34
Total Hours		46
<b>Spanish Teacher Certification</b>		
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
Select three of the following (one of which must be SPAN 4301 or SPAN 4302): <sup>2</sup>		9
SPAN 4301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Survey of Peninsular Literature	
SPAN 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Survey of Spanish-America Literature	
SPAN 4303	Chicano Literature in Spanish	
SPAN 4304	The Caribbean Experience	
SPAN 4305	Modernismo	
SPAN 4308 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	The Short Latin American Novel	
EDUC 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Middle and Secondary Classrooms	3
EDSP 4361	Teaching Strategies for Adolescent Students with Learning Disabilities	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
EDUC 4335	Issues of Professionalism	3
EDUC 4690	Clinical Teaching	6
Select one of the following:		3
PSYC 2308	Child Psychology	
PSYC 3303	Educational Psychology	
CHFS 3300	Child Development: Theory, Research, and Practice	
READ 3351 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Content Area Literacy	3
ENGL 2350	Backgrounds of Western Literature	3
SPAN 4309	Spanish Language Pedagogy	3
Electives		7
Total Hours		46

<sup>1</sup> Please see Academic Information section.

<sup>2</sup> Only one of these courses can be taken abroad.

## Minor in Spanish

### Required Courses

SPAN 1303 or SPAN 1411	Basic Spanish for Vocations Beginning Spanish I	3
SPAN 1412	Beginning Spanish II	4
SPAN 2311	Intermediate Spanish I	3
SPAN 2312	Intermediate Spanish II	3
SPAN 3301 or SPAN 3302	Oral Proficiency in Spanish Spanish for Heritage or Native Speakers	3
SPAN 3303	Spanish Grammar for Composition	3
Total Hours		19

## Minor in Technical Writing

### Required Courses

ENGL 1301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	3
ENGL 1302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	3
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical writing and Document Design	3
Sophomore Literature		3
Select two of the following:		6

ENGL 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Editing
ENGL 3312	Graphics and Technical Writing
ENGL 4312	Technical Writing and Computer Applications
ENGL 4320	Writing for Electronic Mediums

Total Hours

18

## Professors

- Dodson, Samuel Dr.
- Mollick, Kathleen Dr.
- Morrow, Chris Dr.
- Quazi, Moumin Dr.
- Shipman, Mark Dr.
- Tanter, Marcy Dr.
- Urban, Ivelisse Dr.
- Young, Mallory Dr.

## Associate professors

- Barrett, Jeanelle Dr.
- McPherson, Cynthia Dr.
- Marrugo-Puello, Cecilia Dr.
- Robitaille, Marilyn Dr.
- Sword, Benjamin Dr.

## Assistant professors

- Barlow, Renee Dr.
- Brister, Loretta Ms.
- Dooley, Michael Mr.
- Hinson, Katrina Dr.
- Jones, William (Hank) Mr.
- Oldman, Ruth (Meg) Dr.
- Pennell, Therese Dr.
- Tober, Edward Mr.

## Instructors

- Bell, Janet Ms.
- Bond, Elson Dr.
- McCutchen, Minerva Ms.
- Richey, Carolyn Ms.
- Thompson, Andrea Ms.
- Thornton, Molly Ms.

## English Courses

### ENGL 0303. Basic Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).

Provides students with instruction in the basics of acceptable writing, with special focus on preparing them to succeed in the writing demanded throughout the Tarleton State University freshman composition sequence. The course helps students address writing problems by work in such areas as the composing process, arrangement, cohesion, paragraphing, syntax, and use of evidence. The course also helps students (on an individual basis) with their particular problems in grammar, usage, punctuation, and spelling. A student must earn a grade of at least C in order to progress to ENGL 1301. The course will not substitute for any other course and does not count for degree credit.

### ENGL 1100. Transitioning to University Studies in English. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).

Practical study designed to introduce English majors to university life and to the career possibilities available in this major. Students will develop skills for academic success, development of personal growth and responsibility, and will engage in active involvement in the learning process from an individual college perspective.

### ENGL 1301. Composition I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A prerequisite to English 1302, the course introduces students to the diverse characteristics of writing for academic contexts. Students in English 1301 write about ideas, in particular responding analytically and critically to written sources. The course helps students become familiar with academic audiences, situations, purposes, genres, and some primary conventions (style, arrangement) of those genres. Moreover, students work to develop their own composing processes, particularly for ways of inventing ideas, planning, and revising their texts.

### ENGL 1302. Composition II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A sequel to English 1301, this course introduces students to research in academic contexts. Students address questions such as What is it for? What are its limitations? What are some of its shapes? How does one go about it? The course introduces students to a variety of research methods, systems of documentation, contemporary library resources, and research genres. Among other writing tasks for the course, each student is expected to carry out his/her own research study for possible publication in The Tarleton Freshman Writer. Prerequisite: ENGL 1301.

### ENGL 2320. Forms of Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A genre-based study of predominantly modern literary works. Students will analyze form and content with particular emphasis on the vocabulary and techniques germane to literature, investigate its attendant treatment as an academic discipline, and explore its aesthetic connections to human experience. Prerequisites: ENGL 1301 and 1302.

### ENGL 2340. Literature and Film. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A study of styles, components, and techniques of literary genres, with particular attention to the medium of film as it relates to literary expression. Students will be required to source films from streaming services or library resources. Prerequisites: ENGL 1301 and 1302 or prior approval of department head.

**ENGL 2350. Backgrounds of Western Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of major works in translation which provide the foundation for the literary tradition of the modern Western world, emphasizing, but not limited to, the Ancient World, the Middle Ages, and the Renaissance. Prerequisite: ENGL 1301 and 1302.

**ENGL 3195. Written Discourse Theory and Application. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Students will receive instruction and training in written discourse theory and practice as appropriate and necessary preparation for tutoring in the University Writing Center and/or the English and Languages Department Language Arts Lab. Students must receive prior approval to enroll. Prerequisites: ENGL 1301, 1302, 3 hours sophomore ENGL, and approval of Writing Program Director and Writing Center Directors.

**ENGL 3301. American Literature to 1865. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

From the beginnings to 1865. A critical survey of major writers and movements with emphasis upon such representative authors as Poe, Emerson, Hawthorne, Thoreau, Dickinson, and Melville. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 3302. American Literature Since 1865. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

From 1865 to the present. A critical survey of major writers and movements with emphasis on such representative authors as Crane, Howells, Frost, Hemingway, and Faulkner. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which may be taken concurrently.

**ENGL 3309. Technical Writing and Document Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Process of developing technical information, including researching, drafting, editing, revising, and designing technical reports, proposals, manuals, job application documents and professional correspondence for specific audiences, using word processing and graphic applications. Prerequisites: ENGL 1301 and 1302.

**ENGL 3310. Technical Writing and Editing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Study of advanced technical communication situations such as formal reports, grant proposals, and professional articles, and extensive discipline-specific professional level practice in these forms. Study of general editorial techniques in formats, graphics, and layout and design methods in technical publications. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL, ENGL 3309.

**ENGL 3312. Graphics and Technical Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course will examine the integration of graphic components in printed and electronic mediums. Students will use computer applications to compose and design graphics such as bar graphs, organizational charts, flow charts, diagrams, and drawings. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL, ENGL 3309.

**ENGL 3315. Foundations of Literary Research and Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An introduction to the skills, practices, and perspectives that inform literary research and analysis. The course explores how careful reading, close textual analysis, and creative and informed research methodology culminate in cogent and substantive critical essays about literary texts. The course includes discussion of the formal conventions of major literary genres as well as discussion of concepts such as relationships of literary texts to histories and cultures, the formation of canons, literary movements, and theoretical perspectives that inform literary analysis. This course is required only for majors. May be taken concurrently with other advanced English literature courses. Prerequisites: ENGL 1301, 1302, and 3 hours of Sophomore English.

**ENGL 3320. Advanced Grammar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the grammatical structure of modern English at the level of word, clause, and discourse presented through the application of the principles of descriptive grammars, accompanied by a review of current prescriptive grammars. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL.

**ENGL 3330. Advanced Composition. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Students will examine the rhetoric of composition through intensive writing workshops and close reading of composition-related texts. The goals of the course are (1) to discover and define some coherent relations between rhetoric and composition; (2) to challenge the students' presuppositions about essayistic space through a process of peer- and instructor-reviewed writing workshops. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL, or prior approval of department head.

**ENGL 3341. Cultural Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course explores an array of diverse cultural and historical contexts through literature produced outside the common British and American traditions. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 3342. Genre Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Literary genres consist of related kinds of works, combining content and form, gradually changing as their cultures change. The purpose of generic study is an understanding of literary tradition and of the way in which authors speak to their times, and to all times, through the genres they inherit and modify. This course will provide an intensive study of one or more genres. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 3343. Creative Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on the craft and art of writing narrative, poetic, and dramatic discourse. Attention to the conception, design, and execution both of the whole work and of elements of figurative language, characterization, dialogue, point of view, and poetic structure, as well as other elements of the craft. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 3370. An Introduction to Linguistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of descriptive linguistics revealing the nature and scope of the characteristics and complexities of human language. Much of the course consists of learning the phonology, morphology, syntax, semantics, and pragmatics of modern English. Attention will also be focused on the nature and diversity of the rule-bound creativity underlying the tacit systematic use of human language. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL.

**ENGL 3390. Readings in Adolescent Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Survey of literature with a focus on teenage audiences. Readings will include both classics and contemporary selections. Study will be concerned with increasing student understanding of unique aspects of adolescent literature and its application in public school curricula. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 4086. English Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A course featuring independent reading, research, and discussion under personal direction of instructor, topics to vary according to student need. Open to students of senior classification with prior approval of department head.

**ENGL 4300. Shakespeare. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in depth study of representative types of Shakespeare's drama and poetry. Credit for both ENGL 4300 and DRAM 4300 will not be awarded. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 4301. British Literature I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A chronological study of the works of the principal authors and their historic backgrounds from approximately 700 A.D. to the end of the eighteenth century. The writers considered include Chaucer, Shakespeare, Milton, Pope, and Swift. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 4302. British Literature II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A chronological study of the works of the principal authors and their historic backgrounds from the end of the eighteenth century to the present. The writers considered typically include Wordsworth, Coleridge, Tennyson, Browning, and Eliot. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 4311. Studies in Rhetoric and Language. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course offers advanced study in the theory, nature, and practice of written discourse. Special emphasis is given to helping students investigate language theoretically as a background for their own professional and personal use. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL.

**ENGL 4312. Technical Writing and Computer Applications. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of and practice in use of word processing and desktop publishing in document design and publication. Prerequisites: ENGL 1301, 1302, 3 hours sophomore ENGL, ENGL 3309, ENGL 3312.

**ENGL 4315. Senior Literary Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course offers an opportunity for students to engage in an intensified, focused, well-defined study. Possibilities include the examination of a particular writer, groupings of writers, a specific geographic region, and/or literary criticism. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 4320. Writing for Electronic Mediums. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced study of and practice in writing for electronic mediums with a primary focus on planning, designing, and composing professional pages for the world wide web. Prerequisites: ENGL 1301, 1302, 3 hours sophomore ENGL, ENGL 3309, 3312.

**ENGL 4335. Film Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of movies both as dramas - involving plot, characterization, theme, etc. - and as artistic productions - involving shots, cuts, and other film techniques. Other aspects of film criticism are covered. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 4360. Advanced Studies in Secondary English. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course applies the standards of the National Council of Teachers of English to the curriculum of secondary English. It provides an intensive review of composition principles, language conventions, literary genres, and computer instructional technology. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL.

## Spanish Courses

**SPAN 1100. Transitioning to University Studies in Spanish. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to introduce Spanish majors to university life and to the career possibilities available for these majors. Students will develop skills for academic success, development of personal growth and responsibility, and will engage in active involvement in the learning process from an individual college perspective.

**SPAN 1303. Basic Spanish for Vocations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Instruction and practice in understanding and speaking basic colloquial Spanish encountered in a particular occupational context such as farming, ranching, or law enforcement. May be taken for elective credit and may also satisfy specified program requirements.

**SPAN 1411. Beginning Spanish I. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduction to the Spanish language for communication following the American Council on Teaching Foreign Languages (ACTFL) guidelines at the novice mid-level. Applies the four-skills approach of reading, writing, listening, and speaking. Integrated classroom instruction and electronic language lab. Lab fee: \$2.

**SPAN 1412. Beginning Spanish II. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Continuation of four-skills introduction to the Spanish language for communication following the American Council on Teaching Foreign Languages (ACTFL) guidelines at the novice-high level. Applies the four-skills approach of reading, writing, listening, and speaking. Integrated classroom instruction and electronic language lab. Prerequisite: SPAN 1411 or equivalent as approved by department head. Lab fee: \$2.

**SPAN 2311. Intermediate Spanish I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Continuation of four-skills introduction to the Spanish language for communication following the American Council on Teaching Foreign Languages (ACTFL) guidelines at the intermediate-mid level. Applies the four-skills approach of reading, writing, listening, and speaking. Prerequisite: SPAN 1412.

**SPAN 2312. Intermediate Spanish II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Continuation of four-skills introduction to the Spanish language for communication following the American Council on Teaching Foreign Languages (ACTFL) guidelines at the intermediate-high level. Applies the four-skills approach of reading, writing, listening, and speaking. Prerequisite: SPAN 2311.

**SPAN 3300. Hispanic Culture Study Abroad. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of modern day cultural manifestations and practices; study of representative art works, including architectural ones. Cultural immersion experience in Spain or Latin America, wherever Spanish study abroad is conducted.

**SPAN 3301. Oral Proficiency in Spanish. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussions of relevant cultural and social issues in Spanish, with increased emphasis on understanding native Spanish and responding to it. Either SPAN 3301 or SPAN 3302 will be counted toward degree, not both. Prerequisites: SPAN 2312 or equivalent and approval of program coordinator.

**SPAN 3302. Spanish for Heritage or Native Speakers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of writing skills for heritage or native speakers, addressing spelling, structure, and the differentiation of colloquial Spanish from formal or standard Spanish. Either SPAN 3301 or SPAN 3302 will be counted toward degree, not both. Prerequisites: SPAN 2312 or equivalent and approval of program coordinator.

**SPAN 3303. Spanish Grammar for Composition. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Development of writing skills in Spanish and analysis of key elements of Spanish grammar as a tool for efficient writing. Prerequisite: SPAN 2312.

**SPAN 4086. Spanish Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A course featuring independent reading, research, and discussion under personal direction of the instructor. Topics vary according to student needs. Prerequisites: Either SPAN 3301 or SPAN 3302; and 3303, and approval of department head.

**SPAN 4300. Foundation in Literary Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Introduction to the study of Hispanic Literature and to the study of narrative, poetic and dramatic genres. Overview of literary movements in Spanish and Latin American Literature and to textual commentary and analysis. Prerequisite: SPAN 3301 or SPAN 3302 and SPAN 3303; or approval of instructor.

**SPAN 4301. Survey of Peninsular Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An overview of the literature and literary movements of Spain. Commentary and analysis of Spanish texts from the "Poema del Mio Cid" to the 20th century.

**SPAN 4302. Survey of Spanish-America Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An overview of the literature and literary movements of Spanish America. Commentary and analysis of Spanish American texts from the chronicles of the conquistadors to the 20th century. Pre-requisite: SPAN 4300 or approval of instructor.

**SPAN 4304. The Caribbean Experience. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course studies the Hispanic Caribbean: Cuba, The Dominican Republic and Puerto Rico, in its many cultural dimensions. We will survey the historic background of these three Caribbean islands and study a sample of their literary production. Prerequisites: SPAN 4300.

**SPAN 4305. Modernismo. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course studies Spanish American Modernismo as a literary generation and as a product of the end of the nineteenth century. Included in the study will be poetry, fiction, and essays from various Modernista writers. Prerequisites: SPAN 4300.

**SPAN 4306. Culture and Civilization of Spain and Latin America. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An historical and cultural overview of Spain and Latin America. Major historical events and manifestations that have shaped the Spanish and Latin American culture and civilizations are studied. This course is an introduction to the cultural, historical, and sociopolitical realities of Spain and Latin America. Prerequisites: SPAN 3303 and either SPAN 3301 or SPAN 3302; or approval of instructor or department head.

**SPAN 4307. Advanced Oral and Writing Skills. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course provides practice of both speaking and writing in the Spanish language, building on the skills acquired in SPAN 3303 and 3306. The language functions will be practiced at the advanced level required for the Texas Oral Proficiency Test (TOPT). Prerequisites: SPAN 3303 and either SPAN 3301 or SPAN 3302.

**SPAN 4308. The Short Latin American Novel. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course studies some important short Latin American novels, with a main focus in the 20th century. To have a better understanding of these narratives, the historical background of some Latin American countries during this time period will be discussed. Prerequisite: 4300 or approval of instructor.

**SPAN 4309. Spanish Language Pedagogy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course provides a theoretical background on the currents methods of teaching Spanish as a second language. The course presents the basic concepts of second language acquisition. Prerequisite: SPAN 4307.

## Fine Arts

Dr. Vicky V. Johnson, Department Head  
 Department of Fine Arts  
 Clyde H. Wells Fine Arts Center, Room 105  
 Box T-0320  
 Stephenville, Texas 76402  
 (254) 968-9245  
 (254) 968-9239  
 vjohnson@tarleton.edu  
 www.tarleton.edu/finearts (<http://www.tarleton.edu/finearts/>)

Ms. Sally Simpson, Administrative Associate  
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 ssimpson@tarleton.edu  
 www.tarleton.edu/finearts (<http://www.tarleton.edu/finearts/>)

The Department of Fine Arts offers programs in Art, Digital Media Studies, Fashion Studies, Music, and Theatre. The department offers a Bachelor of Fine Arts degree in Art (with or without secondary certification, or with an emphasis in Digital Media), an interdisciplinary Bachelor of Science degree in Digital Media Studies (with an emphasis in Media or Game Design), a Bachelor of Arts in Music (with an emphasis in Jazz Studies, Music Business, or Musical Theatre), a Bachelor of Music with teacher certification, a Bachelor of Music in Performance, and a Bachelor of Fine Arts in Theatre (with or without secondary certification, or with an emphasis in Musical Theatre).

The department also offers minors in the following areas: Art, Digital Media Studies, Jazz Studies, Music, Music Business, Musical Theatre, and Theatre. Recommendations concerning a student's minor and course requirements are made to the department head by academic advisors.

## The Bachelor of Fine Arts Degree in Theatre

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
Sophomore Literature [shared]		
Select one of the following [shared]:		
COMM 1311	Introduction to Speech Communication	
COMM 1315	Public Speaking	
COMM 2302	Business and Professional Speaking	
DRAM 1351	Acting I	3
DRAM 1220	Theatre Practicum	2
DRAM 1220	Theatre Practicum	2
DRAM 1108	Production Crafts Practicum	1
DRAM 1108	Production Crafts Practicum	1
DRAM 1341	Makeup	3
DRAM 1330	Stagecraft I	3
DRAM 2331	Stagecraft II	3
DRAM 2361 [shared]	History of the Theatre I	
DRAM 2362	History of the Theatre II	3
DRAM 3300	Scene Design and Construction	3
DRAM 3301	Costume Design and Construction	3
DRAM 3302	Directing	3
DRAM 4300	Shakespeare	3
DRAM 4304 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Dramatic Theory & Criticism	3
DRAM 4307	Theatre Management	3

FINA 3301	The Arts in Contemporary Society	3
Total Hours		84

### Additional Required Courses for Concentrations

#### Theatre Generalist

DRAM 2333	Theatrical Drawing and Drafting	3
DRAM 4384	Internship	3
Advanced DRAM Electives		12
Advanced Electives		10
Foreign Language		8
Total Hours		36

#### Theatre Education

DRAM 3303	Lighting for the Theatre	3
DRAM 3304	Sound for the Theatre	3
DRAM 3305	Theatre for Young People	3
DRAM 3373	Theatre for the Classroom	3
EDUC 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Middle and Secondary Classrooms	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
EDSP 4361	Teaching Strategies for Adolescent Students with Learning Disabilities	3
EDUC 4335	Issues of Professionalism	3
EDUC 4690	Clinical Teaching	6
READ 3351 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Content Area Literacy	3
Choose one of the following:		3
CHFS 3300	Child Development: Theory, Research, and Practice	
PSYC 2308	Child Psychology	
PSYC 3303	Educational Psychology	
Foreign Language		4
Total Hours		40

#### Musical Theatre

DRAM 1352	Acting II	3
DRAM 3271	Musical Theatre Dance I	2
DRAM 3272	Musical Theatre Dance II	2
DRAM 4302	Directing II	3
DRAM 4384	Internship	3
Advanced DRAM electives		6
MUAP 1231	Applied Music for Majors	2
MUAP 1232	Applied Music for Majors	2
MUAP 2231	Applied Music for Majors	2
MUAP 2232	Applied Music for Majors	2
MUAP 3231	Applied Music for Majors	2
MUSI 1116	Aural Skills I	1
MUSI 1311	Music Theory I	3
MUEN 3152	Musical Theatre/Opera Workshop	1
MUEN 3152	Musical Theatre/Opera Workshop	1
MUEN 3152	Musical Theatre/Opera Workshop	1
Total Hours		36

### Additional Information for All Theatre Majors

All theatre majors must receive an overall grade of C or better in any theatre course that applies to their degree.

In addition, all theatre students should become familiar with the current Theatre Major Handbook (<https://www.tarleton.edu/finearts/theatre/theatrehandbook.pdf>) and abide by the policies and procedures therein.

### The Bachelor of Fine Arts Degree in Art

#### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>		42
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
Sophomore Literature [Shared]		
ARTS 1303 [shared]	Art History I	

ARTS 1304	Art History II	3
ARTS 1311	Design I	3
ARTS 1312	Design II	3
ARTS 1316	Drawing I	3
ARTS 1317	Drawing II	3
ARTS 2316	Painting I	3
ARTS 2348	Digital Art I	3
ARTS 2326	Sculpture I	3
ARTS 2356	Photography I	3
ARTS 3332	Contemporary Movements in Art	3
ARTS 3333	Art History of the Non-Western World	3
ARTS 4390 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Art/ Digital Media Portfolio Capstone	3
FINA 3301	The Arts in Contemporary Society	3
Total Hours		81

### Additional Required Courses for Concentrations

#### Studio Art

ARTS 4371	Advanced Studio Production	3
Advanced ARTS Electives		21
Electives		3
Advanced Electives		12
Total Hours		39

#### Teacher Certification

Choose one of the following [Shared]:

COMM 1311	Introduction to Speech Communication	
COMM 1315	Public Speaking	
COMM 2302	Business and Professional Speaking	
ARTS 3311	Experimental Media Studio	3
ARTS 3341	Painting II	3
ARTS 3351	Sculpture II	3
ARTS 3310	Introduction to Art Education	3
Advanced ARTS Electives		3
EDUC 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Middle and Secondary Classrooms	3
EDSP 4361	Teaching Strategies for Adolescent Students with Learning Disabilities	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
EDUC 4335	Issues of Professionalism	3
EDUC 4690	Clinical Teaching	6
Select one of the following:		3
PSYC 2308	Child Psychology	
PSYC 3303	Educational Psychology	
CHFS 3300	Child Development: Theory, Research, and Practice	
READ 3351 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Content Area Literacy	3
Total Hours		39

<sup>1</sup> Please see Academic Information section.

### The Bachelor of Science Degree in Digital Media Studies

#### Field of Study Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
Sophomore Level English [shared]		
MATH 1314 [shared]	College Algebra	

#### Other Required Courses

ARTS 1316	Drawing I	3
ARTS 2348	Digital Art I	3
ARTS 4390 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Art/ Digital Media Portfolio Capstone	3

COSC 1302	Introduction to Computer Science	3
ARTS 4371	Advanced Studio Production	3
Advanced Art Electives (See your Advisor) - Choose from the following:		9
ARTS 3360	Graphic Design I	
ARTS 3362	Narrative Illustration I	
ARTS 3363	Tradigital Animation I	
ARTS 3365	Special Effects and Compositing I	
ARTS 3366	3D Video Game Environment I	
ARTS 4370	Interaction Design	

Total Hours 66

**Additional Required Courses for Concentrations**

**Media Production**

ARTS 1311	Design I	3
ARTS 2356	Photography I	3
BCIS 3315	Web Development	3
COMM 3308	Digital Video Production	3
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	3

ENGL 3312 Graphics and Technical Writing 3  
 Advanced Art Electives (See your Advisor) - Choose from the following: 15

ARTS 3360	Graphic Design I	
ARTS 3361	Photography II	
ARTS 3362	Narrative Illustration I	
ARTS 3363	Tradigital Animation I	
ARTS 3364	3D Animation I	
ARTS 3365	Special Effects and Compositing I	
ARTS 3368	Narrative Film Arts I	
ARTS 4361	Photography III	
ARTS 4362	Narrative Illustration II	
ARTS 4363	Tradigital Animation II	
ARTS 4364	3D Animation II	
ARTS 4368	Narrative Film Arts II	
ARTS 4370	Interaction Design	
ARTS 4372	Collaborative Production	

Advanced Electives (See your Advisor) - Choose from the following: 9

ARTS 3332	Contemporary Movements in Art	
ARTS 3334	History of Photography and Lens-Based Media	
ARTS 4384	Internship in Art or Digital Media	
ARTS 4385	Art Seminar	
BCIS 3300	Computer Technology and Impact	
COMM 3321	Advertising	
COMM 3384	Documentary Film	
COMM 4310	Computer-Mediated Communication	
ENGL 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Editing	
ENGL 3315 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Literary Research and Analysis	
ENGL 3343	Creative Writing	
ENGL 4320	Writing for Electronic Mediums	
ENGL 4335	Film Studies	

Electives (See your Advisor) 12

Total Hours 54

**Game Design**

ARTS 2344	Game Design	3
ARTS 3383	3D Modeling	3
Advanced Art Electives (See your Advisor) - Choose from the following:		6
ARTS 3364	3D Animation I	
ARTS 3365	Special Effects and Compositing I	
ARTS 3366	3D Video Game Environment I	
ARTS 4364	3D Animation II	
ARTS 4365	Special Effects and Compositing II	
ARTS 4366	3D Video Game Environment II	
ARTS 4367	3D Rendering and Lighting	
ARTS 4372	Collaborative Production	



ARTS 4370	Interaction Design	
COSC 1310	Procedural Programming	3
COSC 2321	C++ Programming	3
COSC 2331	Java Programming	3
COSC 2341	Data Structures	3
COSC 3330	Games, Graphics and GUIs	3
COSC 3489 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Software Engineering I	4
MATH 1316 or MATH 2412	Plane Trigonometry Precalculus Math	3
MATH 2413	Calculus I	4
MATH 3310	Discrete Mathematics	3
Advanced Electives		13
Total Hours		54

### Additional Information for All Art and Digital Media Majors

All Art/Digital Media majors must receive an overall grade of C or better in any Art or Digital Media course that applies to their degree.

In addition, all Art and Digital Media students should become familiar with the current Art & Digital Media Major Handbook (<https://www.tarleton.edu/finearts/documents/artdmshandbook.pdf>) and abide by the policies and procedures therein.

### The Bachelor of Arts Degree in Music

#### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
MUAP 1231	Applied Music for Majors	2
MUAP 1232	Applied Music for Majors	2
MUAP 2231	Applied Music for Majors	2
MUAP 2232	Applied Music for Majors	2
MUAP 3231	Applied Music for Majors	2
MUAP 3232	Applied Music for Majors	2
MUAP 4231	Applied Music for Majors	2
Select 8 hours from MUEN 3000 level repeatable ensembles or MUSI 3100		8
MUSI 1116	Aural Skills I	1
MUSI 1117	Aural Skills II	1
MUSI 1181	Piano Class I <sup>1</sup>	1
MUSI 1182	Piano Class II <sup>1</sup>	1
MUSI 1311 [shared]	Music Theory I	
MUSI 1312	Music Theory II	3
MUSI 2116	Aural Skills III	1
MUSI 2117	Aural Skills IV	1
MUSI 2311	Music Theory III	3
MUSI 2312	Music Theory IV	3
MUSI 3211	Conducting I	2
MUSI 3229	World Music	2
MUSI 3327 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Music History I	3
MUSI 3328 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Music History II	3
MUSI 4248	Scoring and Arranging for Ensembles	2
Total Hours		91

### Additional Required Courses for Concentrations

#### Music Business

FINA 3301	The Arts in Contemporary Society	3
MUSI 1320	Introduction to Audio Technology	3
MUSI 1330	Introduction to Music Business	3
MUSI 4301	Music Business Internship	3
MUSI 3202	Artist and Self Management	2
MUSI 3201	Digital Music and Beat Production	2
MUSI 3300	Music Publishing	3
Electives as advised from:		9
ARTS 3360	Graphic Design I	
COMM 4301	Media Management	
COMM 3321	Advertising	
COMM 3308	Digital Video Production	
MGMT 4312	Entrepreneurship	
MUSI 3330	Pro Tools I	

MUSI 3331	Pro Tools II	1
Elective		1
Total Hours		29

**General**

MUSI 4133	Capstone Course in Music	1
FINA 3301	The Arts in Contemporary Society	3
Advanced Electives		15
Electives		6
LANG 1411	Foreign Language Immersion	4
Total Hours		29

**Jazz Studies**

MUSI 1330	Introduction to Music Business	3
MUSI 3202	Artist and Self Management	2
MUSI 4133	Capstone Course in Music	1
MUSI 3325	Jazz History	3
MUSI 2360	Jazz Harmony	3
MUSI 3360	Jazz Improvisation I	3
MUSI 3361	Jazz Improvisation II	3
Select 4 hours from the following: MUSI, MUAP, or MUEN electives		4
Select 7 advanced hours from the following: MUSI, MUAP, or MUEN Electives		7
Total Hours		29

**Musical Theatre**

DRAM 1341	Makeup	3
DRAM 1351	Acting I	3
DRAM 3300	Scene Design and Construction	3
DRAM 3301	Costume Design and Construction	3
DRAM 3303	Lighting for the Theatre	3
DRAM 3302	Directing	3
DRAM 3271	Musical Theatre Dance I	2
DRAM 3272	Musical Theatre Dance II	2
MUEN 3152	Musical Theatre/Opera Workshop	1
MUEN 3152	Musical Theatre/Opera Workshop	1
MUSI 4133	Capstone Course in Music	1
FINA 3301	The Arts in Contemporary Society	3
Elective		1
Total Hours		29

<sup>1</sup> MUAP or MUEN course if student's primary instrument is piano.

**The Bachelor of Music Degree in Performance****Required Courses**

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
MUAP 1231	Applied Music for Majors	2
MUAP 1232	Applied Music for Majors	2
MUAP 2232	Applied Music for Majors	2
MUAP 2231	Applied Music for Majors	2
MUAP 3331	Applied Music for Majors - Performance	3
MUAP 3332	Applied Music for Majors - Performance	3
MUAP 4331	Applied Music for Majors - Performance	3
MUAP 4332	Applied Music for Majors - Performance	3
MUAP 4154	Applied Literature	1
MUAP 4155	Applied Pedagogy	1
MUSI 1116	Aural Skills I	1
MUSI 1117	Aural Skills II	1
MUSI 1181	Piano Class I <sup>1</sup>	1
MUSI 1182	Piano Class II <sup>1</sup>	1
MUSI 1311 [shared]	Music Theory I	1
MUSI 1312	Music Theory II	3
MUSI 2116	Aural Skills III	1
MUSI 2117	Aural Skills IV	1
MUSI 2311	Music Theory III	3
MUSI 2312	Music Theory IV	3
MUSI 3211	Conducting I	2
MUSI 3327 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Music History I	3

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MUSI 3328 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Music History II	3
MUSI 3229	World Music	2
MUSI 3249	Form and Analysis	2
MUSI 4133	Capstone Course in Music	1
MUSI 4248	Scoring and Arranging for Ensembles	2
Foreign Language		4
Total Hours		98

**Additional Required Courses for Concentrations**

**Piano Emphasis**

Advanced Music Electives (MUSI, MUAP or MUEN)		12
MUEN Advanced Electives		10
Total Hours		22

**Instrumental Emphasis**

MUSI 3212	Conducting II	2
Advanced Music Electives (MUSI, MUAP or MUEN)		12
MUEN Advanced Electives		8
Total Hours		22

**Vocal Emphasis**

Advanced Music Electives (MUSI, MUAP or MUEN)		12
MUSI 1262	Diction I	2
MUSI 2262	Diction II	2
MUEN Advanced Electives		6
Total Hours		22

<sup>1</sup> MUAP or MUEN course if student's primary instrument is piano.

**The Bachelor of Music Degree: All-Level Certification**

**Required Courses**

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
Sophomore English (Shared)		
MUAP 1231	Applied Music for Majors	2
MUAP 1232	Applied Music for Majors	2
MUAP 2231	Applied Music for Majors	2
MUAP 2232	Applied Music for Majors	2
MUAP 3231	Applied Music for Majors	2
MUAP 3232	Applied Music for Majors	2
Choose 5 hours from MUEN 3000 level repeatable ensembles or MUSI 3100		5
MUSI 1116	Aural Skills I	1
MUSI 1117	Aural Skills II	1
MUSI 1181	Piano Class I <sup>1</sup>	1
MUSI 1182	Piano Class II <sup>1</sup>	1
MUSI 1311 [shared]	Music Theory I	
MUSI 1312	Music Theory II	3
MUSI 2116	Aural Skills III	1
MUSI 2117	Aural Skills IV	1
MUSI 2311	Music Theory III	3
MUSI 2312	Music Theory IV	3
MUSI 3211	Conducting I	2
MUSI 3212	Conducting II	2
MUSI 3315	Developmental Musical Experiences	3
MUSI 3116	Interdisciplinary Music Methods	1
MUSI 3327 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Music History I	3
MUSI 3328 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Music History II	3
MUSI 3229	World Music	2
MUSI 3249	Form and Analysis	2

MUSI 4133	Capstone Course in Music	1
MUSI 4248	Scoring and Arranging for Ensembles	2
EDUC 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Middle and Secondary Classrooms	3
EDSP 4361	Teaching Strategies for Adolescent Students with Learning Disabilities	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
EDUC 4335	Issues of Professionalism	3
EDUC 4690	Clinical Teaching	6
Select one of the following:		3
PSYC 2308	Child Psychology	
PSYC 3303	Educational Psychology	
CHFS 3300	Child Development: Theory, Research, and Practice	
Select one of the following:		3
READ 3351 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Content Area Literacy	
MUSI 3351	Music Content Area Literacy	
Total Hours		119

### Additional Required Courses for Concentrations

#### Vocal Emphasis

MUSI 1262	Diction I	2
MUSI 2262	Diction II	2
MUSI 3335	Choral Techniques	3
Select from the following repeatable ensembles:		2
MUEN 3141	University Singers	
MUEN 3151	Chamber Choir	
MUEN 3152	Musical Theatre/Opera Workshop	
MUEN 3153	Texan Harmony	
MUEN 3154	Texan Riders	
Total Hours		9

#### Instrumental Emphasis

MUSI 1188	Percussion Class I	1
MUSI 1195	Strings Class I	1
MUSI 1166	Woodwind Class I	1
MUSI 1167	Woodwind Class II	1
MUSI 1178	Brass Class I	1
MUSI 1179	Brass Class II	1
MUSI 4342	Band Techniques	3
Total Hours		9

<sup>1</sup> MUAP or MUEN course if student's primary instrument is piano.

### Admission to Degree Programs in Music

To be admitted to the music program, a student must audition with the appropriate applied faculty member. Transfer students must also pass an audition for admission to the program. After acceptance into the music program, music majors will participate in academic and performance assessment during each semester of enrollment for retention as a Music Major.

### Additional Information for All Music Majors

All music majors must receive an overall grade of C or better in any music course that applies to their degree.

In addition, all music students should become familiar with the current Music Major Handbook (<https://www.tarleton.edu/finearts/documents/music-major-handbook.pdf>) and abide by the policies and procedures therein.

### Additional Information for Bachelor of Music - All-Level Certification

Students in the Bachelor of Music with teacher certification program must be enrolled in an appropriate ensemble throughout the baccalaureate program for a minimum of seven semesters. The appropriate ensemble will be determined by the student's academic advisor and by the Director of Bands or Director of Choirs.

#### Educator Preparation Program

Formal application to the Educator Preparation Program (<https://www.tarleton.edu/eps/>) shall be made at the completion of the following:

- 60 hours with a C average (2.6 GPA); developmental course hours do not count.
- MUSI 1311 Music Theory I, , MUSI 1312 Music Theory II, 8 hours of applied principal instrument with an average grade not lower than C (2.6); and acceptance into music program.
- 12 hours English with a grade of C or better and MATH 1314 College Algebra or MATH 1332 Contemporary Mathematics I.

### Clinical Teaching

In addition to education requirements, the following music requirements must be completed prior to application for student teaching.

- Piano Proficiency Examination
- Proficiency Examinations on Principal Instrument or Voice

3. MUSI 3211 Conducting I, MUSI 3212 Conducting II, MUSI 3315 Developmental Musical Experiences, and
4. Recital requirements.

## Applied Music

For all major and minor lessons, permission of the instructor is required.

### Applied Music for Majors (1-3)

- 1231-1232 Applied Music
- 2231-2232 Applied Music
- 3231-3232 Applied Music
- 4231-4232 Applied Music

### Applied Music for Minors or Non-Majors (.5-1.5)

- 1121-1122 Applied Music
- 2121-2122 Applied Music
- 3121-3122 Applied Music
- 4121-4122 Applied Music

Sections:

- 10-19 Piano
- 20-29 Voice
- 30-39 Flute
- 40-49 Oboe
- 50-59 Clarinet
- 60-69 Saxophone
- 70-79 Bassoon
- 80-89 French Horn
- 90-99 Trumpet
- 100-109 Trombone
- 110-119 Baritone
- 120-129 Tuba
- 130-139 Percussion
- 140-149 Organ
- 150-159 Guitar
- 160-169 Strings
- 170-179 Conducting
- 220-229 Voice
- 230-239 Voice

## Applied Music: Class Lessons (3-0) <sup>6</sup>

MUSI 1181	Piano Class I	1
MUSI 1182	Piano Class II	1
MUSI 2181	Piano Class III	1
MUSI 2182	Piano Class IV	1
Total Hours		4

## Ensembles

Ensemble membership is open to all University students who complete a successful audition.

MUEN 3123	Wind Ensemble	1
MUEN 3128	Jazz Ensemble III	1
MUEN 3129	University Band	1
MUEN 4122	Ensemble	1
MUEN 3130	Symphonic Band	1
MUEN 3131	Percussion Ensemble	1
MUEN 3132	Jazz Ensemble I	1
MUEN 3133	Jazz Ensemble II	1
MUEN 3134	Jazz Combo	1
MUEN 3135	Woodwind Ensemble	1
MUEN 3136	Brass Ensemble	1
MUEN 3137	Collaborative Piano	1
MUEN 3138	Latin Band	1
MUEN 3141	University Singers	1
MUEN 3151	Chamber Choir	1
MUEN 3153	Texan Harmony	1
MUEN 3154	Texan Riders	1
MUEN 3152	Musical Theatre/Opera Workshop	1

## Minor in Digital Media Studies

### Required Courses

ARTS 1316	Drawing I	3
ARTS 2348	Digital Art I	3
or ARTS 2356	Photography I	
Digital Art Electives in Design or Technology		6
Advanced Digital Art Electives in Design or Technology		6
Total Hours		18

## Minor in Music

### Required Courses

MUSI 1311	Music Theory I	3
MUSI 1116	Aural Skills I	1
MUSI 1306	Music Appreciation	3
Music Elective <sup>1</sup>		5
Advanced Music Electives <sup>1</sup>		6
Total Hours		18

<sup>1</sup> Including applied lessons and ensembles.

## Minor in Music Business

### Required Courses

MUSI 1330	Introduction to Music Business	3
MUSI 3202	Artist and Self Management	2
MUSI 3300	Music Publishing	3
MUSI 1320	Introduction to Audio Technology	3
MKTG 3312	Marketing	3
Electives - Select 5 credit hours from the following:		5
MUSI 3201	Digital Music and Beat Production	
MUSI 3330	Pro Tools I	
MUSI 3331	Pro Tools II	
ARTS 2348	Digital Art I	
COMM 3308	Digital Video Production	
or COMM 4301	Media Management	
ARTS 2356	Photography I	
ARTS 3360	Graphic Design I	
MGMT 4312	Entrepreneurship	
BCIS 3315	Web Development	
MKTG 4302	Services Marketing	
COMM 3321	Advertising	
Total Hours		19

## Art/Digital Media

- Dierks, Molly Ms.
- Ehrhart, Megan Ms.
- Harding, Tim Mr.
- Hybinette, Knut Mr.
- Ireland, Chris Mr.
- Nagy, Haley Ms.
- Synatzske, Diana Ms.
- Thomson, April Delaney Ms.

## Fashion Studies

- Richardson, BreAnne Ms.
- Williams, Cynthia Dr.

## Music

- Asakura, Iwao Dr.
- Burchill, Tom Mr.
- Chambers, Steve Mr.
- Charles, Benjamin Dr.
- Erxleben, Deanna Ms.
- Hagelstein, Kim Dr.
- Hawk, Heather Dr.
- Johnson, Robert Mr.
- Johnson, Vicky Dr.
- Keyes, Carolyn Dr.
- Nagy, Zvonimir Dr.

- Perevertailenko, Dmytro Dr.
- Richmond, C. Floyd Dr.
- Robertson, Troy Dr.
- Robinson, David Dr.
- Spatz, Leslie Dr.
- Stonerock, Andrew Dr.
- Walker, Brian Dr.
- Wallace, Noel Dr.
- Westbrook, Gary Dr.

## Theatre

- Holtorf, Mark Mr.
- Jones, Prudence Ms.
- McLemore, Emily Ms.
- Moose, Shayla Ms.
- Stavish, Carol Ms.

## Art Courses

### **ARTS 1100. Transitioning to University Studies in Art and Digital Media. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of art and digital media disciplines.

### **ARTS 1301. Art Appreciation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A theory course designed to introduce the trends, techniques, styles, and major personalities of the visual arts.

### **ARTS 1303. Art History I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A chronological examination of painting, sculpture, architecture and related visual arts. Emphasis is placed on Western art, from prehistoric times to the end of the Gothic Period, but will include aspects of non-European art as well.

### **ARTS 1304. Art History II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A chronological examination of painting, sculpture, architecture and related visual arts. Emphasis is placed on Western art, from early Renaissance to the present, but will include aspects of non-European art as well.

### **ARTS 1311. Design I. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Emphasis on two-dimensional design; includes the fundamentals of line, color, form, texture, shape, space, and arrangement. Medias such as drawing, painting, and digital design will be introduced.

### **ARTS 1312. Design II. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Continuation of Design I with emphasis on three-dimension concepts. Tools for construction of 3D objects will be covered including digital fabrication, manual and electronic equipment, and 3D display techniques. Lab fee: \$2.

### **ARTS 1316. Drawing I. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A beginning course investigating a variety of media, techniques, and subjects, exploring perceptual and descriptive possibilities and consideration of drawing as a development process as well as an end in itself.

### **ARTS 1317. Drawing II. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Expansion of Drawing I stressing expressive and conceptual drawing aspects, including the human figure within a spatial environment. Prerequisite: ARTS 1316.

### **ARTS 2316. Painting I. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An introduction to painting media with an emphasis on color, composition, and self expression. Prerequisites: ARTS 1311, 1316, 1317, or approval of department head. Lab fee \$2.

### **ARTS 2326. Sculpture I. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Sculpture is a introductory course designed to develop skills in building three-dimensional form by learning to work with a variety of tools and techniques. Special emphasis will be put on artistic and conceptual development. Prerequisite: ARTS 1312 or instructor permission.

### **ARTS 2344. Game Design. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This introductory course, which explores both digital and non-digital games, aims to provide a critical vocabulary and historical context for analyzing games as an art form and mode of expression. Students will be encouraged to create meaningful play and interactive experiences in various forms of media. Lab fee: \$10.

### **ARTS 2348. Digital Art I. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Introduction to the concepts and techniques utilized in the creation of digital media design and art, including digital imaging, vector graphics, animation, and page layout for print and web. Lab fee \$2.

### **ARTS 2356. Photography I. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course covers basic to intermediate digital camera operation, production, software, and professional display techniques. The course will focus on developing technical proficiency, aesthetic skills, and will examine the medium's history and use in contemporary society. Lab fee \$10.

### **ARTS 3310. Introduction to Art Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to assist the preparing classroom teacher in developing a basic knowledge of art and art teaching at the grade school level so they can integrate meaningful visual art experiences into effective lesson plans and curriculum development. Prerequisite: Design 1 ARTS 1311.

### **ARTS 3311. Experimental Media Studio. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A studio course in experimentation in two- and three-dimensional media and techniques. May be taken for credit twice. Prerequisite: ARTS 1312, 1317 or department head approval. Lab fee: \$2.

### **ARTS 3321. Life Drawing. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An advanced drawing course based on the observation of the human figure and interpretation through a variety of drawing techniques. May be taken for credit twice. Prerequisite: ARTS 1316 Lab fee \$2.

### **ARTS 3331. Art History of America. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the art of America from pre-Columbian periods to the present.

### **ARTS 3332. Contemporary Movements in Art. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will survey the Visual Arts since the Second World War, primarily in the United States and Europe, but with some consideration of developments in the larger international arena.

### **ARTS 3333. Art History of the Non-Western World. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to introduce students to works of art in various media developed outside of the European tradition.

**ARTS 3334. History of Photography and Lens-Based Media. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will survey the history of photography from its origins to our present digital image culture. Important movements, photographers, theoretical and technical innovations will be examined as to how they define photography's broader role in the visual arts and in modern life. Prerequisite: n/a.

**ARTS 3341. Painting II. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A continued investigation of the technical qualities and expressive possibilities of painting media with emphasis on personal and stylistic development. Prerequisite: ARTS 2316 or approval of department head. Lab fee \$2.

**ARTS 3351. Sculpture II. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An advanced investigation of the cultural techniques, methods and media of Sculpture. Prerequisites: ARTS 1312, 1316 or approval of department head. Lab fee \$2.

**ARTS 3360. Graphic Design I. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course is designed to provide a survey of the role of the computer in contemporary graphic design. Students will receive basic training on the primary types of software and peripherals with which digital artists and designers must be familiar. Typographic practice will be heavily emphasized. Prerequisite: ARTS 2348 or instructor permission.

**ARTS 3361. Photography II. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

An intermediate level studio art course intended for students wishing to further their creative abilities using contemporary photographic techniques. Students will be further their technical skills and artistic vision through hands-on practice, lectures and demonstrations. Prerequisites: ARTS 2348 or instructor approval. Lab fee: \$2.

**ARTS 3362. Narrative Illustration I. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This studio course is an introduction to the ever-changing and exciting world of contemporary narrative illustration in all its capacities. Through lectures, assignments and research, students become exposed to and experience the multiple facets of illustration, such as narrative/book illustration, editorial, advertising/marketing, sequential art (such as storyboarding for commercials, etc.), concept art, character development, etc. Prerequisites: ARTS 2348 or instructor approval. Lab fee: \$2.

**ARTS 3363. Tradigital Animation I. 3 Credit Hours (Lecture: 4 Hours, Lab: 2 Hours).**

This class is an intermediate study of 2D animation with digital software. Techniques may include stop motion, cut out animation, and digital based drawing animation. Short films and scenes of feature animated and live action feature film will be used to illustrate the many concepts studied in this class. Lab fee: \$2.

**ARTS 3364. 3D Animation I. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to the art of 3D animation. Students learn how to plot, script, storyboard, present, and create animations using the principles of animation and basic techniques, including staging, timing, mechanics and kinetics. Also, this class will introduce students to the process of technical creation of animated imagery through various media including traditional hand-drawn methods up to 3D computer applications. Prerequisite: ARTS 3383, or instructor approval Lab fee: \$2.

**ARTS 3365. Special Effects and Compositing I. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This intermediate studio course explores various aspects of special effects and compositing multimedia. Students will learn how to composite robust and immersive experiences by combining the elements of graphics, special effects and visual effects, animation, video, and audio to make effective multimedia works. Prerequisites: ARTS 2344 or instructor approval. Lab fee: \$2.

**ARTS 3366. 3D Video Game Environment I. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This studio art course will cover 2D- and 3D-level setting design for video games and animation. Students will learn tools and concerns as well as develop the skills used to create 2D and 3D game level designs by using architectural theory, concepts of critical path and flow, balancing, lighting, game play experience, and various storytelling techniques for level design. Prerequisite: ARTS 2344 or instructor approval. Lab fee: \$2.

**ARTS 3368. Narrative Film Arts I. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This intermediate studio course will cover production of short films using digital video and other experimental approaches. Emphasis on video concepts, techniques, composition, sequencing of ideas, and narrative structures. Lab Fee: \$2.

**ARTS 3371. Printmaking. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The basic printmaking processes including planographic, intaglio, stencil, and relief. May be taken for credit twice. Prerequisite: ARTS 1311, 1316, or approval of department head. Lab fee: \$2.

**ARTS 3383. 3D Modeling. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Introduction to the basic modeling tools and techniques within 3D computer applications. Students will create 3D models, simple animations, basic lighting/rendering, texturing while using the basic modeling tool sets; NURBS, Polygons and Subdivision Surfaces. Lab fee: \$10.

**ARTS 4086. Individual Problems in Art. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Art problems assigned in the area of the student's individual interest with emphasis on individual development. Prerequisite: ARTS 1317.

**ARTS 4341. Painting III. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An advanced investigation of the technical qualities and expressive possibilities of painting media with emphasis on research and presentation strategies. Lab fee: \$2.

**ARTS 4351. Sculpture III. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This advanced studio course focuses on specific topics and practices in contemporary sculptural installation works. Technical instruction may include sculptural and architectural model building, wood, metal, and plastic fabrication, lighting, sound works, video works, and cloth and alternative material fabrication methods. Lab fee: \$2.

**ARTS 4360. Graphic Design II. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Advanced problems in both the print and web areas of graphic design, emphasizing a versatile, well-rounded and high-quality portfolio that will serve students as they pursue employment in the design field. Prerequisite: ARTS 2348 or instructor permission.

**ARTS 4361. Photography III. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Advanced studio course in photography and digital image production with an emphasis on conceptual development and professional display and publication in a variety of media, such as print, web, and mobile devices. Emphasis on visual communication strategies and creative thinking. Prerequisites: ARTS 3361. Lab fee: \$2.

**ARTS 4362. Narrative Illustration II. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course is an advanced studio course that explores digital illustration as a form of creative expression. Students will create a larger body of work in preparation for an artistic exhibition or a public presentation. Students will use their advanced skills in illustration to construct a professional portfolio and investigate possible artistic, commercial, and industrial opportunities. Students will be encouraged to develop a personal style in a variety of media. Prerequisite: ARTS 3362 Lab fee: \$2.

**ARTS 4363. Tradigital Animation II. 3 Credit Hours (Lecture: 4 Hours, Lab: 2 Hours).**

This class is an advanced study of 2 dimensional animation with digital software. Techniques may include stop motion, cut out animation, and digital based drawing animation. Students will be encouraged to develop their own projects and short films from the concept stage to completion. Prerequisite: ARTS 3363 Lab fee \$2.

**ARTS 4364. 3D Animation II. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Advanced studio course in animation. Students will be expected how to plan, develop, and produce animations using the principles of animation and advanced techniques. Advanced topics such as character kinematics, gait movement, lighting and textures will be covered. Prerequisites: ARTS 3364. Lab fee: \$2.



**ARTS 4365. Special Effects and Compositing II. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This advanced studio course explores various aspects of special effects and compositing multimedia. Students will further their skills in how to composite robust and immersive experiences by combining the elements of graphics, special effects and visual effects, animation, video, and audio to make an effective multimedia presentation. Prerequisites: ARTS 3365. Lab fee: \$2.

**ARTS 4366. 3D Video Game Environment II. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This advanced studio art course will cover 2D- and 3D-level setting design for video games and animation. Students will create content from commercial game engines that show advanced levels of skill and expression of content. Prerequisite: ARTS 3366. Lab fee: \$2.

**ARTS 4367. 3D Rendering and Lighting. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This advanced course is designed to cover concepts involved in the digital application of texture maps for virtual 3D models, 3D material qualities and characteristics, digital lighting concepts and design, and rendering methods. The importance of digital cinematography, scene arrangement, and compositing of 3D elements of color, camera and light are goals of aesthetic integration. Prerequisite: ARTS 2344. Lab fee: \$10.

**ARTS 4368. Narrative Film Arts II. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This advanced studio course will cover production of short films using digital video and other experimental approaches. Emphasis on more independently directed short films. Prerequisite: ARTS 3368 or COMS 3308.

**ARTS 4370. Interaction Design. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This is an advanced studio art course that explores the use of programming skills in the creation of creative mobile web applications, as well as other kinds of digital environments. Technical skills that will combine the use of graphics, audio, and video along with sensible interface design will be covered. Resources will be provided for students with no programming background. Lab fee: \$10.

**ARTS 4371. Advanced Studio Production. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A guided project-based course with emphasis on portfolio preparation for Art and Digital Media students. Lab fee: \$2.

**ARTS 4372. Collaborative Production. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course is a product driven course for the Art and Digital Media Studies Program. Students will form teams and collaborate with another using their talents and expertise to develop a digital media project as assigned by the instructor. Emphasis will be placed on collaboration both inside the classroom, and across disciplines.

**ARTS 4380. Post Studio Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Students encounter art methods that are primarily executed outside of the studio setting. Students will become aware of the importance of place and how a work can be situated in response to it. This will include object-based participatory works, installation methods in response to specific locations, ephemeral works, social engagement and interactions with audiences, and other collaborative methods. Lab fee: \$2.

**ARTS 4384. Internship in Art or Digital Media. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Approved and supervised work experience in art or digital media related positions. May be repeated once for a total of 6 hours of academic credit. Prerequisite: Junior standing and 12 hours Art or approval of department head.

**ARTS 4385. Art Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Content varies according to the needs of students and opportunities available. When topic varies, course may be repeated for credit. Prerequisite: Junior classification or approval of department head.

**ARTS 4390. Art/ Digital Media Portfolio Capstone. 3 Credit Hours (Lecture: 1 Hour, Lab: 12 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An integrative course providing an overview of pertinent issues in creating a professional art portfolio. Students will produce a body of art works that are representative of their style and abilities. Written discourse on the visual arts will be stressed. Prerequisite: Senior level status. Art majors seeking education certification must take this course before the semester in which they are student teaching. Lab fee \$5.

## Drama Courses

**DRAM 1100. Transitioning to University Studies in Theatre. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of theatre disciplines.

**DRAM 1108. Production Crafts Practicum. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Construction for theatrical productions in a laboratory setting.

**DRAM 1220. Theatre Practicum. 2 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

Participation in and analysis of one or more full-length plays, reader's theatre, production, or an evening of interpretation. Must be taken 2 times since course content changes.

**DRAM 1310. Introduction to Theatre. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A beginning theatre course providing a survey of the fields of theatre activities. This course provides an introductory knowledge of all types and phases of drama: literature, performance, and design.

**DRAM 1330. Stagecraft I. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of technical procedures employed in planning, building, painting, and lighting scenery. Backstage participation in play production as an active set builder and crew member will be required. Stage lighting will be approached from its practical and aesthetic value as a contributing factor to production. Prerequisite: 6 hrs of DRAM/THEA courses or equivalent experience. Lab fee: \$2.

**DRAM 1341. Makeup. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Design and application of make-up for the stage; areas explored include theory, color, character analysis, materials, old age, three-dimensional, and fantasy make-up.

**DRAM 1351. Acting I. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduction to the art of acting through basic theory and technique. Participation in college theatre production is encouraged.

**DRAM 1352. Acting II. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

An analytical approach to acting with emphasis on techniques of characterization, stage presence, and movement. Special attention will be given to the role of the actor as an integral member of an ensemble effort. Theories of acting and of acting styles will also be studied. Participation in a college theatre production is encouraged.

**DRAM 2331. Stagecraft II. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of theatrical costuming and its application in contemporary theatre. Theory on costuming will be applied in laboratory situations and through theatrical production. Lab fee: \$2.

**DRAM 2333. Theatrical Drawing and Drafting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles and practice in the techniques of drafting traditional/nontraditional types of stage scenery. Principles and practice sketching costumes, scenery, stage properties in preparation for Scenic Design and Costume Design.

**DRAM 2361. History of the Theatre I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theatre from its origins to 1750; plays, playwrights, actors, costumes, scenic arts of each period as related to events of period and to contemporary theatre.

**DRAM 2362. History of the Theatre II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theatre since 1750; plays, playwrights, actors, costumes, scenic arts of each period as related to events of period and to contemporary theatre. Prerequisite: DRAM 2361 or approval of department head.

**DRAM 3271. Musical Theatre Dance I. 2 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

This course is a dance class as it pertains to musical theatre styles and performance. Specific styles may vary by semester. Participation in college theatre production is encouraged. Prerequisite: N/A Lab fee: \$2.

**DRAM 3272. Musical Theatre Dance II. 2 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

This course is the study of dance, movement, and staging for musical theatre. It includes strategies for learning and performing dance combinations as they occur in a professional dance audition. Students will continue to develop fundamental dance technique and apply it to musical theatre dance and culminates in student choreographed/staged works. Lab fee: \$2.

**DRAM 3300. Scene Design and Construction. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of the elements of a design used to capture mood, atmosphere, and idea of a play; designing to scale, and drawing ground plans and elevations; technical elements of scene construction. Students must work set crew for theatrical production as laboratory.

**DRAM 3301. Costume Design and Construction. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Studies in stage costuming; history, characterization, fabrics, construction and design. A lecture and laboratory course including student planning, illustration, construction, and designing of costumes for University productions. Prerequisite: Technical Theatre II or equivalent experience.

**DRAM 3302. Directing. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Basic techniques for the stage including scene interpretation, pictorial composition, movement and rehearsal routine. Students will direct and supervise production of short plays.

**DRAM 3303. Lighting for the Theatre. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

History and techniques of lighting for the stage. Major emphasis is placed on design and practical application. Prerequisite: DRAM 1330:Stagecraft 1 or equivalent experience. Lab fee: \$2.

**DRAM 3304. Sound for the Theatre. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Techniques of sound for the stage, including multi-track recording, editing, and the study of microphones. Major emphasis is placed on practical application. Prerequisite: DRAM 1330 or equivalent experience. Lab fee: \$2.

**DRAM 3305. Theatre for Young People. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The history, philosophy, production, and performance of theatre for young people.

**DRAM 3306. Scenic painting. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

An introductory course introducing the steps, techniques and tools of scenic artistry. Through hands-on projects you will learn the basic foundation for painting in the theatre.

**DRAM 3307. Vectorworks; Computer Aided Drafting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an advanced level of theatrical drafting to explore computer aided drafting in scenic and lighting design in theatre. We will be focusing on the drafting program Vectorworks.

**DRAM 3363. History of Musical Theatre. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine the history and significance of America's largest contribution to the world of theatre; the book musical. In this course we will explore the context of musical theatre from practitioner to performance throughout history and today. The course emphasizes the development of musical theatre beginning with the operetta and early minstrel shows through the Broadway hits of the Twenty First Century. Additionally, this course introduces students to the art of critique in regard to musical theatre.

**DRAM 3373. Theatre for the Classroom. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theories and practical application of Theatre in the classroom with children and adolescents.

**DRAM 4086. Theatre Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

A course featuring independent study in theatre. Research and discussion under personal direction of an instructor. Topics will vary according to student need. Open to students of senior classification with approval of department head.

**DRAM 4300. Shakespeare. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study in depth of representative types of Shakespeare's dramas and poetry. Credit for both ENGL 4300 and DRAM 4300 will not be awarded. ENGL 4300 and DRAM 4300 are cross-listed courses. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL.

**DRAM 4302. Directing II. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Advanced techniques for the stage including scene interpretation, pictorial composition, movement and rehearsal routine. Students will direct and supervise production of a 40-minute maximum/One Act Play. We will adhere to UIL rules as much as possible as a guide.

**DRAM 4304. Dramatic Theory & Criticism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A study of the philosophy of aesthetics in theatre and the arts. From the works of various philosophers, directors and actors beginning with Aristotle to contemporary writers.

**DRAM 4307. Theatre Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Theatre management, promotion, finances, organization, emphasis on contract negotiations, planning and use of facilities. A lecture-laboratory course applied to a producing theatre operation and plant. Lab fee: \$2.

**DRAM 4384. Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Minimum of 6 weeks of full-time experience with a professional theatre company approved by the department head. (May be repeated once for a total of 6 hours of academic credit.) Prerequisites: Sophomore standing or permission of department head.

**DRAM 4385. Theatre Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

A course open to Theatre students. Topics vary according to student need. May be taken up to three times for credit, for a maximum of 9 hours.

## Fine Arts Courses

**FINA 1100. Transitioning to University Studies in Fine Arts. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual discipline perspective. These skill sets are presented in the context of fine arts disciplines.

**FINA 1360. The Art of Film. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview of the historical development of cinema (including contemporary and classic films) as an artistic and social force. Students study the aesthetic elements of the cinema, the terminology governing film production and the lines of critical inquiry that have been developed for the medium. Readings, screenings and written reports required.

**FINA 3301. The Arts in Contemporary Society. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)] FINA 3301 ensures that Art, Music and Theatre students gain a broad knowledge of contemporary arts across disciplines and acquire an understanding of the relationship and interdependence of all art forms in any particular discipline. Students will research and study art that is being created now. Another emphasis is on formal analysis of works of contemporary art and the reason for its creation. Course work includes lectures, discussions, listening exercises, extensive viewing of works of art, class presentation and three research papers. This course is required for BFA-Art, BA-Music and BFA-Theatre majors. Prerequisite: Student with 18 hrs in ARTS, MUSI, or DRAM/THEA or approval of department head.

**FINA 4085. Fine Arts Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Design of course will focus on current topics and issues in fine arts of interest to a group of students. May be repeated twice for credit as topic and/or objectives of the course change. Prerequisite: upper-level status only.

**FINA 4086. Individual Problems in Fine Arts. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

A course featuring independent reading, research, and discussion under personal direction of instructor. Topics vary according to student need. Prerequisite: approval of department head.

## Interior Design Courses

**INDS 1301. Intro to Interior Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Includes study of cultural, technological, and economic influences on the profession. Topics include fundamental vocabulary and concept, historical evolution of interior design, and the role of interior design on the built environment.

**INDS 2311. Interior Design Fundamentals. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Applying the principle and elements of design to traditions of space, form, color, and light including human factors, space planning, properties and applications of interior materials and systems with components of style. Prerequisites: ARTS 1316, ARTS 1317. Prerequisite: ARTS 1316 and ARTS 1317 Lab fee: \$15.

**INDS 2314. Interior Design I. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Design development of small commercial spaces with consideration for physiological and psychological effects as well as specifications and lighting. Prerequisite: ARTS 1317 and INDS 2311 Lab fee: \$15.

**INDS 3310. History of Interiors. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

History of the styles of architecture, interiors, furnishings, and decorative arts between prehistory and the 21st Century.

**INDS 3314. Interior Design II. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Residential interior space problem solving with regard to aesthetics, utility, and lifestyle function; attention paid to building code specifications, lighting, and budget. Rooms studied individually and as a whole. Prerequisite: Scoring a "C" or above in INDS 2314. Lab fee: \$15.

**INDS 4086. Interior Design Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A course featuring independent research, reading, and discussion under the personal direction of the instructor; topics vary according to student need. Prerequisite: Permission of department head.

**INDS 4330. Architectural Finishes and Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study and use of architectural details and mechanical systems for interiors. Prerequisite: A "C" or better in INDS 2314 and INDS 3314. Lab fee: \$15.

## Music Courses

**MUSI 1000. Recital Attendance. 0 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).**

**MUSI 1100. Transitioning to University Studies in Music. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of music disciplines.

**MUSI 1101. Marching Band. 1 Credit Hour (Lecture: 1 Hour, Lab: 4 Hours).**

Marching Band membership is open to all students of the University with approval of the director. Activities include half-time performances, pep rallies, parades, and other concerts. Prerequisites: Prior marching band experience in high school or junior college or approval of department head. Credits may substitute for required P ED and may be repeated.

**MUSI 1116. Aural Skills I. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Singing tonal music in treble, bass, alto, and tenor clefs. Aural study, including dictation, of rhythm, melody, and diatonic harmony. Lab fee: \$15.

**MUSI 1117. Aural Skills II. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Continued development of singing tonal music in treble, bass, alto, and tenor clefs. Continued aural study, including dictation, of rhythm, melody, and diatonic harmony. Prerequisite: MUSI 1116. Lab fee: \$2.

**MUSI 1160. Italian Diction. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Italian pronunciation for singers. Lab fee \$10.

**MUSI 1166. Woodwind Class I. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Instruction on basic woodwind instruments for music majors; maintenance of instruments; evaluation of materials and literature. Students develop a basic technique on specific instruments. Lab fee: \$2.

**MUSI 1167. Woodwind Class II. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Instruction on basic woodwind instruments for music majors; maintenance of instruments; evaluation of materials and literature. Students develop a basic technique on specific instruments. Lab fee: \$2.

**MUSI 1178. Brass Class I. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Performance instruction on basic brass instruments for music majors; maintenance of instruments; evaluation of materials and literature. Students develop a basic technique on two instruments. Lab fee \$15.

**MUSI 1179. Brass Class II. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Continued instruction on basic brass instruments for music majors; maintenance of instruments; evaluation of materials and literature. Students develop a basic technique on at least one low brass instrument. Lab fee \$15.

**MUSI 1181. Piano Class I. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours).**

Beginning piano class designed to develop keyboard and musicianship skills, including fundamental technique, scale playing, sight reading, harmonization of melodies, and accompaniment. The course is intended for music majors in passing the Piano Proficiency Examination. All other majors and undeclared majors must have the permission of the course instructor to register. Lab fee: \$2.

**MUSI 1182. Piano Class II. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours).**

A continuation of Piano I, designed to develop keyboard and musicianship skills, including fundamental technique, scale playing, sight reading, harmonization of melodies, and accompaniment. The course is intended for music majors in passing the Piano Proficiency Examination. All other majors and undeclared majors must have the permission of the course instructor to register. Prerequisite: MUSI 1181 Lab fee: \$2.

**MUSI 1183. Piano Class III. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours).**

Section III of the piano class sequence designed to develop keyboard and musicianship skills, including fundamental technique, scale playing, sight reading, harmonization of melodies, and accompaniment. The course is intended for music majors in passing the Piano Proficiency Examination. It is an elective for those students needing additional instruction in order to pass the proficiency. All other majors and undeclared majors must have the permission of the course instructor to register. Prerequisite: MUSI 1181, MUSI 1182.

**MUSI 1188. Percussion Class I. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours).**

Fundamental performance techniques on the most frequently used percussion instruments, both of definite and indefinite pitch; conventions of notation, instrument maintenance, evaluation of materials, and literature. For music majors. Lab fee \$10.

**MUSI 1195. Strings Class I. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours).**

Beginning string class for music majors; maintenance of instruments, evaluation of materials and literature. Students develop a basic performance technique on two instruments. Lab fee \$10.

**MUSI 1262. Diction I. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Instruction in the International Phonetic Alphabet (IPA) and its symbols used in English, German, French, and Italian vocal repertoire. Application of correct diction to German vocal literature.

**MUSI 1303. Fundamentals Of Music. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the basic elements of music theory, including scales, intervals, keys, triads, elementary ear training, notation, meter, and rhythm. Course does not apply to a music major degree.

**MUSI 1306. Music Appreciation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides opportunities to become familiar with the basic elements of music. Emphasis is on learning to listen to music and on the role it plays within the wider contexts of history and society. Listening materials are drawn from a variety of sources: classical music, non-Western music, American popular music (particularly jazz, country, and rock), and the American folk tradition. Course fee \$10.

**MUSI 1310. Popular Music in America. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introductory study of popular music in the U.S., emphasizing the development and application of analytical skills oriented toward the popular arts. Concert attendance and/or listening requirements.

**MUSI 1311. Music Theory I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to music fundamentals, staff, clefs, key signatures, scales, time signatures and notation; meter and rhythm; chords and harmony; and melodic organization and structure.

**MUSI 1312. Music Theory II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of diatonic harmony, elementary counterpoint, and part writing; harmonization of melodies in eighteenth-century style. Prerequisite: MUSI 1311.

**MUSI 1320. Introduction to Audio Technology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Provides an introduction to the use of audio technology in making analog and digital recordings with an emphasis on musical instruments and applications, as well as live audio productions and videos to audio. Students will gain experience with studio facilities and equipment, digital audio, modern microphone technique, and modern recording processes in a variety of sound situations when applicable to recording musical instruments and performances. Lab fee: \$15.

**MUSI 1330. Introduction to Music Business. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

A survey of the various facets of the current and evolving music industry, highlighting areas where music and business intersect. Topics include an overview of key principles, terms, and practices; basic principles of marketing and promoting music; and careers in the commercial music industry. Lab fee: \$15.

**MUSI 2116. Aural Skills III. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Singing more difficult tonal music, including melodies with any diatonic leap possible and a wider variety of rhythms. Aural study, including dictation of more complex rhythm and melody. Prerequisites: MUSI 1116 and MUSI 1117. Lab fee: \$15.

**MUSI 2117. Aural Skills IV. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Singing more difficult tonal music, including chromatic, modulating and melodies; and modal melodies. Continued aural study, including dictation of more complex rhythm and melodies. Prerequisite: MUSI 1116, 1117, 2116. Lab fee: \$2.

**MUSI 2160. German Diction. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

German pronunciation for singers. Lab fee \$10.

**MUSI 2161. French Diction. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

French pronunciation for singers. Lab fee \$10.

**MUSI 2181. Piano Class III. 1 Credit Hour (Lecture: 3 Hours, Lab: 1.5 Hour).**

Section III of the piano class sequence designed to develop keyboard and musicianship skills, including fundamental technique, scale playing, sight reading, harmonization of melodies, and accompaniment. The course is intended for music majors in passing the Piano Proficiency Examination. It is an elective for those students needing additional instruction in order to pass the proficiency. All other majors and undeclared majors must have the permission of the course instructor to register. Prerequisites: MUSI 1181 and MUSI 1182 Lab fee: \$2.

**MUSI 2182. Piano Class IV. 1 Credit Hour (Lecture: 3 Hours, Lab: 0 Hours).**

This is the fourth semester of a four-semester sequence designed to develop keyboard and musicianship skills, including fundamental technique, scale playing, sight reading, harmonization of melodies, and accompaniment. The course is intended for music majors in passing the Piano Proficiency Examination. All other majors and undeclared majors must have the permission of the course instructor to register. Lab fee \$10.

**MUSI 2262. Diction II. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Continuation of studies in diction applied to vocal literature, focusing on French and Italian languages. Prerequisite: MUSI 1262.

**MUSI 2311. Music Theory III. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Continuation of the study of diatonic harmony and counterpoint; elementary modulation, an introduction to chromatic harmony, modal harmony, and extended harmony. Prerequisites: MUSI 1311 and MUSI 1312.

**MUSI 2312. Music Theory IV. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of chromatic harmony in tonal music of the late 19th century and an introduction to 20th century post-tonal practices. Prerequisites: MUSI 1311, 1312, and 2311.

**MUSI 2360. Jazz Harmony. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of jazz harmony and structure, including chord and scale construction and nomenclature. Emphasis will be placed on the spelling, naming, and aural recognition of jazz chords, scales, and basic harmonic structures. Prerequisite: MUSI 1312.

**MUSI 3000. Junior Recital. 0 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).****MUSI 3100. Marching Band. 1 Credit Hour (Lecture: 1 Hour, Lab: 4 Hours).**

Marching Band membership is open to all students of the University with approval of the director. Activities include half-time performances, pep rallies, parades, and other concerts. Prerequisites: Prior marching band experience in high school or junior college or approval of department head. Course may be repeated for credit. Lab fee \$10.

**MUSI 3116. Interdisciplinary Music Methods. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours).**

Organization, rehearsal procedures, and public performance practices of ensembles and teaching methods for vocal and instrumental music. Establishing a philosophy of music, developing effective ensemble discipline, motivation, selection of repertoire, auditions, and the professional development of the music director are emphasized.

**MUSI 3201. Digital Music and Beat Production. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

This course explores the tools and techniques needed to produce music through desktop music production. Lab fee: \$2.

**MUSI 3202. Artist and Self Management. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

This course provides an overview of the practices and requirements needed to develop, maintain, and manage an artist's/self career in today music industry. Topics include basic management principles, promotion strategies, current revenue streams, and coaching/leading artists to their career goals. Lab fee: \$2.

**MUSI 3211. Conducting I. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Introduction of conducting techniques, rehearsal procedures, development of interpretive skills in music. Lab fee: \$2.

**MUSI 3212. Conducting II. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Special emphasis on instrumental and choral conducting techniques. Lab fee: \$2.

**MUSI 3226. History of Music I. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Study of history, social setting, and style of Western art music from Greek antiquity to the end of the Renaissance period. MUSI 2311 or approval of department head.

**MUSI 3229. World Music. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Historical and analytical survey of the great variety of musical styles from around the world. Music cultures of sub-Saharan Africa, India, indigenous America, and Japan are among those explored. Emphasizes the complex interrelationships of music to culture, society, and daily life.

**MUSI 3245. Class Composition. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Advanced instruction in composition; the writing and study of small- and larger-form musical compositions employing contemporary styles and techniques. May be taken 2 times for credit. Prerequisites: approval of instructor. Lab fee \$5.

**MUSI 3249. Form and Analysis. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

The study of techniques of musical analysis as applied to different forms of music. Discussion will address (but not limited to) forms found in the Baroque, Classical, Romantic, Post-Romantic, and Contemporary eras using a variety of analysis techniques. Prerequisites: MUSI 1311, 1312, 2311, and 2312.

**MUSI 3300. Music Publishing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the creative and administrative aspects of music publishing including, but not limited to, contracts, music licensing, copyright law, and role of performance rights organizations.

**MUSI 3315. Developmental Musical Experiences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study and appraisal of music teaching techniques, elementary music literature, learning activities, curricular plans and materials essential to the sequential development of musical learning in the elementary school. Designed to provide knowledge of psychology, theory and practice of music education in the elementary schools. Emphasis is placed upon the nature, organization and maintenance of the elementary music program. Prerequisite: junior or senior-level status.

**MUSI 3325. Jazz History. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in-depth study of the recordings, history, major figures, musical forms and social importance of an original American art form. Principal styles to be covered include ragtime, blues, Dixieland, big band swing, bop, cool, hard bop, free, fusion and funk. This course fulfills the core visual and performing arts requirement.

**MUSI 3327. Music History I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Study of the history, social setting and style of western music from antiquity through the Baroque period.

**MUSI 3328. Music History II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Study of the history, social setting and style of western music during the Classical, Romantic, and Contemporary periods.

**MUSI 3330. Pro Tools I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introductory course to Pro Tools, the industry standard software for digital recording and editing. This is the most widely used application for post-production, video editing, and mixing for film, video, and multi-media. Prerequisite: MUSI 1320.

**MUSI 3331. Pro Tools II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Continuation of Pro Tools I, the industry standard software for digital recording and editing. Development of additional skills in post-production, video editing, and mixing for film, video, and multi-media. Prerequisite: MUSI 3330.

**MUSI 3335. Choral Techniques. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Choral techniques, materials and rationale for the development of superior choral ensembles to include: budgeting, acoustical considerations, music selection criteria, historical development of choral music and style, programming, public relations, sight reading, and development of a philosophy of music.

**MUSI 3351. Music Content Area Literacy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course presents essential literacy skills and examines ways in which they may be developed in K-12 music classrooms. A variety of instructional strategies for reading, writing, listening, and critical thinking will be presented to help future music educators guide K-12 students to understand and express their musical experiences. Prerequisites: ENGL 1301, ENGL 1302, and a sophomore level English.

**MUSI 3360. Jazz Improvisation I. 3 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Offers the jazz-oriented student an organized approach to learning how to improvise in the jazz idiom as expressed by musical performance. Prerequisite: MUSC 2360.

**MUSI 3361. Jazz Improvisation II. 3 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Offers the jazz-oriented student an organized approach to learning how to improvise in the jazz idiom as expressed by musical performance. This course is a continuation of MUSI 3260 Jazz Improvisation I Prerequisite: MUSI 3360.

**MUSI 4000. Marching Band. 0 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).****MUSI 4086. Music Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

A directed study of selected problems in music.

**MUSI 4133. Capstone Course in Music. 1 Credit Hour (Lecture: 1 Hour, Lab: 12 Hours).**

The capstone experience is the culmination of undergraduate music study and provides students with an opportunity to make their personal statement of preparedness for a post-college life with music. Projects may include a 50-minute solo recital, a lecture-recital, or an undergraduate thesis or research paper. In conjunction with the student's advisor, study abroad and other formats may be acceptable. Prerequisites: Senior standing. Music majors seeking education certification must take this course before the semester in which they are student teaching. Lab fee: \$2.

**MUSI 4211. Piano Literature. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course will encompass the study of piano literature from the Renaissance period to present day with emphasis given to the Classical, Romantic, and Contemporary eras. Genres include sonata, suite, concerto, and chamber works with piano of varying cultures.

**MUSI 4212. Vocal Literature. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course will encompass the study of solo vocal literature from the Renaissance period to present day. Emphasis will be given to the development of German and French art song in Europe.

**MUSI 4213. Instrumental Literature. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course will encompass the study of literature for band, jazz ensemble and orchestra, as well as solos and small ensemble groups. Students will explore and analyze significant composers and their literature in each of the historical periods through the 21st century. Prerequisite: Junior level in applied instrumental lessons or consent of the instructor.

**MUSI 4242. Band Techniques. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Introduction and materials of band techniques to include drill design and the development of the marching ensemble; the organization, administration, programming, repertoire, band literature, budgeting, and historical development of the modern concert wind ensemble; the development of a functional philosophy of music.

**MUSI 4245. Jazz Arranging. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Arranging in the jazz and commercial idioms with emphasis on large jazz ensemble (big band). Prerequisite: MUSI 2312 Lab fee: \$2.

**MUSI 4248. Scoring and Arranging for Ensembles. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

A practical study of the skill of scoring music for various instrumental and choral groups. Projects in adapting music from a variety of sources. Emphasis is placed on transcribing and arranging for elementary, junior, and senior high ensembles. Prerequisites: MUSI 2312 or consent of instructor and permission of department head.

**MUSI 4251. Piano Pedagogy. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course will encompass the study of piano pedagogy from beginner level through intermediate and advanced level piano study, including present and past techniques of piano instruction. Prerequisites: Must be at the junior level of applied piano lessons or have consent of the instructor.

**MUSI 4252. Vocal Pedagogy. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Teaching voice majors how to teach singing. Includes physiology of the vocal mechanism and the application of various techniques appropriate in developing and correcting issues with the voice. Appropriate repertoire for varying levels and voice types will be covered as well as basic business aspects of private studio teaching. Prerequisite: Junior or Senior level music majors in applied voice who have passed the Applied Proficiency Exam. Lab fee \$5.

**MUSI 4253. Instrumental Pedagogy. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

This course will focus on the study of instrumental pedagogy, from beginner level through advanced study, used primarily in one-on-one instruction in the studio. Lab fee \$10.

**MUSI 4301. Music Business Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An approved and supervised educational project in which the qualifying student participates in a professional music organization as an intern for a select period of time. This course is intended as the capstone experience for the Bachelor of Arts in music degree with an emphasis in music business. Prerequisites: Senior standing, the completion of required music courses and other courses in the Music Business emphasis, and the approval of intern coordinator.

**MUSI 4342. Band Techniques. 3 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).**

Introduction and materials of band techniques to include drill design and the development of the marching ensemble; the organization, administration, programming, repertoire, band literature, budgeting, and historical development of the modern concert wind ensemble; the development of a functional philosophy of music.

**MUSI 4343. Marching Band Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Marching Band Methods teaches music education majors how to administer a marching band program. Areas of administration are: show design, scheduling, programming, competition. Students will use software to learn to design marching band shows, and review other software useful in administering a marching band program.

**MUSI 4345. Curriculum Project. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The final project for students in the Master of Music Education degree that will serve as a culminating example of work performed at the master's level.

**MUSI 4385. Music Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Content varies according to the needs of students and opportunities available. When topic varies, course may be repeated for credit. Prerequisite: Junior classification or approval of department head.

## Government, Legal Studies, and Philosophy

Department of Government, Legal Studies, and Philosophy  
Tarleton State University  
Box T-0685  
Stephenville, Texas USA 76402  
(254) 918-7609  
tarleton.edu/glsp (<http://tarleton.edu/glsp/>)

The Department of Government, Legal Studies, and Philosophy offers programs of study leading to Bachelor of Arts and Bachelor of Science degrees in the areas of Political Science, Legal Studies, International Studies, and General Studies. In addition, the department offers minor programs of study in International Studies, Legal Studies, Philosophy, Political Science, and Public Policy. A certificate in Environmental Policy is also available.

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### Political Science

The department offers programs of study leading to a Bachelor of Arts or a Bachelor of Science degree in Political Science. These major programs of study will prepare graduates to engage civically at all levels of society and government. Graduates will think critically, write effectively, and research competently, using state of the art technology. Program topics include comparative methodology, international politics, political philosophy, and research methods. Students seeking a Bachelor of Arts degree take a 14-unit sequence in a foreign language of their choice, while students seeking a Bachelor of Science degree take an equivalent 14-unit sequence in mathematics and statistics. Students also select from a variety of elective options guided by their concentration in either American Politics, Comparative Politics/International Relations, or the Accelerated concentration leading to the Masters of Public Administration. The Self-Designed concentration is a more flexible option, allowing students to select a broader variety of Political Science electives.

### Program Competencies

Upon successful completion of the Political Science program, graduates will be able to:

1. Analyze and evaluate political concepts and systems by using the major analytic and theoretical frameworks in several subfields of political science.
2. Write effectively about significant political processes, events, and concepts; articulate diverse political ideas; and critique the arguments of others using appropriate logic and evidence.
3. Exhibit a sense of political agency and be able to identify the specific ways in which an individual can participate meaningfully in politics.
4. Engage competently with the basic tools underlying modern social science research.

### Program Concentrations

#### American Politics concentration

The Bachelor of Arts or Bachelor of Science degree with a concentration in American Politics provides students with a strong foundation in the particular governmental institutions, processes, policies, and political behavior found in the United States. It is designed for students who want to pursue careers in federal,

state, or local government agencies; public administration; military service; non-profit organizations; think tanks; campaign management; public service; or academia. Students intending to pursue research-based graduate studies after completion of their bachelor's degree are advised to select the Bachelor of Science degree with its extra emphasis on quantitative analytical skills.

### Comparative Politics / International Relations concentration

The Bachelor of Arts or Bachelor of Science degree with a concentration in Comparative Politics / International Relations provides students with a strong foundation in the differences between sovereign governments, political behavior throughout the world, as well as the interactions of different sovereign governments and political communities. Those students interested in the politics of a particular area of the world are advised to pursue a Bachelor of Arts degree with 14 units of training in a relevant foreign language. Some foreign languages are offered on campus in Stephenville, and many more can be taken via the A&M system's many study abroad opportunities on various university campuses throughout the world. Those students interested in the analysis of international political dynamics or issues, however, should consider a Bachelor of Science with its extra emphasis on quantitative analytical skills.

### Self-Designed concentration

The Bachelor of Arts or Bachelor of Science degree with a Self-Designed concentration allows students the freedom of selecting from a wider variety of Political Science elective options. Students will take the same series of required field of major courses and then may choose an additional 7 or 8 Political Science courses from the 3000 and 4000 levels to expand their knowledge in all the subdisciplines within Political Science.

### Accelerated to Non-Thesis MPA concentration

The Bachelor of Arts or Bachelor of Science degree with the Accelerated concentration allows students to complete a Bachelor's degree in Political Science and a Master's degree in Public Administration in just five (5) years. Students will take two courses (6-credit hours) in the Master's in Public Administration during their senior year and then transition to the graduate program to complete the remaining 10 courses (30-credit hours). The graduate courses taken during the bachelor's degree will do double-duty, counting toward both the bachelor's degree and the master's degree credit requirements, saving the student time and money!

## The Bachelor of Arts Degree in Political Science

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		<b>42</b>
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
HIST 1301 [shared]	United States History I	
HIST 1302 [shared]	United States History II	
GOVT 2305 [shared]	Federal Government (Federal Constitution and Topics)	
GOVT 2306 [shared]	Texas Government (Texas Constitution and Topics)	
POLS 2304	Introduction to Political Science	3
POLS 3308	International Politics	3
POLS 3311	Political Philosophy I	3
POLS 3312	Political Philosophy II	3
POLS 3314	Comparative Politics	3
POLS 3316 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Political Science Research Methods	3
POLS 4390 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Political Science Capstone Course	3
Select One:		3
MATH 1342	Elementary Statistical Methods	
SOCI 3330	Social Science Statistics	
Foreign Language 1411, 1412, 2311, 2312		14
Total Hours		<b>80</b>

### Additional Required Courses for Concentrations

#### American Politics

American Politics Advanced Electives		<b>15</b>
POLS 3302	Elections and Political Parties	
POLS 3303	Comparative State and Local Government and Politics	
POLS 3304	The Executive	
POLS 3305	Legislation	
POLS 3309	The Judiciary	
POLS 3307	Public Administration	
POLS 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Policy	
POLS 3323	Political Communication	
POLS 4301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Constitutional Law	
POLS 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Constitutional Law II	

POLS 4312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Religion and Politics	
POLS 4315	Foreign Policy	
POLS 4340	US Public Policy	
POLS 4385	Political Science Seminar	
POLS 4086	Problems	
POLS 4084	Internship	
Additional Political Science Advanced Electives		6
Electives (6 credit hours must be advanced)		19
Total Hours		40

### Comparative Politics/International Relations

Comparative Politics/International Relations Advanced Electives		15
POLS 3301	Political Economy of Globalization	
POLS 4306	European Politics	
POLS 4307	Nationalism	
POLS 4308	Politics of Latin America	
POLS 4309	Politics of the Middle East	
POLS 4310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	International Environmental Issues	
POLS 4312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Religion and Politics	
POLS 4313 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	East and South Asian Politics	
POLS 4314 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	African Politics	
POLS 4315	Foreign Policy	
POLS 4385	Political Science Seminar	
POLS 4084	Internship	
POLS 4086	Problems	
Political Science Advanced Electives		6
Electives (6 credit hours must be advanced)		19
Total Hours		40

### Social Studies Composite Certification/Option 4

#### General Education MATH requirement [shared]:

MATH 1314	College Algebra	
MATH 1332	Contemporary Mathematics I	
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1342	Elementary Statistical Methods	
MATH 2412	Precalculus Math	
MATH 2413	Calculus I	
HIST 3304	History of Texas	3
HIST 3340 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Historical Methods	3
GEOG 1303	World Regional Geography	3
Select one of the following:		3
GEOG 1320	Introduction to Human Geography	
GEOG 3312	Economic Geography	
ECON 2301 [shared]	Principles of Macroeconomics	
ECON 2302	Principles of Microeconomics	3
Advanced ECON Elective		3
Sophomore Literature [shared]		
EDUC 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Middle and Secondary Classrooms	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
EDUC 4335	Issues of Professionalism	3
EDSP 4361	Teaching Strategies for Adolescent Students with Learning Disabilities	3
EDUC 4690	Clinical Teaching	6
Select one of the following:		3
PSYC 2308	Child Psychology	
PSYC 3303	Educational Psychology	
CHFS 3300	Child Development: Theory, Research, and Practice	



READ 3351 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Content Area Literacy	3
Total Hours		42

**Self-Designed**

Political Science Advanced Electives		21
Electives (6 credit hours must be advanced)		19
Total Hours		40

**Accelerated for students not seeking the Thesis-option**

Political Science Advanced Electives		15
MPA Graduate Courses - Select two of the following:		6
MAPA 5300	Public Administration	
MAPA 5301	Organizational Behavior in the Public Sector	
MAPA 5302	Human Resource Management in the Public Sector	
MAPA 5315	Budgeting and Financial Management for Public and Nonprofit Organizations	
MAPA 5331	Public Policy Formulation and Analysis	
Electives (6 credit hours must be advanced)		19
Total		40

For more information, contact [politicalscience@tarleton.edu](mailto:politicalscience@tarleton.edu).

**The Bachelor of Science Degree in Political Science****Required Courses**

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>		42
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
HIST 1301 [shared]	United States History I	
HIST 1302 [shared]	United States History II	
GOVT 2305 [shared]	Federal Government (Federal Constitution and Topics)	
GOVT 2306 [shared]	Texas Government (Texas Constitution and Topics)	
TSU Core Mathematics [shared] select one of the following:		
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1342	Elementary Statistical Methods	

**Major Requirements**

POLS 2304	Introduction to Political Science	3
POLS 3308	International Politics	3
POLS 3311	Political Philosophy I	3
POLS 3312	Political Philosophy II	3
POLS 3314	Comparative Politics	3
POLS 3316 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Political Science Research Methods	3
POLS 4390 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Political Science Capstone Course	3

**Mathematics Requirements**

Select one:		3
MATH 1325	Math for Business & Social Sciences II (Business Calculus)	
SOCI 3330	Social Science Statistics	
MATH 2412	Precalculus Math	4
MATH 2413	Calculus I	4
Total Hours		74

**Additional Required Courses for Concentrations****Social Studies Composite Certification/Option 4**

HIST 3304	History of Texas	3
HIST 3340 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Historical Methods	3
GEOG 1303	World Regional Geography	3
Select one of the following:		3
GEOG 1320	Introduction to Human Geography	
ECON 2301 [shared]	Principles of Macroeconomics <sup>2</sup>	
ECON 2302	Principles of Microeconomics	3

Advanced ECON Elective		3
Sophomore Literature [shared]		
EDUC 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Middle and Secondary Classrooms	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
EDUC 4335	Issues of Professionalism	3
EDSP 4361	Teaching Strategies for Adolescent Students with Learning Disabilities	3
EDUC 4690	Clinical Teaching	6
Select one of the following:		3
PSYC 2308	Child Psychology	
PSYC 3303	Educational Psychology	
CHFS 3300	Child Development: Theory, Research, and Practice	
READ 3351 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Content Area Literacy	3
Electives		4
Total Hours		46

**American Politics**

American Politics Advanced Electives		15
POLS 3302	Elections and Political Parties	
POLS 3303	Comparative State and Local Government and Politics	
POLS 3304	The Executive	
POLS 3305	Legislation	
POLS 3309	The Judiciary	
POLS 3307	Public Administration	
POLS 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Policy	
POLS 3323	Political Communication	
POLS 4301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Constitutional Law	
POLS 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Constitutional Law II	
POLS 4312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Religion and Politics	
POLS 4315	Foreign Policy	
POLS 4340	US Public Policy	
POLS 4385	Political Science Seminar	
POLS 4084	Internship	
POLS 4086	Problems	
Political Science Advanced Electives		9
Electives (6 credit hours must be advanced)		22
Total Hours		46

**Comparative Politics/International Relations**

Comparative Politics/International Relations Advanced Electives		15
POLS 3301	Political Economy of Globalization	
POLS 4306	European Politics	
POLS 4307	Nationalism	
POLS 4308	Politics of Latin America	
POLS 4309	Politics of the Middle East	
POLS 4310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	International Environmental Issues	
POLS 4312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Religion and Politics	
POLS 4313 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	East and South Asian Politics	
POLS 4314 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	African Politics	
POLS 4315	Foreign Policy	
POLS 4084	Internship	
POLS 4086	Problems	
POLS 4385	Political Science Seminar	

Political Science Advanced Electives	9
Electives (3 credit hours must be advanced)	22
Total Hours	46

### Self-Designed

Political Science Advanced Electives	24
Electives (3 credit hours must be advanced)	22
Total Hours	46

### Accelerated for students not seeking the Thesis-option

Political Science Advanced Elective	18
MPA Graduate Electives: Select two of the following:	6
MAPA 5300 Public Administration	
MAPA 5301 Organizational Behavior in the Public Sector	
MAPA 5302 Human Resource Management in the Public Sector	
MAPA 5315 Budgeting and Financial Management for Public and Nonprofit Organizations	
MAPA 5331 Public Policy Formulation and Analysis	
Electives (3 credit hours must be advanced)	22
Total Hours	46

<sup>1</sup> Please see Academic Information section.

<sup>2</sup> Course may be counted toward general education requirement.

For more information, contact [politicalscience@tarleton.edu](mailto:politicalscience@tarleton.edu).

The department also offers a minor in Political Science for students with a different major program of study. A minor in Political Science can compliment many types of majors with additional knowledge about the ways in which governments and political processes affect such subjects. Students can also develop valuable analytical skills and enhance their abilities to be knowledgeable and politically engaged citizens at the local, State, and Federal levels.

### Minor in Political Science

#### Required Courses

GOVT 2305 Federal Government (Federal Constitution and Topics)	3
GOVT 2306 Texas Government (Texas Constitution and Topics)	3
Advanced Electives in Political Science	12
Total Hours	18

For more information, contact [politicalscience@tarleton.edu](mailto:politicalscience@tarleton.edu).

### Legal Studies

The department offers a program of study leading to a Bachelor of Arts degree in Legal Studies. It is designed for students who want to work in the legal profession or in fields that require a deeper understanding of our legal system. As a result, this program is oriented around the critical job functions of competent and ethical professionals working in the legal services industry. Each course has been strategically selected and designed to deliver the knowledge, skills, and values necessary to enter the workforce upon graduation or to continue studies in graduate or law school.

#### Program Competencies

At the conclusion of the Legal Studies program, graduates will be able to:

1. Prepare documents necessary for representation of clients in a legal matter, including correspondence, litigation, transactional, and advisory materials.
2. Perform legal and factual research, utilizing appropriate resources for locating and communicating findings.
3. Demonstrate an understanding of and appreciation for discipline-specific technology, including, but not limited to case management, time management and billing, legal research, and trial presentation.
4. Demonstrate civic skills and appropriate civic dispositions and behaviors.
5. Analyze personal and professional situations, and then evaluate and select the behavioral option which most closely conforms to the ethical rules regulating the legal profession.

#### Program Concentrations

##### Pre-Law concentration

Admission to law school is based primarily upon a student's performance on the Law School Admission Test (LSAT) and cumulative grade point average (GPA). Students with any undergraduate major may be admitted to law school; however, the Pre-Law concentration provides a broad-based, interdisciplinary curriculum designed to develop logical reasoning, rhetoric, analysis, critical thinking, and writing skills, which are critical for students planning to pursue continuing studies in law or other graduate areas.

##### Paralegal Studies concentration

The Paralegal concentration is designed for students who have logical and analytical minds, possess organizational skills, and thrive on attention to detail. Paralegals may not provide legal services directly to the public, except as permitted by law; however, working as part of a legal team under the supervision of an attorney, paralegals perform tasks vital to the success of a case, including drafting legal documents, interviewing witnesses and clients, preparing trial exhibits, and analyzing documents.

#### Program Policies

Students must have a minimum of 21-credits of *legal specialty* courses taken either at Tarleton State University or by approved credit transfer. A *legal specialty* course is a LEGL course that covers substantive law or legal procedures or process, has been developed for paralegals, emphasizes practical paralegal skills, and meets the American Bar Association's instructional methodology requirements. The following courses have been designated as *legal specialties*:

- LEGL 2330, Introduction to Legal Studies
- LEGL 3332, Legal Ethics
- LEGL 3340, Legal Research & Writing
- LEGL 3350, Professional Practices in Law
- LEGL 3388, Civil Procedure
- LEGL 4084/4382, Internship/Virtual Internship
- LEGL 4390, Legal Studies Capstone

Credit for equivalent LEGL courses considered *legal specialties* under the ABA Guidelines is accepted for students transferring from paralegal programs, whether the transferring institution is ABA-approved or not. If a student has earned credit from an institution that is not ABA-approved, the Legal Studies coordinator will review the course description, course syllabus, and contact the program coordinator of the transferring institution, if needed, before approving the credit transfer for equivalent LEGL courses. A maximum of 21-credit hours will be accepted for equivalent LEGL courses.

## The Bachelor of Arts Degree in Legal Studies

### Required Courses

General Education Requirements (<http://catalog.tarleton.edu/undergrad/academicaffairs/>) **42**

ENGL 1301 [shared] [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)] Composition I

ENGL 1302 [shared] [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)] Composition II

Choose one of the following [shared]:

COMM 1311 Introduction to Speech Communication

COMM 1315 Public Speaking

COMM 2302 Business and Professional Speaking

Choose one of the following [shared]:

MATH 1314 College Algebra

MATH 1324 Math for Business & Social Sciences I (Finite Mathematics)

MATH 1332 Contemporary Mathematics I

MATH 1342 Elementary Statistical Methods

MATH 2412 Precalculus Math

MATH 2413 Calculus I

ECON 2301 [shared] Principles of Macroeconomics

GOVT 2305 [shared] Federal Government (Federal Constitution and Topics)

GOVT 2306 [shared] Texas Government (Texas Constitution and Topics)

Foreign Language 1411, 1412, 2311, 2312 **14**

### Major Required Courses

ENGL 3309 [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)] Technical Writing and Document Design **3**

LEGL 2330 Introduction to Legal Studies **3**

LEGL 3332 Legal Ethics **3**

LEGL 3340 [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)] Legal Research & Writing **3**

LEGL 3388 Civil Procedure **3**

LEGL 4301 [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)] Constitutional Law **3**

LEGL 4390 [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)] Legal Studies Capstone Course **3**

LEGL 3350 Professional Practices in Law **3**

Choose one of the following: **3**

CRIJ 3315 Rules of Criminal Evidence

CRIJ 4326 Criminal Procedure

BLAW 4333 Business Law II

BLAW 4334 Employment Law

BLAW 4384 International Business Law

LEGL 4344 Tort Law

LEGL 4350 Family Law

LEGL 4346 Texas Wills, Estates, and Probate

LEGL 4348 Sports and Entertainment Law

POLS 3305 Legislation

POLS 3309 The Judiciary

POLS 4311 [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)] Environmental Law

Electives (9-hours must be advanced) **22**

Total Hours **105**

**Additional Required Courses for Concentrations****Pre-Law Concentration**

PHIL 2303	Introduction to Logic	3
COMM 3303	Debate	3
ENGL 4311	Studies in Rhetoric and Language	3
POLS 3311	Political Philosophy I	3
POLS 3312	Political Philosophy II	3
Total Hours		15

**Paralegal Studies Concentration**

LEGL 4084 or LEGL 4382	Paralegal Internship Virtual Paralegal Internship	3-6
Select four:		12
CRIJ 3315	Rules of Criminal Evidence	
CRIJ 4326	Criminal Procedure	
BLAW 4333	Business Law II	
BLAW 4334	Employment Law	
BLAW 4384	International Business Law	
LEGL 4344	Tort Law	
LEGL 4346	Texas Wills, Estates, and Probate	
LEGL 4348	Sports and Entertainment Law	
LEGL 4350	Family Law	
POLS 3305	Legislation	
POLS 3309	The Judiciary	
POLS 4311 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Law	
Total Hours		15

For more information, contact [legalstudies@tarleton.edu](mailto:legalstudies@tarleton.edu).

The department also offers a minor in Legal Studies for students with a different major program of study. The minor in Legal Studies can add value to your degree by 1) supplementing studies in another discipline, 2) providing an introduction to the skills and knowledge needed in law school, and 3) enhancing your understanding about legal issues that impact our nation, state, and communities.

**Minor in Legal Studies****Required Courses**

PHIL 2303	Introduction to Logic	3
LEGL 2330	Introduction to Legal Studies	3
LEGL 3332	Legal Ethics	3
LEGL 3340 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Legal Research & Writing	3
LEGL 3388	Civil Procedure	3
Select one:		3
CRIJ 3315	Rules of Criminal Evidence	
CRIJ 4326	Criminal Procedure	
BLAW 4333	Business Law II	
BLAW 4334	Employment Law	
BLAW 4384	International Business Law	
POLS 3305	Legislation	
POLS 3309	The Judiciary	
POLS 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Constitutional Law II	
POLS 4311 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Law	
Total Hours		18

For more information, contact [legalstudies@tarleton.edu](mailto:legalstudies@tarleton.edu).

**General Studies**

The Department of Government, Legal Studies, and Philosophy coordinates the Bachelor of Science in General Studies. This program is designed for students who seek a flexible degree program which will maximize credits already earned at Tarleton or at another institution. The general studies degree allows students to plan, with advisement, an individualized program with access to a wide range of academic disciplines and fields of professional study.

**Program Competencies**

Upon successful completion of the General Studies program, graduates will be able to:

1. Write effectively in accordance with one of their concentration disciplines
2. Apply interdisciplinary perspectives to real-world problems
3. Conduct skillful interdisciplinary presentations
4. Utilize interdisciplinary research methodologies
5. Utilize spreadsheet graphing technology and discipline-specific research databases
6. Analyze ethical dilemmas to make appropriate decisions
7. Work in groups to research multidisciplinary perspectives

## Program Concentrations

General studies provides students with the flexibility to pursue a variety of interests. Students may select two concentrations from disciplines across the university. Each concentration consists of 18-credit hours (at least six of which must be advanced) in the student's chosen field. Popular concentrations include education, mathematics, psychology, sociology, kinesiology, communication studies, English, and more!

## Program Policies

Admission requirements vary depending upon the student's selected campus:

- Fort Worth, Midlothian, Waco, and Online students must have a minimum of 30 transferable credit hours, a 2.0 GPA, and be TSI complete (<https://www.tarleton.edu/common/links/academic/tsi.html>).
- Stephenville students must have 60 credit hours of existing course work prior to submitting a degree plan for general studies (not including developmental courses).

## Bachelor of Science in General Studies

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
COMM 2302 [shared]	Business and Professional Speaking	
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	3
COMM 4304	Organizational Communication	3
BUSI 3312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Business Communication	3
or COMM 3332	Intercultural Communication	
GSTU 3398	Career Skills	3
GSTU 4398 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	General Studies Capstone Course	3
Concentration One (at least 6 hours advanced) <sup>1</sup>		18
Concentration Two (at least 6 hours advanced) <sup>1</sup>		18
Advised Electives (at least 18 advanced)		27
<b>Total Hours</b>		<b>120</b>

<sup>1</sup> All 18 hours from the same academic discipline. "Meta" disciplines may be used if necessary. Concentration one and concentration two must be different academic disciplines.

for more information contact [generalstudies@tarleton.edu](mailto:generalstudies@tarleton.edu)

## International Studies

The department offers a program of study leading to a Bachelor of Arts degree in International Studies. The Bachelor of Arts degree in International Studies is designed for students who seek an interdisciplinary social science training in either a geographic area of the world or a pervasive global issue. Students take relevant courses in a variety of social science disciplines, including history, political science, sociology, geography, and religious studies. Students also complete foreign language coursework relevant to their regional interests. Some foreign languages are offered on campus in Stephenville, and many more can be taken via the A&M system's many study abroad opportunities on various university campuses throughout the world. The major program also allows students to efficiently incorporate a minor program of their choice into their undergraduate studies and engage in study abroad opportunities in preparation for a variety of exciting career opportunities.

## The Bachelor of Arts Degree in International Studies

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )	42
Foreign Language: 1411, 1412, 2311, 2312	14
Program requires 6 hours of the 120 hours needed to graduate to be completed as part of a study abroad program	

### Major Requirements

GEOG 1303 [shared]	World Regional Geography
GOVT 2305 [shared]	Federal Government (Federal Constitution and Topics)
GOVT 2306 [shared]	Texas Government (Texas Constitution and Topics)
HIST 1301 [shared]	United States History I
HIST 1302 [shared]	United States History II

HIST 4331 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	World Since 1919	3
POLS 3308	International Politics	3
INTL 4390 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	International Studies Capstone	3
Select one:		3
GEOG 2451	Introduction to Geographic Information Systems	
GEOG 3312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Economic Geography	
Select one:		3
PHIL 3304	World Religions	
RELI 3304	World Religions	
Select one:		3
POLS 3301	Political Economy of Globalization	
POLS 3314	Comparative Politics	
POLS 4310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	International Environmental Issues	
Select one:		3
POLS 3316 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Political Science Research Methods	
SOCI 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Methods of Social Research	
Select one:		3
SOCI 3320	Social Stratification and Inequality	
SOCI 4313	Globalization <sup>1</sup>	
SOCI 4341	Migration and Society	
<b>History Elective (Choose one)</b>		<b>3</b>
HIST 3306	British History from 1603 to Modern Times	
HIST 3332	Latin America After Independence	
HIST 3335 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	History of Mexico	
HIST 4301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	United States and the World	
HIST 4324	National Histories	
HIST 4325	European Intellectual and Cultural History	
Any Advanced HIST course offered via study abroad		
<b>Political Science Elective (Choose two)</b>		<b>6</b>
POLS 3301	Political Economy of Globalization	
POLS 3314	Comparative Politics	
POLS 4306	European Politics	
POLS 4307	Nationalism	
POLS 4308	Politics of Latin America	
POLS 4309	Politics of the Middle East	
POLS 4313 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	East and South Asian Politics	
POLS 4314 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	African Politics	
POLS 4310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	International Environmental Issues	
POLS 4315	Foreign Policy	
POLS 4385	Political Science Seminar	
Any Advanced POLS course offered via study abroad		
<b>Social Science Elective (Choose two)</b>		<b>6</b>
GEOG 3300	Geography of Latin America	
HIST 3306	British History from 1603 to Modern Times	
HIST 3332	Latin America After Independence	
HIST 3335 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	History of Mexico	
HIST 4301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	United States and the World	

HIST 4324	National Histories	
HIST 4325	European Intellectual and Cultural History	
SOCI 3330	Social Science Statistics	
SOCI 4313	Globalization	
SOCI 4340	Sociology of Contemporary Japan	
SOCI 4399	Sociology of Foreign Culture	
SOCI 4341	Migration and Society	
Any Advanced GEOG, HIST, PHIL, or SOCI course offered via study abroad		
<b>Non-Social Science Elective (Choose one) *</b>		<b>3</b>
AGSD 4355	Mexican Agricultural Relations	
AGEC 4302	International Trade and Agriculture	
BUSI 4344	Introduction to International Business	
BLAW 4384	International Business Law	
CRIJ 3340	Homeland Security	
ECON 4301	International Economics	
ENGL 3341 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Cultural Studies	
MGMT 4354	International Management	
MGMT 4389	Global Management Practices	
MKTG 4354	International Marketing	
SOCW 4059	International Social Work	
SOCW 4313	Human Rights	
SPAN 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Survey of Spanish-America Literature	
SPAN 4304	The Caribbean Experience	
SPAN 4306	Culture and Civilization of Spain and Latin America	
WSES 4341	Southern African Ecology and Culture	
WSES 4342	Study Abroad	
Any Advanced course offered via study abroad		
<b>General Electives</b>		<b>4</b>
<b>Minor (Required) <sup>2</sup></b>		<b>18</b>
Total Hours		120

<sup>1</sup> May require permission of instructor and evaluation of coursework if student has not taken SOCI 1301.

<sup>2</sup> Minor to be chosen in consultation with International Studies program advisor. Minors are recommended based on occupational goals and career interests.

\* **Students may be required to complete additional coursework within the elective options in order to fulfill prerequisite requirements.**

† Course credit only applies to one elective option. Be advised that there are duplicated courses in elective options.

For more information, contact [internationalstudies@tarleton.edu](mailto:internationalstudies@tarleton.edu).

The department also offers a minor in International Studies for students with a different major program of study. The minor in International Studies offers students an opportunity to couple their major program of study with an interdisciplinary understanding of foreign regions and global issues. It is ideal for students who intend to seek career opportunities abroad or to gain a better understanding of the world while here at Tarleton State University.

## Minor in International Studies

### Required Courses

Select four:		12
GEOG 3312	Economic Geography	
GEOG 2451	Introduction to Geographic Information Systems	
HIST 4331 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	World Since 1919	
INTL 4390 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	International Studies Capstone	
PHIL 3304	World Religions	
POLS 3301	Political Economy of Globalization	
POLS 3308	International Politics	
POLS 3314	Comparative Politics	
POLS 3316 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Political Science Research Methods	
POLS 4310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	International Environmental Issues	
SOCI 3320	Social Stratification and Inequality	
SOCI 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Methods of Social Research	



SOCI 4313	Globalization	
SOCI 4341	Migration and Society	
Select two:		6
AGEC 4302	International Trade and Agriculture	
AGSD 4355	Mexican Agricultural Relations	
BLAW 4384	International Business Law	
BUSI 4344	Introduction to International Business	
CRIJ 3340	Homeland Security	
ECON 4301	International Economics	
ENGL 3341 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Cultural Studies	
GEOG 3300	Geography of Latin America	
GEOG 3301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Intro to Travel, Cultural Experience, & Study Abroad	
HIST 3306	British History from 1603 to Modern Times	
HIST 3332	Latin America After Independence	
HIST 3335 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	History of Mexico	
HIST 4301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	United States and the World	
HIST 4324	National Histories	
HIST 4325	European Intellectual and Cultural History	
MGMT 4354	International Management	
MGMT 4389	Global Management Practices	
MKTG 4354	International Marketing	
POLS 4306	European Politics	
POLS 4307	Nationalism	
POLS 4308	Politics of Latin America	
POLS 4309	Politics of the Middle East	
POLS 4313 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	East and South Asian Politics	
POLS 4314 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	African Politics	
POLS 4315	Foreign Policy	
POLS 4385	Political Science Seminar	
SOCI 3330	Social Science Statistics	
SOCI 4340	Sociology of Contemporary Japan	
SOCI 4399	Sociology of Foreign Culture	
SOCW 4059	International Social Work	
SOCW 4313	Human Rights	
SPAN 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Survey of Spanish-America Literature	
SPAN 4304	The Caribbean Experience	
SPAN 4306	Culture and Civilization of Spain and Latin America	
WSES 4341	Southern African Ecology and Culture	
WSES 4342	Study Abroad	
Any courses offered via study abroad		
Total Hours		18

For more information, contact [internationalstudies@tarleton.edu](mailto:internationalstudies@tarleton.edu).

## Philosophy

Philosophy courses foster improved analysis and problem solving skills while teaching clear writing and critical thought. Philosophy focuses on training students to ask the right questions, and some philosophy courses will satisfy the Language, Philosophy, and Culture or Social and Behavioral Sciences components of the core curriculum.

The minor in Philosophy is designed for students who want to supplement their academic major with a program that develops breadth of understanding and clarity of thought. Made up of 18-credit hours of philosophy (PHIL) course work, this minor makes an excellent supplement for students interested in the humanities or those seeking careers in law, medicine, military service, and pastoral ministry.

### Minor in Philosophy

#### Required Courses

PHIL 1301	Introduction to Philosophy	3
PHIL 2303	Introduction to Logic	3
<b>Choose 12 hours from the following (6 hours must be advanced):</b>		<b>12</b>

PHIL 3301	Ethics in the Professions
PHIL 3304	World Religions
PHIL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	History of Christianity and Christian Thought to the Reformation
PHIL 3311	Political Philosophy I
PHIL 3312	Political Philosophy II
PHIL 4086	Problems in Philosophy
PHIL 4305	Environmental Ethics
PHIL 4385	Philosophy Seminar

Total Hours 18

For more information, contact [philosophy@tarleton.edu](mailto:philosophy@tarleton.edu).

## Public Policy

The study of public policy is about understanding the coordination of laws, regulations, programs, and funding priorities utilized by governmental entities and other bodies to achieve goals and better the lives of citizens. Having this critical knowledge will allow students to engage more effectively with the issues that impact them and their communities.

The minor in Public Policy is an 18-credit hour course of study for students who are interested in the public policy facets of their chosen major, prospective vocation, and career. Students have access to a wide-range of policy and policy-related courses taught across all colleges and programs at Tarleton State University.

## Minor in Public Policy

### Required Courses

POLS 4340	US Public Policy	3
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Elective Options (9 advanced hours required) <sup>1</sup>		15
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#### Criminal Justice

CRIJ 2313	Correctional Systems and Practices
CRIJ 3300	Juvenile Delinquency
CRIJ 3308	Comparative Criminal Justice
CRIJ 3330	Community Corrections
CRIJ 3340	Homeland Security
CRIJ 4303	Crime, Justice, and Social Diversity

#### Social Work

SOCW 2362	Social Welfare in America
SOCW 3306	Social Welfare Policy
SOCW 3310	Social Work with Aging Populations
SOCW 4059	International Social Work
SOCW 4311	Child Welfare
SOCW 4313	Human Rights
SOCW 4321	Death and Dying
SOCW 4352	Women's Issues

#### Political Science

POLS 3310	Environmental Politics
POLS 3320	Terrorism and Political Violence
POLS 4310	International Environmental Issues
POLS 4311	Environmental Law
POLS 4312	Religion and Politics
POLS 4315	Foreign Policy
POLS 4320	Weapons of Mass Destruction
POLS 4321	Civil Wars and Military Intervention
POLS 4380	Administration of Justice

#### Economics

ECON 3303	Money And Banking
ECON 3304	Environmental Economics
ECON 3305	Economics of Financial Markets
ECON 3306	Political Economy
ECON 4301	International Economics

#### Sociology

SOCI 2303	Race and Ethnic Relations
SOCI 3305	Criminology
SOCI 3307	Rural Sociology
SOCI 3320	Social Stratification and Inequality
SOCI 4312	Gender in Society
SOCI 4314	Medical and Health Care Policy
SOCI 4322	Age and Ethnic Stratification
SOCI 4341	Migration and Society

#### Business

MGMT 4306	Employee and Labor Relations
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BUSI 2301	Business Law I
BLAW 4333	Business Law II
BLAW 4334	Employment Law
BLAW 4384	International Business Law
<b>Communications</b>	
COMM 3310	Communication Law
<b>Agriculture</b>	
AGEC 4301	Public Agricultural Food Programs
AGEC 4302	International Trade and Agriculture
AGEC 4306	Commodity Futures Markets
AGEC 4325	Recreation and Tourism Economics
AGSD 3380	Formulation of Agriculture & Food Policy
AGSD 4355	Mexican Agricultural Relations
WSES 2322	Principles of Wildlife Conservation and Management
WSES 3315	Sustainability
WSES 3375	Population, Pollution, and Resource Depletion
WSES 3385	Fish and Wildlife Laws and Administration
WSES 4306	Water Resources Policy and Management
<b>Public Health</b>	
PBHL 4310	Introduction to Health Management and Policy
PBHL 4320	Public Health Law
<b>Nursing</b>	
NURS 4314	Policy, Politics, and Ethics
<b>Engineering</b>	
ENGT 4320	Occupational Safety and Health
<b>Education</b>	
CHFS 4350	Policies and Ethical Standards

Total Hours 18

<sup>1</sup> Some courses may require prerequisites or permission of department head/instructor. Please consult with the Minor advisor in the Department of Social Sciences to review prior to registration.

For more information, contact Dr. Nathaniel Cogley at [cogley@tarleton.edu](mailto:cogley@tarleton.edu).

## Environmental Policy

The Certificate in Environmental Policy will help students establish their readiness to work in jobs dealing with environmental law and policy, including advocacy. It also allows students to develop their own worldview and ethics relating to environmental sustainability.

### Certificate in Environmental Policy

#### Required Courses

ECON 3304	Environmental Economics	3
POLS 3310	Environmental Politics	3
GEOL 1407	Introduction to Environmental Science	4
Choose one of the following electives:		3
COMM 3305	Environmental Communication	
PHIL 4305	Environmental Ethics	
POLS 4310	International Environmental Issues	
POLS 4311	Environmental Law	
SOCI 3312	Environmental Sociology	
SOCI 4306	Water Policy	

Total Hours 13

For more information, contact Dr. Anne Egelston at [egelston@tarleton.edu](mailto:egelston@tarleton.edu).

## Department Head

- O'Dell, Dr. Amy

## Professors

- Clifford, Dr. Craig
- Cross, Dr. Malcolm
- Margolis, Dr. Larry

## Associate professors

- Cogley, Dr. Nathaniel
- Hallgarth, Dr. Matthew
- Morrow, Dr. Eric
- Velasco, Dr. Jesus

## Assistant professors

- Aho, Dr. Karl
- Egelston, Dr. Anne
- O'Dell, Dr. Amy
- Reynolds, Dr. Marcie
- Thompson, Dr. Casey

## Instructor

- Forman, Dr. J. Rhett

## Adjunct Instructor

- Anderson, Mr. Andrew
- Closen, Ms. Marla
- Jasieniecki, Ms. Carol
- Kabala, Dr. Boleslaw
- Nicholas, Mr. Marc
- Ruiz, Mr. Richard
- Snyder, Mr. Gregory
- Wright, Dr. C. Daniel

## General Studies Courses

### **GSTU 3398. Career Skills. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is the prerequisite to the General Studies Capstone course (GSTU 4398) and focuses on developing core skills to prepare students for their respective future careers. The course will teach interview skills, resume writing, research methods, teamwork skills, personal marketability, and communication skills. For General Studies majors.

### **GSTU 4398. General Studies Capstone Course. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course requires students to integrate and use fundamental concepts learned in previous courses within the students' degree concentrations including research and analysis of real-world phenomena and problems. Students will work in teams, and students will present written reports on their research, supplemented by appropriate internet and multimedia materials, as well as portfolios documenting their research. This is a writing intensive course for General Studies majors. Prerequisite: GSTU 3398, approved degree plan for Bachelor of Science in General Studies program.

## Government Courses

### **GOVT 2305. Federal Government (Federal Constitution and Topics). 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the American national governmental system. This course with POLS 202 satisfies the legal requirement for graduation from state colleges and universities.

### **GOVT 2306. Texas Government (Texas Constitution and Topics). 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the constitution of the state of Texas and of the state and local governmental units created by the constitution. This course satisfies the TEA requirement for out-of-state teacher certification and, when taken with GOVT 2305, the legal requirement for graduation from state colleges and universities.

## International Studies Courses

### **INTL 4390. International Studies Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course requires students to integrate and use fundamental concepts learned in previous program courses to research and analyze real-world phenomena and issues. Students will conduct research and present a final project that will integrate discipline related methods with developed writing and presentation skills. The project will be coordinated with the minor and will be supervised by faculty in International Studies and the minor.

## Legal Studies Courses

### **LEGL 2330. Introduction to Legal Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an introduction to the study of law and the many opportunities available within the legal services industry. Emphasis is placed on the judicial system and its role within the state and federal governments, the importance of judicial opinions including how to read, understand, and summarize case law, an introduction to legal research and writing, and an overview of the ethical obligations, regulations, professional trends, and skills required of those working in this field. This course is a legal specialty. Prerequisite: ENGL 1301.

### **LEGL 3330. Fundamentals of Jurisprudence. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of the dependence of the law on the political regime. Review of classical and modern conceptions with emphasis on the modern. Prerequisite: GOVT 2305, GOVT 2306.

### **LEGL 3331. Legal History. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the Anglo-American legal tradition. Particular attention paid to legal documents such as Magna Carta, The English Bill of Rights, and the Organic Laws of the United States, and jurists such as Blackstone, Marshall, and Holmes. Prerequisite: GOVT 2305, GOVT 2306.

### **LEGL 3332. Legal Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to expose students to the major ethical problems they may face as part of a legal team. The focus of the course is the ABA Model Code and Model Rules of Professional Conduct. The course also addresses the role of non-lawyers in the delivery of legal services and the various professional codes of ethics which provide guidance to non-lawyers. Emphasis will be placed on related codes of civility, the attorney-client privilege and work product doctrine, proper handling of legal fees and client property, as well as the disciplinary process. This course is a legal specialty.

### **LEGL 3340. Legal Research & Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course provides an introduction to the fundamentals of legal research and writing. After an overview of the various primary and secondary sources, students will invest significant time in hands-on practice using the most common legal sources in print and electronic form. Emphasis will also be placed on properly evaluating, communicating, and attributing findings within the legal genre. This course is a legal specialty. Prerequisite: ENGL 1301, ENGL 1302, LEGL 2330.

### **LEGL 3350. Professional Practices in Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will continue to develop the professional skills and dispositions necessary for students to be competitive in a changing legal profession. Course topics will include emerging technology, critical interpersonal skills, formation of a professional identity, and the positive role that members of the legal profession have played, and continue to play, in our neighborhoods, towns, and communities. Prerequisite: LEGL 2330.

**LEGL 3388. Civil Procedure. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the theory and practical aspects of basic civil litigation, including preliminary investigation, pleadings, motions, discovery, trials, and appeals. Emphasis will be placed on the requirements and restrictions of the Federal Rules of Civil Procedure which apply throughout the United States; however, individual distinctions of the Texas Rules of Civil Procedure will be raised. Prerequisite: LEGL 2330, ENGL 1302.

**LEGL 4084. Paralegal Internship. 3-6 Credit Hours (Lecture: 3-6 Hours, Lab: 0 Hours).**

This course provides students with an external learning experience. Students will work in law offices, corporations, and other industries involved in the delivery of legal services. Students are required to work approximately forty (40) hours for each credit attempted for a minimum of 120-140 hours per 3-units. This course is a legal specialty. Prerequisites: LEGL 2330, LEGL 3332, LEGL 3340, LEGL 3388 and junior or senior status.

**LEGL 4301. Constitutional Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An introduction to the principles of American constitutionalism, specifically, the prerogatives of American political institutions. The subject is approached by close study of the documents which outline these principles, the four Organic Laws of the United States, Supreme Court cases, and political speeches. Prerequisites: GOVT 2305, HIST 1301, and HIST 1302; or approval of the instructor.

**LEGL 4330. Legal Research and Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to legal research and writing. Emphasis on legal sources, case analysis, and legal citation. Prerequisite: LEGL 3330, LEGL 3331, POLS 3309.

**LEGL 4331. Law Office Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to law office management. Emphasis on law office organization, accounting, and legal computing programs. Prerequisite: LEGL 3330, LEGL 3331, LEGL 4330.

**LEGL 4344. Tort Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides a comprehensive overview of civil wrongs (torts). Students will learn the three major categories of torts: intentional torts, negligence, and strict liability. Emphasis will be placed on understanding the elements of various civil claims (causes of action) within each category as well as common defenses. Students will also gain practice at legal analysis, the skill of evaluating the evidence to determine what, if any, claims would be supported. Prerequisite: LEGL 2330.

**LEGL 4346. Texas Wills, Estates, and Probate. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course deals with transfers of property, including intestate succession, probate administration, execution and revocation of wills, the use of trusts in estate planning, and rules of construction that affect will and trust drafting. The course also will cover community property laws and basic estate tax and gift tax principles. Relevant Texas Estates Code and Uniform Probate Code statutes will be used in addition to a textbook. This course is a legal specialty. Prerequisite: LEGL 2330.

**LEGL 4348. Sports and Entertainment Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course deals with an introduction to many fields of law. These are copyright law, publicity and privacy law, First Amendment law, trademark law and contract law. Sports and Entertainment law impacts many different business types such as film, television, music, professional sports, and live theatre. While there are many similarities, the differences can be overwhelming and an introduction to these business types will be covered. Relevant Universal Commercial Code, Title 17 of the United States Code, and the Lanham Act will be used in addition to the textbook. Prerequisite: LEGL 2330.

**LEGL 4350. Family Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to the procedural and substantive law affecting the family and domestic relations. The law affecting prenuptial agreements, separation, divorce, annulments, spousal support, alimony, spousal abuse, custody, child support, and adoption is also discussed. Emphasis is placed on the preparation of relevant legal documents and procedures for various court filings. Prerequisite: LEGL 2330, LEGL 3340.

**LEGL 4382. Virtual Paralegal Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course provides students with a series of simulated, experiential learning environments which give students an interactive law office environment suitable for the development and refinement of competencies needed for the real-world legal workplace. The simulation modules are supplemented with exercises and instruction geared toward preparing students for the transition from the academic environment to the workplace. Prerequisite: LEGL 2330, LEGL 3332, LEGL 3340, LEGL 3388.

**LEGL 4385. Legal Studies Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Specialized legal studies course on topics such as natural law, legal positivism, or Roman constitutionalism. May be taken more than once as topics will vary. Prerequisite: POLS 3309, LEGL 3330 or permission of program coordinator.

**LEGL 4386. Problems: Paralegal Specializations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Specialized paralegal course on topics such as probate, real estate, or litigation. Prerequisite: LEGL 4330, LEGL 4331 or permission of program coordinator.

**LEGL 4390. Legal Studies Capstone Course. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course will serve as a culminating experience where students will demonstrate proficiency in legal analysis and expand their repertoire of documents within the legal genre to include more sophisticated and complex documents such as appellate briefs, multi-issue legal office memoranda, and memoranda in support of a motion. This course is a legal specialty. Prerequisites: LEGL 2330, LEGL 3332, LEGL 3340, LEGL 3388.

## Philosophy Courses

**PHIL 1301. Introduction to Philosophy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the writings of major philosophical authors.

**PHIL 2303. Introduction to Logic. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will introduce the student to the basic principles and concepts of formal logic, formal and informal fallacies, deductive and inductive reasoning, truth tables, symbolic notation, Venn diagrams, and the logic of scientific method. It will also include consideration of the philosophical foundations of logic.

**PHIL 3301. Ethics in the Professions. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will consider both the responsibilities inherent in a profession as such and some of the specific ethical dilemmas that arise in particular professions: business, science, engineering, military, education, medicine, etc. Prerequisite: Junior classification.

**PHIL 3304. World Religions. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the philosophical, ethical, and social dimensions of the religions of the world. Focuses on major religions but lesser known ones may be included. The course will emphasize the diversity of religious experience and traditions. Credit for both PHIL 3304 and RELI 3304 will not be awarded.

**PHIL 3309. History of Christianity and Christian Thought to the Reformation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An overview of the history of Christianity and Christian thought from founding to the beginnings of the Reformation with particular attention to major themes, movements, events, leaders, and developments within their social, cultural and political contexts. The course also offers an introduction to the central ideas and debates that have shaped the historical development of Christian theologies, practices, and institutions. Credit for PHIL, RELI, and HIST 3309 will not be awarded.

**PHIL 3311. Political Philosophy I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Philosophical ideas concerning basic political problems from the Classical Period through the Renaissance. Credit for both PHIL 3311 and POLS 3311 will not be awarded. Prerequisite: PHIL 1301 or GOVT 2305 or POLS 2304 or approval of the instructor.

**PHIL 3312. Political Philosophy II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Philosophical ideas concerning basic political problems since the Early Modern period. Credit for both PHIL 3311 and POLS 3312 will not be awarded. Prerequisite: PHIL 1301 or GOVT 2305 or POLS 2304 or approval of the instructor.

**PHIL 4086. Problems in Philosophy. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Independent reading, research, and discussion. Entry into this course will be arranged with the instructor and department head.

**PHIL 4305. Environmental Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An inquiry into how humans ought to relate to nature, including questions about the moral standing of animals and other non-human beings, environmental justice, and what we may owe to future generations. In addition to exploring universal ethical issues concerning our relationships with the environment, the course will also consider exemplary American and Texan nature writers.

**PHIL 4385. Philosophy Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of major philosophical issues and theories. May be repeated for credit as topic varies. Prerequisite: Junior classification or approval of department head.

**Political Science Courses****POLS 2304. Introduction to Political Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the discipline of political science, with particular emphasis devoted to its development in the modern era. Topics include degree concentrations available in the program, types of political institutions, uses of political science, participation by political scientists in public affairs and public policy, an introduction to research and writing in the discipline, political theory and other discipline theories, and career options available to political science majors. Prerequisites: ENGL 1301 or approval of the instructor.

**POLS 3301. Political Economy of Globalization. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This class introduces students to the political system that manages the global economy. The class looks at theoretical approaches to economic conflict and cooperation, global trade, and global finance. Students will also study problems associated with the global economic system including poverty, inequality, and environmental externalities. Prerequisite: GOVT 2305 or GOVT 2306 or POLS 2304 or ECON 1301 or ECON 2301 or ECON 2302 or approval of the instructor.

**POLS 3302. Elections and Political Parties. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the electoral process in American national, state, and local political systems. Emphasis will be placed on the evolution of the structure and functions of political parties, interest groups, the news media, and other participants in the electoral process. Prerequisite: GOVT 2305 or approval of the instructor.

**POLS 3303. Comparative State and Local Government and Politics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Variations and similarities in the practice of politics and in the administration of government in the states. Particular attention is given to local government and state-national relations. Prerequisite: GOVT 2306 or approval of the instructor.

**POLS 3304. The Executive. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the organization of executive power in American national, state, and local systems. Emphasis will be placed on the evolution of the structure and functions of the Presidency of the United States and national, state, and local bureaucracies, and the role of parties, legislatures, courts, interest groups, and other participants in the executive process. Prerequisite: GOVT 2305 or approval of the instructor.

**POLS 3305. Legislation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the legislative process in American national, state, and local political systems. Emphasis will be placed on the evolution of the structure and functions of the Congress and the state legislatures, and the role of executives, courts, parties, interest groups, and other participants in the legislative process. Prerequisite: GOVT 2305 or approval of the instructor.

**POLS 3307. Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the concepts and practices of American public administration. Prerequisite: GOVT 2305 or approval of the instructor.

**POLS 3308. International Politics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to concepts and theories of international politics. It covers the evolution of the contemporary nation-state system, the role of international governmental institutions, and conflict and cooperation among states. Prerequisites: POLS 2304 or Junior standing or approval of the instructor.

**POLS 3309. The Judiciary. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the organization of the judiciary in American national, state, and local systems. Emphasis will be placed on the structure and function of the courts, plus the roles of the executive and legislative branches in selecting judges and checking the power of the courts, and the roles played by interest groups and others in influencing the courts. Prerequisite: GOVT 2305 or approval of the instructor.

**POLS 3310. Environmental Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An introduction to the politics of environmental protection in America. The focus of the course is upon domestic environmental policy with particular attention paid to traditional media - air, water, and hazardous waste. Prerequisite: GOVT 2305.

**POLS 3311. Political Philosophy I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Philosophical ideas concerning basic political problems from the Classical period to the Renaissance. Credit for both PHIL 3311 and POLS 3311 will not be awarded. Prerequisite: PHIL 1301 or GOVT 2305 or POLS 2304 or approval of instructor.

**POLS 3312. Political Philosophy II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Philosophical ideas concerning basic political problems since the Early Modern period. Credit for both PHIL 3312 and POLS 3312 will not be awarded. Prerequisite: PHIL 1301 or GOVT 2305 or POLS 2304 or approval of instructor.

**POLS 3314. Comparative Politics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to the politics of several nations in Europe, Africa, Latin America, and the Middle east. The course focuses on the analysis of major political developments in the post- World War II era leading to the present. Topics discussed include: the legacy of the past, governing structures and processes, and contemporary political debates. Prerequisites: POLS 2304 or Junior standing or approval of the instructor.

**POLS 3315. Sustainability. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explore the varied perspectives of sustainability and analyze factors that contribute to or decrease system sustainability. Investigation of the social, economic, and environmental barriers to achieving sustainable systems and options for overcoming these barriers. Credit will be awarded only for POLS 3315, ENVS 3315, or WSES 3315. Prerequisites: GOVT 2305 or GOVT 2306 or POLS 2304 or approval of the instructor.

**POLS 3316. Political Science Research Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course introduces students to the process of conducting research in the social sciences. Material will focus on developing research questions and extrapolating hypotheses from them, correctly and accurately reviewing prior relevant literature and how/when to cite it, applying qualitative and quantitative methods, finding sources of data and developing a case study, understanding the IRB process, and preparing a research proposal that can be reviewed and refined in preparation for a Capstone project. Prerequisites: POLS 2304 (Political Science majors) or Junior standing (all other majors) or approval of the instructor.

**POLS 3323. Political Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analysis of political campaigns in modern society, including history, design and effects of campaigns. Students will study the uses of different media for campaign purposes, working in teams to achieve common goals.

**POLS 4084. Internship. 3-6 Credit Hours (Lecture: 0 Hours, Lab: 16-30 Hours).**

Application and integration of academic study and development of skills in a field setting. Field projects include direction of a political campaign, internship in a city or county administrative office, or in a not-for-profit organization for analyzing or carrying out governmental policy. Minimum of 200 hours of work required for 3 hours of credit. Prerequisites: 2.5 overall grade point average, advanced standing, and approval of department head. Field experience fee \$50.

**POLS 4086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Independent reading, research and discussion. Entry into this course will be arranged with the political science counselor.

**POLS 4301. Constitutional Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An introduction to the principles of American constitutionalism, specifically, the prerogatives of American political institutions. The subject is approached by close study of the documents which outline these principles, the four Organic Laws of the United States, Supreme Court cases, and political speeches. Prerequisites: GOVT 2305, HIST 1301, and HIST 1302; or approval of the instructor.

**POLS 4302. Constitutional Law II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

The origin and development of constitutional prohibitions as shown by leading U.S. Supreme Court decisions on civil rights, contracts, due process, economic regulation, eminent domain, labor relations, obscenity, political utterance, and religion. Prerequisite: POLS 4301.

**POLS 4306. European Politics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Comparative examination of European politics and government, with particular attention to the European Union and policy processes at the nation-state and EU levels. This course may be conducted either as a regular seminar on campus or as part of a study-abroad opportunity. Students who take the course on campus may repeat it once for credit as a study-abroad opportunity, or vice versa. Prerequisites: POLS 2304 or Junior standing or approval of the instructor.

**POLS 4307. Nationalism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examination of theories of nationalism and national identity, origins of ethno-centric conflict, and impacts of national identity on political issues. Prerequisite: POLS 2304 or Junior standing or approval of the instructor.

**POLS 4308. Politics of Latin America. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an analysis of contemporary political issues, economic development, militarism, and democratization in Latin America. In attempting to explain these phenomena, the course will focus on the shaping influences of such key factors as religion, gender, race, ethnicity, and the impact of external powers in shaping political events in the region. Prerequisites: POLS 2304 or Junior standing or approval of the instructor.

**POLS 4309. Politics of the Middle East. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the history and politics of the Middle East in the 20th century. Specifically, this course will analyze such critical political, social, intellectual, and economic themes as colonialism, Arab nationalism, secular modernism, military conflict, the rise of political Islam, the status of women, and the oil revolution. Prerequisites: POLS 2304 or Junior standing or approval of the instructor.

**POLS 4310. International Environmental Issues. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An introduction to environmental politics and policy at the international level. The focus of this course is upon global environmental policy with particular attention paid to the processes that create and shape global environmental policy. Prerequisites: POLS 2304 or Junior standing or approval of the instructor.

**POLS 4311. Environmental Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Focuses on US environmental law and regulations including administrative law and common law. Major laws dealing with air, water, and hazardous waste will be assessed, including citizen participation within the legal process. Prerequisite: GOVT 2305 or GOVT 2306 or POLS 2304 or approval of the instructor.

**POLS 4312. Religion and Politics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An examination of the major theories of the relationship of religion and politics and a survey of this relationship in the United States with a focus on religious liberty, church-state relations, and religious advocacy. Additional focus on Christian-majority states in Europe and the Americas and Muslim-majority states and the relationship of Islam and government, as well as critical contemporary issues. Students cannot receive credit for both POLS 4312 and RELI 4312. Prerequisites: POLS 2304 or PHIL 3304 or RELI 3304 or Junior standing or approval of the instructor.

**POLS 4313. East and South Asian Politics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Government organization and functions, political processes, and major developments in the political systems of Japan, China, Korea, India, Pakistan, and other states in East and South Asia from the 20th century to the present. Prerequisites: POLS 2304 or Junior standing or approval of the instructor.

**POLS 4314. African Politics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course introduces students to the major political issues and dynamics in sub-Saharan Africa, including traditional political systems, the effects of colonialism, political culture, public policy, the role of the military, domestic conflict, corruption, institutionalization, democratization, development, foreign aid, and regional integration. Prerequisite: Junior or Senior status or POLS 2304.

**POLS 4315. Foreign Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of America's role in the modern world. Particular emphasis is placed on the policy makers, for example, the President, Congress, the State Department, and the Department of Defense, and on external factors such as other nations. Prerequisite: GOVT 2305 or POLS 3308 or approval of the instructor.

**POLS 4340. US Public Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an overview of the development of public policy in the United States and offers students the opportunity to understand this process in relation to their research interests. A major research project on a specific policy issue is developed over the course of the term. Credit will not be awarded for both POLS 4340 and POLS 5340. Prerequisite: GOVT 2305 or approval of the instructor.

**POLS 4385. Political Science Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Independent reading, research, discussion, and paper writing, under personal direction of instructor. Prerequisite: POLS 2304 or GOVT 2305 or approval of the instructor. May be taken more than once for credit.

**POLS 4390. Political Science Capstone Course. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course requires students to integrate and use fundamental concepts learned in previous political science courses to research and analyze real-world political phenomena and problems. Students will present oral and written reports on their research, supplemented by appropriate internet and multimedia materials, as well as portfolios documenting their research. Prerequisite: POLS 3316 or SOCI 4302 or permission of the instructor.

## Religious Studies Courses

**RELI 1301. Survey of the Old Testament. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the historical background and basic teachings of the Old Testament and its influence in the ancient world.

**RELI 1302. Survey of the New Testament. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the historical background and basic teachings of the New Testament and its influence in the ancient world.

**RELI 3304. World Religions. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the philosophical, ethical, and social dimensions of the religions of the world. Focuses on major religions but lesser known ones may be included. The course will emphasize the diversity of religious experience and traditions. Credit for both PHIL 3304 and RELI 3304 will not be awarded.

**RELI 3309. History of Christianity and Christian Thought to the Reformation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An overview of the history of Christianity and Christian thought from founding to the beginnings of the Reformation with particular attention to major themes, movements, events, leaders, and developments within their social, cultural and political contexts. The course also offers an introduction to the central ideas and debates that have shaped the historical development of Christian theologies, practices, and institutions. Credit will not be awarded for more than one of the following courses: PHIL 3309, HIST 3309, and RELI 3309.

**RELI 4312. Religion and Politics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An examination of the major theories of the relationship of religion and politics and a survey of this relationship in the United States with a focus on religious liberty, church-state relations, and religious advocacy. Additional focus on Christian-majority states in Europe and the Americas and Muslim-majority states and the relationship of Islam and government, as well as critical contemporary issues. Students cannot receive credit for both POLS 4312 and RELI 4312. Prerequisites: GOVT 2305 and GOVT 2306.

## History, Sociology, Geography and GIS

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The Department of History, Sociology, Geography and GIS is dedicated to preparing its majors for a variety of careers in the rapidly growing job market. We establish a firm foundation of knowledge and understanding that prepares students for the industry, academia, administrative and policy positions in the government at all levels, and helping all students to become knowledgeable and productive citizens and leaders in their communities through the Core Curriculum and our upper level offerings. Our mission is achieved through the coordination of the disciplines in the department.

### History

The Bachelor of Arts Degree in History offers courses with a variety of topics taught by exceptional faculty. The degree provides students with exciting opportunities to explore how historians investigate, analyze, and write about history. The focus is on critical thinking and writing, as history is about solving problems, investigating mysteries, and writing clearly and persuasively. The skills gained in this program can be applied in nearly any career. The strength of this program is evident in the quality of students and faculty. From scholarly publications with major presses to excellence in the classroom, the program faculty offers a wide range of specializations, quality instruction, and mentoring in research, and conference presentations. Students have opportunities to engage in many activities from research and presentations related to courses, study abroad and away programs, campus student organizations, internships, area opportunities in local and public history, and much more.

### Sociology

The Bachelor of Science Degree in Sociology provides students with the opportunity to become experts in understanding society and the interactions of individuals through a variety of courses taught by exceptional faculty. The focus is on understanding social events. Students that major in this program will receive a well-rounded liberal arts education, learn the basics of research, communicate effectively verbally and in writing, and will be qualified candidates for jobs in businesses and with the government.

### Geography and GIS

The Bachelor of Science Degree in Geography and GIS provides students with the opportunity to acquire the knowledge and develop technical skills that are needed in every sector of the economy, from agricultural production, to natural resource management, to oil exploration, to facility management, to manufacturing, to urban planning, to retail location, to gathering census data, to space exploration. The department also offers a Bachelor of Applied Arts and Sciences in GIS, which caters to the needs of nontraditional students with existing military, technical or vocational credits in some aspects of GIS. The BAAS in GIS is offered only online and on the Fort Worth campus. Students who major in this discipline will learn how to use computers, with the aid of powerful and very sophisticated software and other related tools to gather, store, analyze and display spatial/geographic/location data. Graduates in this field will be able to work across a variety of disciplines. This programs places a lot of emphasis on hands-on and students will learn from a variety of exceptional faculty.

## The Bachelor of Arts Degree in History

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>		42
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
Sophomore English [shared]		
Choose one of the following [shared]:		
MATH 1314	College Algebra	
MATH 1324	Math for Business & Social Sciences I (Finite Mathematics)	
MATH 1332	Contemporary Mathematics I	
MATH 1342	Elementary Statistical Methods	
MATH 2412	Precalculus Math	
MATH 2413	Calculus I	
HIST 2321	World Civilizations I	3
HIST 2322	World Civilizations II	3
HIST 3340 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Historical Methods	3



HIST 4390 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	History Capstone	3
Select 1 of the following Writing Intensive courses:		3
HIST 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Colonial North America	
HIST 3312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	A Nation Divided, 1815-1860	
HIST 3315 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Rise of Industrial America, 1877-1929	
HIST 3320 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	The Renaissance and Reformation	
HIST 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Europe in the Age of Absolutism	
HIST 3335 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	History of Mexico	
HIST 4301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	United States and the World	
HIST 4305 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Ideas in Action: American Social Thought from the Progressive Era to the Present	
HIST 4311 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Research in American Political History since 1929	
HIST 4312 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Social History of the United States Before 1865	
HIST 4320 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Europe 1850-1919	
HIST 4331 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	World Since 1919	
Advanced HIST		6
Foreign Language 1411, 1412, 2311, 2312		14
Total Hours		77

### Additional Required Courses for Concentrations

#### Without Teacher Certification

Advanced HIST		9
Advanced POLS		6
Select one of the following:		3
ECON 1301	Introduction To Economics	
ECON 2301	Principles of Macroeconomics	
ANTH 2351	Cultural Anthropology	
SOCI 1301	Introductory Sociology	
SOCI 2303	Race and Ethnic Relations	
GEOG 1303	World Regional Geography	
GEOG 1320	Introduction to Human Geography	
Select one of the following:		3
PHIL 1301	Introduction to Philosophy	
PHIL 2303	Introduction to Logic	
PHIL 3301	Ethics in the Professions	
PHIL 4385	Philosophy Seminar	
RELI 1301	Survey of the Old Testament	
RELI 1302	Survey of the New Testament	
RELI 3304	World Religions	
Advanced Hours from ARTS, CRIJ, COMM, ENGL, MUSI, POLS, RELI, SOCI, SOCW, THEA		9
Electives (9 Hours Advanced) <sup>2</sup>		13
Total Hours		43

#### Secondary Certification/Option 1

HIST 3304	History of Texas	3
READ 3351	Content Area Literacy	3
EDUC 3321	Foundations of Teaching: Middle and Secondary Classrooms	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3

EDSP 4361	Teaching Strategies for Adolescent Students with Learning Disabilities	3
EDUC 4335	Issues of Professionalism	3
EDUC 4690	Clinical Teaching	6
Advanced HIST		6
Advanced POLS		6
Select one of the following:		3
ECON 1301	Introduction To Economics	
ECON 2301	Principles of Macroeconomics	
ANTH 2351	Cultural Anthropology	
SOCI 1301	Introductory Sociology	
SOCI 2303	Race and Ethnic Relations	
GEOG 1303	World Regional Geography	
GEOG 1320	Introduction to Human Geography	
Select one of the following:		3
PHIL 1301	Introduction to Philosophy	
PHIL 2303	Introduction to Logic	
PHIL 3301	Ethics in the Professions	
PHIL 4385	Philosophy Seminar	
RELI 1301	Survey of the Old Testament	
RELI 1302	Survey of the New Testament	
RELI 3304	World Religions	
Select one of the following:		3
PSYC 2308	Child Psychology	
PSYC 3303	Educational Psychology	
CHFS 3300	Child Development	

Total Hours 45

#### Social Studies Composite Certification/Option 4

HIST 3304	History of Texas	3
Advanced POLS		6
GEOG 1303	World Regional Geography	3
ECON 2301	Principles of Macroeconomics	3
ECON 2302	Principles of Microeconomics	3
EDUC 3321	Foundations of Teaching: Middle and Secondary Classrooms	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
EDSP 4361	Teaching Strategies for Adolescent Students with Learning Disabilities	3
EDUC 4335	Issues of Professionalism	3
EDUC 4690	Clinical Teaching	6
READ 3351	Content Area Literacy	3
Select one of the following:		3
GEOG 1320	Introduction to Human Geography	
GEOG 2312	Economic Geography	
Select one of the following:		3
PSYC 2308	Child Psychology	
PSYC 3303	Educational Psychology	
CHFS 3300	Child Development	

Total Hours 45

<sup>1</sup> Please see Academic Information section.

<sup>2</sup> Consult with your academic advisor before selecting electives. Students who cannot prove computer literacy should take BCIS 1305 Business Computer Applications.

#### Minor in History

##### Required Courses

HIST 1301	United States History I	3
HIST 1302	United States History II	3
HIST 3340 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Historical Methods	3
One of the following:		3
HIST 2321	World Civilizations I	
HIST 2322	World Civilizations II	
Upper Level History Electives		6
Total Hours		18

#### The Bachelor of Science Degree in Sociology

##### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1, 2</sup>		42
SOCI 1301 [shared]	Introductory Sociology	

SOCI 1306	Social Problems	3
SOCI 2303	Race and Ethnic Relations	3
SOCI 3330	Social Science Statistics	3
SOCI 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Methods of Social Research	3
SOCI 4303 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Sociological Theory	3
SOCI 4399	Sociology Internship/Capstone	3
<b>Field of Study Courses:</b>		
SOCI 1301	Introductory Sociology	
SOCI 1306	Social Problems	
SOCI 2303	Race and Ethnic Relations	
This course aligns with the THECB Field of Study SOCI 2319 course		
SOCI 3301	Sociology of the Family	
This course aligns with the THECB Field of Study SOCI 2301 course		
Total Hours		60

### Additional Required Courses for Concentrations

#### General Sociology

Advanced SOCI Electives		24
Electives (3 hours must be advanced)		18
Minor (6 hour must be advanced)		18
Total Hours		60

#### Pre-Ministry

Choose one of the following [shared]:

COMM 1311	Introduction to Speech Communication	
COMM 1315	Public Speaking	
COMM 2302	Business and Professional Speaking	
PSYC 2315	Psychology of Adjustment	3
PSYC 2314	Life Span Growth & Development	3
RELI 1301	Survey of the Old Testament	3
RELI 1302	Survey of the New Testament	3
RELI 3304	World Religions	3
RELI 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	History of Christianity and Christian Thought to the Reformation	3
COMM 3304	Interpersonal Communication	3
SOCI 3301	Sociology of the Family	3
SOCI 4304	Sociology of Religion	3
SOCI 4305	Social Psychology	3
Choose 4 from the following:		12
SOCI 3304	Medical Sociology	
SOCI 3310	Sociology of Aging	
SOCI 3320	Social Stratification and Inequality	
SOCI 4312	Gender in Society	
SOCI 4321	Death and Dying	
Advanced Electives or Advanced Minor Courses		6
Electives or Minor Courses		12
Total Hours		60

#### Social Justice

SOCI 3320	Social Stratification and Inequality	3
SOCI 3368	Social Movements	3
SOCI 4312	Gender in Society	3
<b>One of the following:</b>		<b>3</b>
SOCI 3308	Deviant Behavior	
SOCI 4301	Sociology of Conspiracy Theories	
SOCI 4305	Social Psychology	
<b>18 hours from the following - you may choose from any subject area</b>		<b>18</b>
Medical and Health Care Issues		
SOCI 3304	Medical Sociology	
SOCI 3310	Sociology of Aging	
SOCI 4314	Medical and Health Care Policy	
SOCI 4321	Death and Dying	
Diversity Issues		
SOCI 2300	Hispanics in the United States	

SOCI 4311	Sociology of Sex	
SOCI 4341	Migration and Society	
Environmental Issues		
SOCI 3312	Environmental Sociology	
SOCI 4306	Water Policy	
Community Issues		
SOCI 3301	Sociology of the Family	
SOCI 3305	Criminology	
SOCI 3306	Urban Sociology	
SOCI 3307	Rural Sociology	
Globalization and Culture Issues		
SOCI 4313	Globalization	
SOCI 3338	Sociology of Superheroes	
Religious Issues		
SOCI 4304	Sociology of Religion	
Electives		12
<b>Must complete one of the following minors (6 hours in the minor must be advanced):</b> <sup>3</sup>		<b>18</b>
Communications		
Ethnic and Cultural Studies		
Gender and Sexuality Studies		
Geography		
Hispanic Studies		
History		
Leadership Studies		
Legal Studies		
Marketing		
Political Science		
Public Health		
Public Policy		
Social Work		
Spanish		
Total Hours		60

<sup>1</sup> Please see Academic Information section.

<sup>2</sup> Students who share Minor requirements with other program, or general education, requirements will need additional credit hours to meet the 120 hour degree requirement. If students share advanced hour requirements then additional advanced credit hours will be required to meet the 45 advanced hour requirement.

<sup>3</sup> Some minors may require additional coursework beyond the 18 hours.

## Minor in Sociology

### Required Courses

SOCI Courses		12
Advanced SOCI Courses		6
Total Hours		18

## The Bachelor of Science Degree in Geography and Geographic Information Systems

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
ENGL 1301 [shared] [WI] ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )	Composition I	
ENGL 1302 [shared] [WI] ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )	Composition II	
GEOG 1303 [shared]	World Regional Geography	
MATH 1314 [shared]	College Algebra	
GEOG 1320	Introduction to Human Geography	3
GEOL 1408 [shared]	Natural Disasters	
GEOG 1451 [shared]	Pre-GIS: GPS, VGI and Cartography	
GEOG 2451	Introduction to Geographic Information Systems	4
GEOG 3312	Economic Geography	3
GEOG 3450	Intermediate Geographic Information Systems	4
BCIS 3333	C# Programming	3
SOCI 3330	Social Science Statistics	3
GEOG 3352	Introduction to Crime Mapping	3
GEOG 4450	Advanced Geographic Information Systems	4
GEOG 4451	Applied Remote Sensing	4
ENGL 3309 [WI] ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )	Technical Writing and Document Design	3

Choose three of the following		9-11
WSES 1301	Society, Natural Resources, and the Environment	
GEOL 1407	Introduction to Environmental Science	
WSES 2405	Ecology for Natural Resource Managers	
GEOG 3300	Geography of Latin America	
GEOG 3301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Intro to Travel, Cultural Experience, & Study Abroad	
WSES 3315	Sustainability	
BCIS 3332	Java Programming	
EASC 3330	Meteorology	
EASC 3360	Remote Sensing	
EASC 3370	Biogeography	
Choose three of the following		9
ENVS 3302	Soils, Land Use, and The Environment	
GEOL 3310	Geomorphology	
SOCI 3312	Environmental Sociology	
EASC 3340	Oceanography	
BCIS 3342	Advanced Java Programming	
BCIS 3343	Advanced C# Programming	
COSC 3360	Python Programming for Data Science	
BCIS 4301	Database Theory and Practice	
BCIS 4352	Structured Query Language	
Electives (12 hours must be advanced)		26
Total Hours		120

## The Bachelor of Applied Arts and Sciences Degree in Geographic Information Systems

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
<b>Prior Learning Credit</b>		<b>12-33</b>
GEOG 3312	Economic Geography	3
BCIS 3333	C# Programming	3
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	3
GEOG 3352	Introduction to Crime Mapping	3
GEOG 3450	Intermediate Geographic Information Systems (must be taken before or concurrently with GEOG 4450)	4
GEOG 4450	Advanced Geographic Information Systems	4
GEOG 4451	Applied Remote Sensing	4
BCIS 3343	Advanced C# Programming	3
BCIS 4301	Database Theory and Practice	3
BCIS 4352	Structured Query Language	3
Choose any advanced GEOG electives		6
Electives		6-27
Total Hours		120

## Certificate in Geographic Information Systems

### Required Courses

GEOG 2451	Introduction to Geographic Information Systems	4
GEOG 3450	Intermediate Geographic Information Systems	4
GEOG 4450	Advanced Geographic Information Systems	4
Choose two of the following		6-8
GEOG 1451	Pre-GIS: GPS, VGI and Cartography	
EASC 3360	Remote Sensing	
GEOG 4451	Applied Remote Sensing	
GEOG 3352	Introduction to Crime Mapping	
WSES 3305	GIS for Natural Resource Scientists	
ENVS 3302	Soils, Land Use, and The Environment	
AGSD 3318	Land Surveying and Soil/Water Conservation Practices	
BCIS 3332	Java Programming	
BCIS 3342	Advanced Java Programming	
BCIS 3333	C# Programming	

BCIS 3343	Advanced C# Programming	
Total Hours		18

## Minor in Geography

### Required Courses

GEOG 1303	World Regional Geography	3
GEOG 1320	Introduction to Human Geography	3
GEOG 1451	Pre-GIS: GPS, VGI and Cartography	4
GEOG 2312	Economic Geography	3
GEOG 3300	Geography of Latin America	3
GEOG 3301 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Intro to Travel, Cultural Experience, & Study Abroad	3

Total Hours		19
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### Professor

- Dr. Jason LaTouche

### Associate professors

- Dr. Richard Cruz
- Dr. Atsuko Kawakami

### Assistant professors

- Dr. Opeyemi Zubair
- Dr. Robert Cavazos
- Dr. Derek Lehman
- Dr. Jensen Branscombe
- Dr. Patrick Funicello
- Dr. Christopher Hickman
- Dr. Deborah Liles
- Dr. Paul Banda
- Dr. Steven Peach
- Dr. Aaron George

### Visiting Assistant Professor

- Dr. Yuen (Yolanda) Tsang

### Senior Instructor

- Mr. Ted Roberts

### Instructor

- Dr. Jahue Anderson

### Adjunct instructor

- Mr. John Martins
- Mr. Joshua Wallace
- Ms. Charley Henderson

## Geography Courses

### **GEOG 1303. World Regional Geography. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the basic concepts of geography through a study of the major regions of the world. This course enhances the understanding of world events, lifestyles, environments, cultures, and conflicts and emphasizes thinking spatially to study human-land relationships.

### **GEOG 1320. Introduction to Human Geography. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to geography as a social science, emphasizing the relevance of geographic concepts to human problems.

### **GEOG 1451. Pre-GIS: GPS, VGI and Cartography. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

An introductory course to GIS. Pre-GIS focuses on the knowledge, instruments, and data necessary for GIS. Pre-GIS is a student-centered, hands-on course that will introduce students to the GIS concepts that are intrinsic in introductory and advanced GIS courses. Students will create virtual maps by gathering data points using GPS instruments. Students will then use GIS to create detailed information relating to their map and data points to answer questions posed in the course. Lab fee: \$2.

### **GEOG 2301. The Geography of Texas. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course uses the key concepts of regional geography to study the evolving character and nature of the different areas of Texas. The interaction of people and environment is used to study the economic development, social and political issues, urbanization, and other changes in Texas in the past and present.

### **GEOG 2451. Introduction to Geographic Information Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Basic concepts of design, planning and implementation of geographic information systems. Students will learn how to create, manipulate, project, and interpret geographic information. Students are strongly encouraged to take GEOG 1451: Pre-GIS. Lab fee: \$2.

### **GEOG 3300. Geography of Latin America. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the physical and cultural regions of Latin America. The course will examine the Spanish and Portuguese divide, indigenous, Afro, Asian, and European influence within one of the world's most vibrant regions. Prerequisite: GEOG 1303, or permission of instructor.

**GEOG 3301. Intro to Travel, Cultural Experience, & Study Abroad. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An introduction to travel and cultural experience, preparing students to maximize their perspective study abroad and international experiences. The course does not take students abroad, and the student does not need to be enrolled in a study abroad program to take this course.

**GEOG 3312. Economic Geography. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course examines economic activity and production as a function of geographic location. It introduces the basic concepts related to the advance, spread, and distribution of economic activity around the planet and considers the forces that are reshaping the global economy, the fundamentals of spatial economics, and classical location theories.

**GEOG 3352. Introduction to Crime Mapping. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The course provides conceptual knowledge and practical skills to design and implement a GIS-based analysis of community crime problems. This course constitutes an introduction to the scope and methods of crime mapping and analysis. The theory, logic, and practical applications of mapping and analysis are examined with a focus on developing a knowledge base, skills, and integration of mapping and analysis concepts that are applicable to crime detection and prevention. No prerequisites. Lab fee: \$2.

**GEOG 3450. Intermediate Geographic Information Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course covers intermediate topics in geographic information systems (GIS) that will allow students to succeed in the advanced GIS class Prerequisite: GEOG 2451 for GIS-BS students only Lab fee: \$2.

**GEOG 4084. Internship. 1-4 Credit Hours (Lecture: 0 Hours, Lab: 1-4 Hours).**

Directed real-world learning experience under the supervision of a practicing GIS professional. The internship assignment must be approved by an academic advisor in the Geography and GIS program prior to enrollment. The internship must be related to the student's field of study and requires at least 240 hours of supervised work during the semester term. Student maintains a weekly log of work experience gained and, at semester-end, prepares a written report reflecting on the work experience. Student also provides to the academic advisor the employer's evaluation of performance and maintains records of all the listed documentation. No credit will be given for previous experience or activities. Prerequisites: Junior or Senior classification and approval of department head.

**GEOG 4086. Geography Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

**GEOG 4385. Geography Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will consider major issues in modern geography. May be repeated for credit when topics vary. Prerequisites: GEOG 1303, junior classification or permission of instructor.

**GEOG 4450. Advanced Geographic Information Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course focuses on advanced topics in geographic information systems (GIS), manipulation of raster data; advanced spatial analysis; advanced geoprocessing, and spatial modeling. Prerequisites: GEOG 3450 and for GIS majors only: GEOG 2451 Lab fee: \$2.

**GEOG 4451. Applied Remote Sensing. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course focuses on advanced topics in satellite remote sensing and digital image processing. Students will learn how to processes, interpret, classify and analyze satellite data for different applications. Lab fee: \$2.

## History Courses

**HIST 1301. United States History I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a survey of United States history from the first European contacts through the end of the Reconstruction Period. It is designed to cover the broad sweep of United States political, cultural, social, and economic history with emphasis on those periods that have helped to shape a distinctive American character. This course with HIST 1302 will fulfill the legislative requirement of two semesters of United States history.

**HIST 1302. United States History II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course continues the survey of United States history to present times. The emphasis is on the developments that contributed to the growth of modern America. This course with HIST 1301 will fulfill the legislative requirement of two semesters of United States history.

**HIST 2321. World Civilizations I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of world history from prehistoric times to the beginning of the 18th century. Special attention will be given to the origins of civilization in Africa, Asia, and the Middle East and its development through the ancient, medieval, and early modern eras.

**HIST 2322. World Civilizations II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of world history from the beginning of the 18th century to the present. Special emphasis will be placed on the rise and fall of Western global influence between the 18th and 20th centuries, and the numerous repercussions of this development.

**HIST 3302. The Ancient World. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the ancient Near East, Greece, the Hellenistic period, and the Roman Republic and Empire. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of the department head.

**HIST 3303. Europe in the Middle Ages. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of Medieval Europe from the decline of the ancient world to the eve of the Renaissance. Special attention will be given to the examination of economic and social changes underlying the formation and development of medieval civilization. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 3304. History of Texas. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of Texas from the Spanish colonial period to the present, with special attention to the Hispanic heritage, the Revolution and Republic, the Civil War and Reconstruction, and the political and economic developments of the modern state. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 3305. England and Great Britain to 1603. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of English history from Roman Britain to the death of Queen Elizabeth and the end of the Tudor dynasty. Special emphasis will be in political, legal, and religious changes which formed the foundations of modern England. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or approval of department head.

**HIST 3306. British History from 1603 to Modern Times. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of English and British history from 1603 to modern times. Special emphasis will be on constitutional, political, economic, and legal changes. Included as well will be a survey of the empire and the United Kingdom. Prerequisite: 6 hours HIST or approval of department head.

**HIST 3309. History of Christianity and Christian Thought to the Reformation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An overview of the history of Christianity and Christian thought from founding to the beginnings of the Reformation with particular attention to major themes, movements, events, leaders, and developments within their social, cultural and political contexts. The course also offers an introduction to the central ideas and debates that have shaped the historical development of Christian theologies, practices, and institutions. Credit will not be awarded for more than one of the following courses: PHIL 3309, HIST 3309, and RELI 3309. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 3310. Colonial America. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This writing intensive course tracks the history of North America from first contact between American Indians, Europeans, and Africans to 1800. The course emphasizes research into the primary and secondary sources relevant to European-Indian relations; imperial and intertribal rivalries; the emergence of slavery and plantation societies; and the development of the Spanish, English, Dutch, and French mainland colonies. Each student will complete a rigorous original research project that examines this history. Prerequisites: HIST 1301 and 1302; 3340 as prerequisite or concurrent course, which is already an extant expectation.

**HIST 3311. Creating a Nation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The United States from 1763 to 1815. The course concentrates on the causes and consequences of the American Revolution, the creation of the Constitution, the role of slavery, and the tumultuous political and social events of the young republic. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or approval of department head.

**HIST 3312. A Nation Divided, 1815-1860. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

The United States from 1815 to 1860. An era shrouded in myth and legend, the early decades of the 19th century saw dramatic changes in American technology, politics, religion, economics, and society. From railroads, reforms, and religion, to political parties, Old Hickory, and the Cotton Kingdom, antebellum America was an exciting and critical time. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 3313. Civil War and Reconstruction. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The United States from 1850 to 1877. From the infamous "Compromise of 1850" through the notorious "Compromise of 1877," this course will cover the immediate causes of disunion, the military and political battles of the Civil War, and the turbulent, controversial era of Reconstruction. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 3315. Rise of Industrial America, 1877-1929. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

The United States from 1877 to 1929. In the years following the Civil War and Reconstruction, the nation experienced dramatic economic and social changes. An era made famous by Big Business, Robber Barons, corruption, and the Roaring Twenties, this period also saw the birth of a global American Empire, the rise of Populist and Progressive reformers, and the development of conditions that would lead to the Great Depression. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 3317. U.S. Military History. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the beginnings and growth of the American military tradition from the first English colonies through the new challenges of the 20th Century requiring changes and growth in the American military tradition. Important battles will be considered, especially those that illustrate tactical and technological developments. The primary emphasis of the class, however, will be on policy and strategic thought. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or department head approval; the HIST 3340 prerequisite is waived for Military Science students.

**HIST 3320. The Renaissance and Reformation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A survey of European political, diplomatic, and cultural history from 1300 to 1648. The course will focus on Renaissance Humanism, the Protestant movements, the Catholic Reformation, and the emergence of the European state system during the age of religious wars. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or approval of department head.

**HIST 3321. Europe in the Age of Absolutism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A study of the European state system from the end of the Thirty Years War to the outbreak of the French Revolution. The course will concentrate on the consolidation of absolute monarchies, the rise of colonial empires, enlightened despotism, and the proliferation of Enlightenment ideas in Europe. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of Department Head.

**HIST 3322. Revolutionary Europe 1789-1850. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the forces of change in modern Europe, beginning with the rise of Liberalism in the eighteenth century and culminating with the failure of the revolutionary movements of 1848-49. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or approval of department head.

**HIST 3323. Women and Gender in U.S. History. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines shifting conceptions and experiences of gender in the United States from the colonial period through the present. Topics to be covered include changing notions of masculinity and femininity; race, ethnicity, and sexual politics; the long struggle for women's rights; shifting family patterns; the media and popular culture; labor and the workplace; and the culture wars. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 3332. Latin America After Independence. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course on the history of Modern Latin America will discuss the American global hegemony, conflicts among civilizations, North and South separation, and Latin American influence in the Hispanic world. Prerequisites: 6 hours and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 3335. History of Mexico. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A survey of the political, economic, social, and cultural history of Mexico that includes pre-Columbian civilizations, especially the Maya and Aztec, the Spanish colonial era, and the national period. Prerequisites: 6 hours of HIST and HIST 3340 (this course can also be taken concurrently), or permission by department head.

**HIST 3340. Historical Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An examination of the concepts basic to all historical thinking; causation, periodization, change and continuity, the roles of social forces and individuals, and problems of interpretation, accuracy, and truth. A comparison of the social sciences and the humanities will focus on the distinctive nature of the historical discipline as it has developed since the late nineteenth century. Required of all history majors and students with teaching fields in history. Prerequisite: 12 hours of HIST or permission of department head.

**HIST 4085. History Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Individual instruction in selected fields of history. The course will stress reports and wide readings in the field selected. Prerequisites: Senior classification and HIST 3340, or approval of department head. May be taken more than once for credit.

**HIST 4086. History Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Independent reading, research and discussion. Entry into this course will be arranged with a history faculty advisor. Prerequisite: HIST 3340 or permission of department head.

**HIST 4300. World War II and the Holocaust. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of European history between the end of the First World War to the aftermath of World War II. Special attention will be devoted to the rise of Hitler in the early 1930s and the origins, process, and consequences of the Holocaust. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 4301. United States and the World. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A history of how world events influenced American history from 1789 to the present. The course will discuss American diplomatic and social reactions to major world occurrences. Emphasis will be on the twentieth century, particularly on the two world wars and the Cold War era. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.



**HIST 4303. History of the American Borderlands. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This class examines the history of the North American borderlands from the sixteenth century to the present. It takes a comparative approach, examining the history of the US-Mexico and US-Canada borderlands in relation to one another. We will address several key themes, including the establishment of formal legal regimes in the borderlands; changing notions of citizenship; immigration policies and experiences; intercultural and interracial communities and tensions; the rise of border cities as sites of tourism and 'sin'; Texas as a border state; crime and smuggling along the borderline; representations of the border in media and popular culture; and the political and economic relationships between the United States, Mexico, and Canada. Prerequisites: HIST 1301, HIST 1302, and HIST 3340.

**HIST 4305. Ideas in Action: American Social Thought from the Progressive Era to the Present. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This reading and writing intensive seminar offers students the opportunity to encounter the ideas that have been cornerstones of intellectual debate in the United States since the late 19th century. From the Pragmatists (and the progressive era) to the neoconservatives of the more recent past, ideas have been embedded within the more available world of policy, politics and major historical developments. Participants in this course will survey a wide array of intellectual debates that have been essential components of American history. HIST 4301 is recommended. Prerequisites: HIST 1301, 1302, and 3340.

**HIST 4307. History Careers Outside the Classroom. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examination of the choices available for historians who seek careers outside of classroom teaching, including museums, historic preservation, cultural resource management, archival administration, parks, oral history, corporate history, and editing and publishing. Will not count as a history course for purposes of teacher certification. Prerequisites: 6 hours of HIST and HIST 3340 (this course can also be taken concurrently), or with permission of department head.

**HIST 4310. Recent United States History, 1929-Present. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will cover the period of American history that stretches from 1929 to the present. Discussions of the diplomatic and the domestic realms will be intertwined, illustrating how each component influenced the other. On the diplomatic side, emphasis will be placed on the rise of the United States to world power status and how the country responded to the responsibilities that accompanied that position. Domestically the course will focus on the nation finishing its transformation from a rural society to an urban one. Emphasis will be placed on the role of and attitudes toward the federal government. Considerable attention will also be directed toward the nation's continued struggle to deal with its diversity. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or approval of department head.

**HIST 4311. Research in American Political History since 1929. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This writing intensive seminar offers students the opportunity to encounter vital American political history developments since 1929. All students will carry out extensive reading and research in primary and secondary resources. Those sources will have direct relevance to the research project the student pursues.

Topics for the semester's research will vary based upon instructor prerogatives. Completion of HIST 4310 is recommended. Prerequisites: HIST 1301 and 1302; HIST 3340 or permission by the instructor or department head.

**HIST 4312. Social History of the United States Before 1865. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The social, cultural, and economic development of the United States from colonial times to the end of the Civil War. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or approval of department head.

**HIST 4313. Social History of the United States Since 1865. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The social, cultural, and economic development of the United States since the Civil War. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or approval of department head.

**HIST 4314. History of the Trans-Mississippi West. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

History of the Great West from the Lewis and Clark expedition to the 20th century. Emphasis on the West as a distinctive region in national politics, state building in the 19th century, and the development of agriculture, transportation, and commerce. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 4315. Slavery and the American South. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

From English pirates in the 1610s to King Cotton in the 1830s to the Civil War in the 1860s, this course will explore the nuances of Southern culture, politics, and economics, as well as the evolution and patterns of American slavery. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 4320. Europe 1850-1919. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An analytical survey of important developments in the political, social, economic, and cultural history of Europe between the revolutionary movements of 1848 and the first World War. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 4324. National Histories. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Each time this course is offered, it will examine the history of a particular state. May be repeated for credit when topics vary. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or approval of department head.

**HIST 4325. European Intellectual and Cultural History. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of some of the fundamental ideas in the European intellectual tradition from the Renaissance to the contemporary age. The course focuses on the ideas and ideologies that have shaped modern European mentalities through an analysis of primary texts. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 4331. World Since 1919. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Major trends in world history following World War I, including the impact of the Great Depression, the rise of fascism, World War II and its impact, the Cold War, decolonization, and the rise and fall of the Soviet Union. Events of the latter 20th century receive special emphasis. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 4341. History of Sexuality in the United States. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A broad survey of topics surrounding the study of sexuality in American history. The course focuses on the changing meanings and practices of sexuality in the United States, from the colonial period to the present, but with a specific focus on American History after 1880. Prerequisites: 6 hours of HIST and HIST 3340 (this course can be taken concurrently), or permission of the department head.

**HIST 4350. Special Topics in History. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of important periods, regions, and themes in history. May be repeated when the topic varies. Prerequisites: 6 hours of HIST and HIST 3340 (this course can also be taken concurrently), or permission by department head.

**HIST 4384. Practicum, Field Problem or Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised professional activities in workplaces where historians find professional careers including museums, historic preservation, cultural resource management, archival administration, teaching, parks, oral history, corporate history, and editing and publishing. Will count as an elective but not for teacher certification or completion of the history major. Prerequisites: 6 hours of HIST, HIST 3340, and HIST 4307. May be repeated once for credit.

**HIST 4390. History Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course requires students to synthesize knowledge and apply concepts and skills acquired in previous history courses. Students will identify a research question, consult relevant primary and secondary sources, analyze those sources, formulate an interpretation, and write a paper to communicate their conclusions. The topic of the Capstone will change every semester and will be determined by the instructor. Preferably, students will take this course in the last semester of their senior year. Prerequisites: HIST 3340 and senior status.

## Sociology Courses

### **SOCI 1301. Introductory Sociology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A general introduction to the concepts and elementary methods used in the study of society. Special attention is given to social organization, social stratification, social institutions, formal organizations, small groups, and social change.

### **SOCI 1306. Social Problems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Application of sociological principles and theoretical perspectives to major social problems in contemporary society such as inequality, crime and violence, substance abuse, environmental issues, deviance, or family problems.

### **SOCI 2300. Hispanics in the United States. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The goal of the course is to introduce students to sociology while exploring Latin American societies. The course will start with a general presentation of both sociology and Latin America, followed by a discussion of what sociology is and the different ways of studying societies. The course will focus on Latin American studies and their particularities. The course will approach Latin America through the lens of politics, often from a comparative and historical perspective. Drawing on examples from various countries in Latin America, the course will examine the development of political structures, cultures, and practices in Latin America. Students will therefore be introduced to a range of important sociological issues. Relying on the historical background of different Latin American societies, students will explore sociological concepts such as race, gender, class, social violence, religion, sports, and culture. The course will examine the sociology of Latino people living in Texas and in the United States.

### **SOCI 2303. Race and Ethnic Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course includes an analysis of relations between dominant groups and minority groups within the United States. Theories of prejudice and discrimination, the origins of the idea of race and ethnicity, the social historical foundations of the system of race and ethnic relations within the United States, systems of social stratification, and process of social change are emphasized.

### **SOCI 3301. Sociology of the Family. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A comparative study of the family as a social institution with emphasis on formation, functions, maintenance, child rearing, and family disorganization. Prerequisites: Junior classification and SOCI 1301 or approval of the department head.

### **SOCI 3304. Medical Sociology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course explores how the sociology of health and illness are affected by social structure and cultural factors, including how these influence health and illness and people's perceptions of the same. Additionally, this course explores the concrete organizations that make up medical systems and how that system reflects the interests of doctors, insurance companies, pharmaceutical industries, hospitals, researchers, the government, and the consumer. Prerequisite: SOCI 1301 or approval of department head.

### **SOCI 3305. Criminology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theories of criminology and significant research on causes, extent, cost and ecology of crime; police, criminal, and juvenile courts; and prisons and reformatories. Course also focuses on prevention and rehabilitation. Credit for both CRIJ 3305 and SOCI 3305 will not be awarded. Prerequisite: SOCI 1301 or approval of instructor.

### **SOCI 3306. Urban Sociology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Urban Sociology presents a detailed analysis of "the city." In this course, students will learn about varying factors associated with urbanization, while examining local neighborhood issues. Topics include the history of urbanization; ethnography and other methods for studying urban social phenomena; theories about how cities are socially and spatially organized, how social and spatial organization are related; how urban living affects social interaction, race, class stratification, crime, and violence. Special emphasis will be placed on New Urbanism, Food Deserts, the Urban Health Penalty, and Environment (In)Justice issues. The effects of suburbanization will also be investigated.

### **SOCI 3307. Rural Sociology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Adaptations of families to rural environments, farming, and other occupations; organizations, agencies, and institutions serving rural people; problems in delivering services to the country; and rural development and change. Prerequisites: Junior classification and SOCI 1301 or instructor approval.

### **SOCI 3308. Deviant Behavior. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the factors and conditions leading to behaviors that violate and deviate from fundamental social values. The relationship of personal and social maladjustment is addressed in relation to the various theories of deviant behavior. Prerequisite: SOCI 1301.

### **SOCI 3310. Sociology of Aging. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the reciprocal relationship between society and those considered aged by society, utilizing concepts and theoretical frameworks applicable to that population group. The course also examines the social forces that impinge on the aging process, including socially constructed images of the aged, and patterns of inequality of gender, race, and economics. Credit for both SOCW 3310 and SOCI 3310 will not be awarded. Prerequisite: SOCI 1301.

### **SOCI 3312. Environmental Sociology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines relationships and interactions between society and the environment. Also examines how the natural world and its degradation influence the way societies are organized by studying human communities as part of natural ecosystems. Prerequisite: SOCI 1301.

### **SOCI 3315. Sociology of Sport and Leisure. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the mechanisms through which sport and leisure institutions and practices are created, maintained, and transformed. Particular attention is paid to the relationship between sport and leisure institutions and other social systems such as the family, religion, politics, and economics. Topics considered include violence, discrimination, power, globalization, and the role of the media. This course places a strong emphasis on exploring the ways in gender, race, and class intersect with sport and leisure institutions.

### **SOCI 3320. Social Stratification and Inequality. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of social inequality in human society, with emphasis on the social class structure of the United States, its origins, development, and consequences for the society and the individual. Prerequisite: SOCI 1301 or approval of instructor.

### **SOCI 3330. Social Science Statistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Surveys the application of elementary forms of statistical processes, including central tendency, variation, the normal curve and Z scores, analysis of variance, regression analysis, and correlations, to social science data. The application of statistics will be made to the following areas: social work, sociology, criminal justice, political science, and gerontology. SPSS will be utilized for data analysis.

### **SOCI 3338. Sociology of Superheroes. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the ways that the idea of the superhero functions as a cultural force within society. It examines the reciprocal influence between the idea of the superhero and ideas of morality, authority, power, gender, race, nationalism, community and other social-cultural forces.

### **SOCI 3368. Social Movements. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the major theoretical ideas about how social movements are created, organized, and maintained. Particular attention will be paid towards analyzing the strategies, techniques, and tactics that have been employed by social movements and the ways in which opponents have attempted to nullify these practices.

### **SOCI 4085. Sociology Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Independent reading, research, discussion, and paper writing under personal direction of instructor. Prerequisite: Senior classification or approval of department head. May be taken more than once for credit if topics vary.

### **SOCI 4086. Problems in Sociology. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Independent reading, research and discussion. Entry into this course will be arranged with the sociology counselor.

**SOCI 4301. Sociology of Conspiracy Theories. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the ways that groups form conspiratorial meaning systems. The course discusses how social, cultural, and economic forces have served to shape conspiratorial thinking in the past and how these forces are working to shape these relations today and the larger social-cultural impact of such conspiratorial thinking.

**SOCI 4302. Methods of Social Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Principles and methods of social research, including research design, methods of observation, questionnaires, interviews, and other sources of social data; qualitative and quantitative techniques of inference; analysis and research report writing. Limited research studies and projects will be undertaken by the students. Prerequisite: Junior classification, SOCI 1301, or approval of department head.

**SOCI 4303. Sociological Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course examines the major schools of sociological thought, including perspectives from both classic and contemporary sociological theory. Prerequisites: Junior classification, SOCI 1301 or approval of department head.

**SOCI 4304. Sociology of Religion. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the basic principles of religion, religious belief, and practice as a sociological concept. Attention will be given to the relationship of religion to the progress and stability of the social order. Prerequisite: SOCI 1301 or approval of department head.

**SOCI 4305. Social Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The scientific study of the influence of society, groups, culture, and other persons on the attitudes, behavior, and experiences of the individual. An examination of the total person as he or she functions in relation to the social environment. Prerequisite: Junior classification, SOCI 1301, or approval of department head.

**SOCI 4306. Water Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course offers an interdisciplinary exploration on "water policies" -- that is, the political dimensions of human manipulation of water, wetlands and watersheds. While the substantive focus is water, the course is design to provide a broader introduction to social-scientific theorizing about human-environment relations. A central objective of the course will be examining Texas environmental laws regarding water policy; while employing a range of geographically diverse case studies that examine major topics on water politics, including: large-scale hydro-development and grassroots resistance thereto as a subset of the contentious history of international development policy more broadly the governance of common-pool resources; the emergence of participatory and community-based water management policies; the "neoliberalization" of water resources through privatization, marketization and commodification; and conflict and cooperation in the governance of trans-boundary waters. Our examination is guided analytically themes central to the environmental social sciences, including: power, institutions, political economy, and the social embeddedness of science. Credit for SOCI 4306, WSES 4306, and SOCI 5306 will not be awarded. Prerequisite: SOCI 1301.

**SOCI 4311. Sociology of Sex. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Biological, psychological, social, and cultural dimensions of human sexuality will be examined. The human sexual experience as a tool for self-awareness, understanding, and acceptance will be discussed. Topics include male and female sexual anatomy, physiology, sexuality over the life span, variations in sexual behavior, sexual dysfunctions, and related therapies. Prerequisite: SOCI 1301 or approval of department head.

**SOCI 4312. Gender in Society. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Socialization to sex roles; male/female differences in family, work, and political behavior; male/female inequality; effects of gender in education and religion; and current changes in sex role definitions. Prerequisite: SOCI 1301 and junior standing.

**SOCI 4313. Globalization. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on social processes and social problems as they are contained in the highly interdependent world system. Social change and development stresses historical, comparative, and critical perspectives, and addresses the problem of how and why societies and cultures around the world change and whether those changes promote justice, equity, democracy, and development of human potential. Prerequisites: Junior standing and SOCI 1301, or department head approval.

**SOCI 4314. Medical and Health Care Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Intensive study of current trends and issues related to professional health care practice, service delivery, and populations at risk. Provides an opportunity to explore the many ways in which issues related to health, illness, and disability policies including cultural factors impact clients, families, and society. Appropriate ways for health care professionals to understand and intervene in these areas will be discussed.

**SOCI 4321. Death and Dying. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The ramifications of death, including the experiences and rights of the dying and the significance to those who mourn. Using major sociology theories, focuses on the meaning to society of the reality and symbolism of death. Credit for both SOCW 4321 and SOCI 4321 will not be awarded. Prerequisite: SOCI 1301.

**SOCI 4322. Age and Ethnic Stratification. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies aging as a process and life stage as affected by health, economic status, and stratification in this society and in other industrialized countries. Addresses culture, ethnicity, and race as key dimensions in understanding aging and health as delivered to diverse populations. Prerequisite: SOCI 3310.

**SOCI 4340. Sociology of Contemporary Japan. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers a wide range of topics regarding contemporary Japanese society, such as a brief history of contemporary Japan, family, workplace, gender, economics, politics, and popular culture. This course is intended to recognize multiple dimensions of Japan which go beyond the stereotypical image of Japan. Prerequisite: SOCI 1301 or ANTH 2351 or approval of instructor.

**SOCI 4341. Migration and Society. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The United States is a nation build on the backs of im/migrants. Millions of people leave their homelands escaping from religious/ political persecution, and/or extreme poverty with the hope of finding freedom and economic prosperity. The roles that immigrants play are very significant. Often they are praised for enriching the U.S. culture and for fueling economic growth. At the same time, they are condemned for burdening taxpayers and/or they are seen to be unwilling to assimilate in the host country. This course will address some of the key issues on international immigration to the United States. Prerequisites: SOCI 1301 or ANTH 2351 or approval of instructor.

**SOCI 4399. Sociology Internship/Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Serving as a required, capstone course, students assist the faculty supervisor with their placements in a social science related agency. The field experience, coupled with textbook materials and weekly class seminars, provides students the opportunity to integrate sociological theory with practical experience. At the agency, students will work 120 hours, acquiring professional skills while earning college credit. Students will also keep a journal of internship experiences and write a final paper that applies sociology to the field experience. Prerequisites: major in sociology, senior standing, and approval of the undergraduate advisor. Field experience fee \$50.

## College of Science and Technology

Dr. Michael Huggins, Dean  
College of Science & Technology  
Science Building, Room 119  
Box T-0885  
Stephenville, Texas 76402  
(254) 968-9781  
mhuggins@tarleton.edu  
[www.tarleton.edu/cost/](http://www.tarleton.edu/cost/) (<http://www.tarleton.edu/cost/>)

The College of Science and Technology has three primary missions: first, to provide the courses in mathematics and natural and physical sciences that form an essential part of the general education requirement required of all University students; second, to provide supporting courses for students in other academic areas,

such as education, business, and agriculture; and third, to provide the opportunity for students to concentrate their study in a major field of science, technology, or engineering. The College is strongly committed to excellence in teaching, research, and service to the University and to society.

Degree programs available in the College of Science and Technology feature considerable variety at both the undergraduate and graduate levels. The range of programs includes mathematics, the natural sciences, engineering, computer science, and engineering technology. The college also offers programs that provide the foundation required for professional fields such as medicine, dentistry, optometry, and pharmacy. The college offers masters degrees in five areas: biology, engineering technology, and mathematics.

The College of Science and Technology is also home to the School of Engineering, established in January 2018, which brings together the professional programs from engineering, engineering technology and computer science.

The College of Science and Technology consists of:

1. Biological Sciences Department
2. Chemistry, Geoscience, and Physics Department
3. Mathematics Department
- School of Engineering
  1. Engineering and Computer Science Department
  2. Engineering Technology Department

## School of Engineering

Dr. Denise Martinez, Associate Dean  
 School of Engineering  
 Hydrology and Engineering Bldg, Room 114  
 Box T-0390  
 Stephenville, TX 76402  
 254-968-9863 (ofc)  
 254-968-9503 (fax)  
 dmartinez@tarleton.edu

The School of Engineering was established in January 2018 and brings together a breadth of related professional programs from engineering, engineering technology and computer science, supporting collaborations and synergies for continued growth. The goals of the School of Engineering are to promote academic rigor and excellence, including accreditations where applicable, facilitate growth of research and industry collaborations and increase Tarleton's capacity to meet the needs for highly skilled engineering and technology professionals in Texas and beyond.

The departments and programs within the School of Engineering are:

- **Department of Engineering and Computer Science**
  - Computer Science
  - Civil Engineering
  - Electrical Engineering
  - Environmental Engineering
  - Mechanical Engineering
- **Department of Engineering Technology**
  - Construction Science and Management
  - Manufacturing Engineering Technology
  - Mechanical Engineering Technology
  - Industrial Technology
  - BAAS in Manufacturing and Industrial Management
  - MS in Quality and Engineering Management

## Associate Dean, School of Engineering

- Martinez, Denise

## Department of Computer Science and Electrical Engineering

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 Department of Computer Science and Electrical Engineering  
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 254-968-9503  
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The department of Computer Science and Electrical Engineering (CSEE) offers bachelor's degrees in Electrical Engineering, Computer Science, and a master's degree in Computer Engineering. CSEE majors engage in hands-on applications of discipline-related concepts and tools, taught in an engaging, student-centered, academic success focused environment. Our department houses state of the art instructional and research equipment including industry standard software, 3D printing, HPLC analysis, automation and robotics, hydraulic flume, 145 mph wind tunnel and a 100 kN universal testing machine. Students gain practical experience with these tools throughout the curriculum and also have the opportunity to conduct undergraduate research with our faculty. A degree from the CSEE department opens doors to challenging and rewarding, high-salaried, high tech engineering and computing careers.

## Math Readiness

All ENCS bachelor's degrees start with MATH 2413 Calculus I as the first mathematics course. Placement into Calculus I is by the CLMPE placement exam, or by college credit for MATH 1316 Plane Trigonometry or MATH 2412 Precalculus. Contact Tarleton's Center for Access and Academic Testing (<http://www.tarleton.edu/caat/>) for test information and locations. Incoming students are strongly encouraged to **take the CLMPE math placement exam prior to orientation** so they may enroll in the proper math course. If the student is college-ready in mathematics but is not prepared to take Calculus I as the first course, then he or she will be required to take MATH 2412 Precalculus. Engineering majors who are not college-ready in mathematics are designated as "Pre-engineering" (PREN) until they are eligible to enroll in Precalculus; at that time they will declare an engineering major and begin engineering coursework.

## Departmental Course Prerequisite Policy

It is important for students to stay academically prepared as they progress through their curriculum. Prerequisite (taken previously) and corequisite (taken previously or concurrently) courses are in place to establish the foundational knowledge and skills needed to be successful in any given course. For all programs in the ENCS department, students must earn a grade of "C" or better in all required Engineering, Computer Science, Mathematics and Science coursework to graduate, as well as to proceed to follow-up courses. The following summarizes the policy for allowing/disallowing forward progress when prerequisite (prereq) and/or corequisite (coreq) conditions are not fully met:

- If a student earns an F in a prereq course or has not taken that prereq, the student may NOT enroll in the follow-up course.
- If a student earns a D in a prereq for a course, the student IS allowed a prereq waiver to enroll in the follow-up course only if ALL THREE of the following conditions are met:
  - The student has an overall GPA of 2.2 or higher, AND
  - If by not enrolling in the follow-up course, the student's graduation date is adversely impacted (advisor must check the cascading effect of not enrolling in a course), AND
  - The student has not exceeded the max of FOUR prereq waivers.

If a student qualifies for a prereq waiver, the student must re-enroll in the prereq course concurrently; if the prereq course is not offered concurrently, the student must re-enroll on its immediate next offering. A student may utilize a maximum of FOUR prerequisite waivers over the duration of their pursuit of a degree within the ENCS Department. Changing majors within the department does not reset the waiver count.

The department also allows a maximum of TWO engineering courses in a curriculum that can be taken as a transient (temporary) student at another university. Consult the department website, office or an advisor for additional information on these policies.

## Electrical Engineering

The Electrical Engineering program at Tarleton State University was launched in Fall 2014 and is accredited by the Engineering Accreditation Commission of ABET, [www.abet.org](http://www.abet.org). The mission of the Electrical Engineering program is to prepare graduates for employment in Electrical Engineering related industries, for engineering licensure, and for graduate studies in Electrical, Computer and related Engineering and Science disciplines. This is accomplished through an application-oriented curriculum and experiences in which students develop their ability to synthesize concepts into solutions, use modern analytical tools and techniques, communicate professionally and work in a team environment. The program provides both breadth and depth in topics including digital systems, electronics, signal processing and control systems. Additional studies in ethics assure that the graduate understands engineers' special obligations to society. This results in engineering graduates who strive to advance the engineering profession through technical competence, innovative problems solving and design, professional conduct, and lifelong learning. Additional details can be found on the department website: [www.tarleton.edu/encs](http://www.tarleton.edu/encs) (<http://www.tarleton.edu/encs/>).

Students must earn a grade of "C" or better in all Engineering, Computer Science, Mathematics, and Science coursework in order to graduate. Students are strongly encouraged to take the Fundamentals of Engineering (FE) licensure exam, and resources for FE preparation are provided.

## Bachelor of Science in Electrical Engineering

### Required Courses

**Placement for Calculus 1 is by the CLMPE placement exam, or by college credit for MATH 1316 or MATH 2412. Contact Tarleton's Center for Academic Testing for test information and locations.**

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		43
ENGR 1100 [shared]	Transitioning to University Studies in Engineering	
ENGR 1211	Engineering Fundamentals I	2
ELEN 1212	Introduction to Electrical Engineering	2
ENGR 2322	Engineering Thermodynamics	3
ENGR 3311	Engineering Mathematical Methods	3
ENGR 4259	Engineering Capstone I	2
ENGR 4360 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Engineering Capstone II	3
ELEN 2425	Electrical Circuit Theory	4
ELEN 2448	Introduction to Digital System Design	4
ELEN 3314 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Signals and Systems	3
ELEN 3320	Engineering Analysis Techniques	3
ELEN 3443	Computer Architecture	4
ELEN 3310	Power Systems Engineering	3
ELEN 3445	Electronics I	4
ELEN 4340	Digital VLSI Design	3
ELEN 4336	Solid State Physics	3
ELEN 4441	Microprocessor System Design	4
ELEN 4443	Linear Control System Design	4
ELEN 4446	Electronics II	4
ELEN 4350	Communication Systems Theory	3
ELEN 4355	Digital Signal Processing	3
Advanced COSC, MATH, or ELEN elective - Choose from the following:		3
COSC 3360	Python Programming for Data Science	
COSC 3365	NoSQL Databases	
COSC 4401	Database Theory and Practice	
COSC 4478 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Computer Networks	
MATH 3310	Discrete Mathematics	
MATH 3320	Foundations of Mathematics	
MATH 4306	Partial Differential Equations	

MATH 4320	Mathematical Modeling	
ELEN 4088	Undergraduate Research Project	
COSC 1310	Procedural Programming	3
CHEM 1409	College Chemistry for Engineers	4
PHYS 2425 [shared]	University Physics I	
PHYS 2426 [shared]	University Physics II	
MATH 2413 [shared]	Calculus I	
MATH 2414	Calculus II	4
MATH 3433	Calculus III	4
MATH 3306	Differential Equations	3
Total Hours		128

## Computer Science

The Bachelor of Science degree in Computer Science prepares graduates to enter the high-tech workforce or to continue their studies at the graduate level. We offer concentrations in **software engineering, artificial intelligence and data science, computer engineering, cybersecurity and game design**. The program provides a strong foundation in hardware and software, mathematics and general science, that is aligned with curriculum standards as set forth within the computer science discipline. Students are encouraged to also specialize in a complementary technical area through technical electives. Additional details can be found on the department website: [www.tarleton.edu/encs](http://www.tarleton.edu/encs).

Student must earn a grade of "C" or better in all Computer Science, mathematics, physics and technical elective coursework in order to graduate.

## The Bachelor of Science Degree in Computer Science

### Required Courses

**Placement for Calculus 1 is by the CLMPE placement exam, or by college credit for MATH 1316 or MATH 2412. Contact Tarleton's Center for Academic Testing for test information and locations.**

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
COSC 1100 [shared]	Transitioning to University Studies in Computer Science	
MATH 2413	Calculus I	4
MATH 1342 [shared]	Elementary Statistical Methods	
MATH 2414	Calculus II	4
MATH 3310	Discrete Mathematics	3
PHYS 2425 [shared]	University Physics I	
COSC 1302	Introduction to Computer Science	3
COSC 1310	Procedural Programming	3
COSC 2321	C++ Programming	3
COSC 2331	Java Programming	3
COSC 2341	Data Structures	3
COSC 2448	Introduction to Digital Systems Design	4
COSC 3443	Computer Architecture	4
COSC 3380	Operating Systems	3
COSC 3489 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Software Engineering I	4
COSC 4478 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Computer Networks	4
Technical Electives (at least 8 hours advanced) <sup>1</sup>		9
Total Hours		96

### Additional Required Courses for Concentrations

#### Computer Engineering

PHYS 2426 [shared]	University Physics II	
MATH 3306	Differential Equations	3
ELEN 2425	Electrical Circuit Theory	4
ELEN 3314 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Signals and Systems	3
Select 10 hours from the following:		10
ELEN 4350	Communication Systems Theory	
ELEN 4355	Digital Signal Processing	
ELEN 3445	Electronics I	
ELEN 4443	Linear Control System Design	
COSC 4441	Microprocessor System Design	4
Total Hours		24

#### Artificial Intelligence and Data Science

COSC 3360	Python Programming for Data Science	3
COSC 4360	Machine Learning	3
COSC 4401	Database Theory and Practice	4
Select one of the following:		3

COSC 3366	Computer Vision	
COSC 3365	NoSQL Databases	
COSC or approved MATH, BCIS, or Digital Media Studies electives (at least 6 hours advanced)		11
Total Hours		24
<b>Game Development</b>		
COSC 3330	Games, Graphics and GUIs	3
ARTS 2344	Game Design	3
ARTS 3366	3D Video Game Environment I	3
ARTS 4367	3D Rendering and Lighting	3
COSC or approved MATH, BCIS, or Digital Media Studies electives (at least 10 hours advanced)		12
Total Hours		24
<b>Software Engineering</b>		
COSC 3390	Software Engineering II	3
COSC 4389	Programming Languages Fundamentals	3
COSC 4401	Database Theory and Practice	4
COSC 4451	Distributed Applications	4
COSC or MATH electives (at least 6 hours advanced)		10
Total Hours		24
<b>General Computer Science</b>		
COSC 4401	Database Theory and Practice	4
COSC or approved MATH, BCIS, or Digital Media Studies electives (at least 15 hours advanced)		20
Total Hours		24
<b>Cybersecurity</b>		
COSC 3360	Python Programming for Data Science	3
COSC 4360	Machine Learning	3
COSC 4364	Principles of Cybersecurity	3
MATH 3301	Number Theory	3
COSC or approved MATH, BCIS, or Digital Media Studies electives (at least 7 hours advanced)		12
Total Hours		24

<sup>1</sup> Technical electives include courses from all College of Science and Technology (COST) subject prefixes, Digital Media Studies ARTS, and BCIS.

## Computer Engineering Courses

### Computer Science Courses

#### **COSC 1100. Transitioning to University Studies in Computer Science. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of engineering and computer science disciplines.

#### **COSC 1302. Introduction to Computer Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

History of computers and of their applications in a variety of fields, both as PCs and as embedded systems. Overview of programming paradigms. Overview of today's most dynamic computer-related technologies, including communication networks and the Internet. A modern programming language is used to present types of problems that can be solved with computers, the underlying algorithms, and the fundamental limitations. We adopt early in this course the information-centric viewpoint, exploring the role of computers in all stages of the information life-cycle. Students apply their newly-acquired programming skills to performing basic information-processing tasks. Lab fee \$15.

#### **COSC 1310. Procedural Programming. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduces the fundamental concepts of structured programming. Topics include software development and methodology, data types, control structures, functions, arrays, pointers and the mechanics of running, testing, and debugging. Prerequisite: One of the following: MATH 1314, MATH 1316, MATH 2412, or MATH 2413. Lab fee: \$2.

#### **COSC 2321. C++ Programming. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Applies the object-oriented programming paradigm using the C++ programming language. The focus is on the definition and use of classes, interfaces, data encapsulation, inheritance, and polymorphism, templates and exceptions. Presents an introduction to object-oriented design. Prerequisite: COSC 1310. Lab fee: \$2.

#### **COSC 2331. Java Programming. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

The main parts of the Java programming language are covered, including classes, methods, interfaces, inheritance, polymorphism, generics, lambda expressions, annotations, exceptions, threads and synchronization, collections, Java IO and NIO API. Prerequisite: COSC 1310 Lab fee: \$2.

#### **COSC 2341. Data Structures. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Application of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), and algorithmic analysis. Prerequisite: COSC 1310 or BCIS 3332 or BCIS 3333 Lab fee: \$2.

#### **COSC 2448. Introduction to Digital Systems Design. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Combinational and sequential digital system design techniques; programmable logic devices; computer components (ALU, memory, IO circuits); hardware description language (VHDL); introduction to machine and assembly languages. Credit for both COSC 2448 and ELEN 2448 will not be awarded. Prerequisite: COSC 1310 (coreq) or ELEN 1212 (prereq) Lab fee: \$2.

#### **COSC 3330. Games, Graphics and GUIs. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

2D and 3D graphics; the main building-blocks of game design, from a programmer's perspective, such as character animation, scene navigation, shading, modeling, game rules, and GUI. Prerequisites: COSC 2321 and COSC 2341 Lab fee: \$2.

**COSC 3344. Computer Applications in Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Binary representations of integers, floating-point numbers and characters; solutions to specific and general polynomial equations; regression and iteration techniques; approximate derivation and integration; error analysis; linear systems and matrix algorithms; other selected numerical algorithms. Prerequisites: MATH 2414 and one of the following: COSC 1310 or BCIS 3332 or BCIS 3333 Lab fee: \$2.

**COSC 3360. Python Programming for Data Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Programming tools are used to illustrate the components of the data pipeline: data collection, cleaning, exploration, dimensionality reduction, modeling, visualization, and applications. The course includes an introduction to machine learning. Prerequisite: COSC 1310, or COSC 2321, or COSC 2331, or BCIS 3332, or BCIS 3333 Lab fee: \$2.

**COSC 3365. NoSQL Databases. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course provides an introduction to NoSQL database management systems, with emphasis on the document-centric model. Topics include Create, Read, Update, Delete (CRUD) operations, data processing pipelines, replication, sharding, and the MapReduce paradigm. Prerequisite: COSC 1310, or COSC 2321, or COSC 2331, or BCIS 3332, or BCIS 3333 Lab fee: \$2.

**COSC 3366. Introduction to Computer Vision. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course provides an introduction to the field of computer vision. It covers a broad range of topics, from simple to complex, such as: image formation, camera calibration, image processing, edge detection, filtering, feature extraction, image segmentation, multiple-view geometry, optical flow. The course also provides an introduction to deep learning and robotics applications. Prerequisite: COSC 1310 or COSC 2321 or COSC 2331 or BCIS 3332 or BCIS 3333 Lab fee: \$2.

**COSC 3380. Operating Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduction to the design and development of operating systems. Analysis of current system software technology, including process management, memory organization, security, and file systems. Prerequisite: COSC 1310; COSC 2341 Lab fee: \$2.

**COSC 3390. Software Engineering II. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

The course is a follow-up to Software Engineering I. The main topics are: tools used in software development, coding practices, design patterns, code smells and refactoring, and testing. Prerequisite: COSC 3489 Lab fee: \$2.

**COSC 3443. Computer Architecture. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Hardware and software structures found in modern digital computers. Instruction set architecture, hardware design of the processor, assembly language programming, microprogramming, I/O and memory units, analysis of instruction usage, hardware complexity, and parallel computer architectures and programming. Credit for both COSC 3443 and ELEN 3443 will not be awarded. Prerequisite: COSC 2448 or ELEN 2448. Lab fee: \$2.

**COSC 3489. Software Engineering I. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The course is an introduction to software engineering. The main topics are software development process, software requirements, Unified Modeling Language, conceptual and behavioral modeling, software architecture, software design, and design principles. Prerequisite: COSC 2331 Lab fee: \$2.

**COSC 4086. Special Problems. 1-4 Credit Hours (Lecture: 1-4 Hours, Lab: 1-4 Hours).**

Directed study of selected topics in Computer Science. May be repeated with approval of department head.

**COSC 4088. Undergraduate Research Project. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0-0 Hours).**

Methods of research in computer science through a research project directed by a departmental faculty member. The student is required to prepare a final report and presentation. No credit is earned until the final report and presentation are certified as completed by the faculty member directing the project. Prerequisites: Junior standing.

**COSC 4360. Machine Learning. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course is a broad introduction to machine learning algorithms, with emphasis on their application in data science and cybersecurity. Topics include dimensionality reduction, regression, clustering, support vector machines, decision trees, naïve Bayes, and neural networks. The course includes a significant project component, with real-world data. Prerequisites: COSC 2341, COSC 3360, and either MATH 1342 or MATH 3311 Lab fee: \$2.

**COSC 4364. Principles of Cybersecurity. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduces students to the fundamental concepts, tools, and industry standards of the cybersecurity field. Students will learn how to protect computer systems, networks, and programs from possible digital attacks. Practical and research-specific knowledge to match today's industry standards. Prerequisite: MATH 1342; MATH 3310; COSC 3360 or proficiency in Python; Lab fee: \$2.

**COSC 4389. Programming Languages Fundamentals. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

The course is about the principles of programming languages, concepts of language processing, program representation, and language translation and execution. The main topics are formal description of programming languages, syntax analysis, semantic analysis, code generation, and runtime systems. Prerequisite: COSC 2331, COSC 2341 Lab fee: \$2.

**COSC 4401. Database Theory and Practice. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Fundamental types of database models, with emphasis on relational databases. SQL, conceptual modeling, relational algebra, functional dependency theory, normalization and normal forms. File and data management principles underlying database construction. Optimization algorithms and indexing. Prerequisites: Either COSC 2341 by itself, or (MATH 3310 and one of the following: COSC 1310 or BCIS 3332 or BCIS 3333) Lab fee: \$2.

**COSC 4441. Microprocessor System Design. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to microprocessors; 8/16 bit single board computer hardware and software designs; chip select equations for memory board design, serial and parallel I/O interfacing; ROM, static and dynamic RAM circuits for no wait-state design; assembly language programming, stack models, subroutines and I/O processing. Credit for both COSC 4441 and ELEN 4441 will not be awarded. Prerequisite: COSC 1310; ELEN 2448 or COSC 2448. Lab fee \$2.

**COSC 4451. Distributed Applications. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the architecture and design of distributed applications. N-tier application and supporting technologies are investigated including client/server architecture, supporting languages, transaction processing, and distribution of processes. Prerequisites: COSC 2331 and COSC 2341. Lab fee \$2.

**COSC 4478. Computer Networks. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Bottom-up presentation of computer network hardware and protocols, going through the five main layers: physical, data link, network, transport, and application. Special emphasis is placed on the medium access control sub-layer for local area networks, IP routing, security and modern wireless access technologies. Prerequisites: Either COSC 2341 by itself, or (MATH 3310 and one of the following: COSC 1310 or BCIS 3332 or BCIS 3333) Lab fee: \$2.

## Electrical Engineering Courses

**ELEN 1212. Introduction to Electrical Engineering. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The course elaborates on the question "What is Electrical Engineering?", and also aims to cover background and basics on various topics in electrical engineering, such as analog and digital circuitry, microelectronics, signal processing, control systems, communication systems, and power systems. After learning some fundamental theories and concepts, the students will apply them to standard electrical system designs and analysis. The students will also utilize a variety of systems testing and circuit prototyping tools, such as digital multimeters, oscilloscopes, function generators, electronic workstations, along with industry-standard software. Prerequisite: ENGR 1211 Lab fee: \$2.

**ELEN 2425. Electrical Circuit Theory. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Theory of electrical circuits, including voltage, current, power, and energy as circuit variables and sources, resistors, capacitors, and inductors as circuit elements. Coverage of disciplined circuit analysis techniques, equivalent circuit models, maximum power transfer, ideal operational amplifiers, first- and second-order circuits, sinusoidal steady state operation, phasor analysis, and computer-aided circuit simulation. This course concludes with an introduction to system-level concepts, the Bode response, and system transfer functions. Prerequisite: PHYS 2426 or concurrent registration; MATH 2414 or concurrent registration. Lab fee: \$2.



**ELEN 2448. Introduction to Digital System Design. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Combinational and sequential digital system design techniques; design of practical digital systems. Credit for both COSC 2448 and ELEN 2448 will not be awarded. Prerequisite: COSC 1310 (coreq) or ELEN 1212 (prereq) Lab fee: \$2.

**ELEN 3310. Power Systems Engineering. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the generation, transmission, distribution and utilization of electric power, along with the electrical devices connected to such systems including generators, motors and transformers. Topics include: fundamentals of electromagnetic field theory, fundamentals of electric power, basic components of power systems, three-phase systems, transformers, electric machines, AC and DC motors, generators, power generation and distribution, power plants, transmission lines, and renewable energy systems. Prerequisite: ELEN 2425; MATH 3306 or concurrent registration.

**ELEN 3314. Signals and Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Modeling and analysis of electrical and mechanical systems using Laplace transformation methods; transient and steady-state analysis; Fourier series; Fourier transform; elementary feedback. Prerequisites: ELEN 2425, MATH 3306 or concurrent registration.

**ELEN 3320. Engineering Analysis Techniques. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course covers the applications and implementation of numerical algorithms commonly encountered in engineering and scientific analyses. Topics may include statistical analysis, analysis of linear and non-linear systems, optimization and linear programming, numerical differentiation and integration, and analysis of differential equations. Use of MATLAB (or other similar computational tools) for performing computational analysis and generating graphical interpretations of the results is also included. Prerequisite: ENGR 1211; MATH 3306 or concurrent enrollment; Lab fee: \$2.

**ELEN 3332. Electromagnetic Field Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides the background necessary to formulate and solve electromagnetic problems relevant to many fields of electrical engineering such as RF and microwave circuits, photonics, wireless networks, computers, bioengineering, and nanoelectronics. Topics include: static electric and magnetic fields; Maxwell's equations in integral and differential forms; wave propagation; reflection and refraction of plane waves; transient and steady-state behavior of waves on transmission lines. Prerequisites: PHYS 2426; MATH 3306 and MATH 3433 or concurrent registrations.

**ELEN 3360. Microwave Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the key concepts related to the analysis and design of microwave systems at the subsystem and component level. Topics include: waveguides and wave propagation on transmission lines, including stripline and microstrip structures; microwave network analysis; impedance matching techniques; analysis and design of microwave resonators; power dividers, couplers, and hybrids; microwave filters; noise and distortion in microwave circuits; an introduction to microwave system implementation. Prerequisites: ELEN 3314, 3445, and either ELEN 3332 or PHYS 3332.

**ELEN 3443. Computer Architecture. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Hardware and software structures found in modern digital computers. Instruction set architecture, hardwired design of the processor, assembly language programming, microprogramming, I/O and memory units, analysis of instruction usage, and hardware complexity. Credit for both COSC 3443 and ELEN 3443 will not be awarded. Prerequisite: COSC 2448 or ELEN 2448. Lab fee \$2.

**ELEN 3445. Electronics I. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A first course in microelectronics intended to give students an introduction to the analysis and design of analog and digital integrated circuits. Topics include: semiconductor physics theory and operating principles of the p-n junction, MOS field effect transistor (MOSFET), and bipolar junction transistor (BJT); operational amplifiers; large- and small-signal equivalent circuit models of diodes, MOSFETs, and BJTs; single-transistor amplifier configurations; digital logic circuits. Prerequisite: ELEN 2425; ELEN 3314 or concurrent registration Lab fee: \$2.

**ELEN 4086. Special Problems. 1-4 Credit Hours (Lecture: 1-4 Hours, Lab: 1-4 Hours).**

Directed study of selected topics in Electrical Engineering. May be repeated with approval of department head.

**ELEN 4088. Undergraduate Research Project. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Methods of research in electrical engineering through a research project directed by a departmental faculty member. The student is required to prepare a final report and presentation. No credit is earned until the final report and presentation are certified as completed by the faculty member directing the project. Prerequisites: Junior standing.

**ELEN 4336. Solid State Physics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the basic principles required to understand the operation of solid-state devices with an emphasis on device physics. Semiconductor fundamentals including crystals and energy bands, charge carriers (electrons and holes), doping, and transport (drift and diffusion); basic concepts of generation-recombination and the P-N junction as capacitors and current rectifier; semiconductor device equations developed from fundamental concepts; P-N junction theory developed and applied to the analysis of devices such as varactors, bipolar transistors, and field-effect transistors. Prerequisites: ELEN 3445 and MATH 3306.

**ELEN 4340. Digital VLSI Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduces the key concepts to design CMOS VLSI digital integrated circuits. Topics include the basic physical operation and terminal characteristics of CMOS devices, CMOS fabrication highlights, the design of logic gates, static and dynamic digital circuits, timing, memory, and low-power techniques. A project will give students the opportunity to design a digital integrated circuit block from specifications by the use of computer-aided design tools. Prerequisite: ELEN 1212; ELEN 2425; ELEN 2448.

**ELEN 4350. Communication Systems Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the frequency and time domain; modulation; random signal theory; network analysis using nondeterministic signals; basic information theory; noise. Prerequisites: ELEN 3314 and ELEN 2425.

**ELEN 4355. Digital Signal Processing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to discrete-time signal processing and discrete-time systems. Topics include: discrete-time linear systems, difference equations, z-transforms, discrete convolution, stability, discrete-time Fourier transforms, analog-to-digital and digital-to-analog conversion, digital filter design, discrete Fourier transforms and fast Fourier transforms, spectral analysis, and applications of digital signal processing. Prerequisite: ELEN 3314.

**ELEN 4441. Microprocessor System Design. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to microprocessors; 8/16 bit single board computer hardware and software designs; chip select equations for memory board design, serial and parallel I/O interfacing; ROM, static and dynamic RAM circuits for no wait-state design; assembly language programming, stack models, subroutines and I/O processing. Credit for both COSC 4441 and ELEN 4441 will not be awarded. Prerequisite: COSC 1310; ELEN 2448 or COSC 2448. Lab fee: \$2.

**ELEN 4443. Linear Control System Design. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Application of state variable and frequency domain techniques to modeling and analysis of single input, single output linear control systems; physical implementation of control systems by integrating sensors, actuators and other control system components; use of software design tools. Prerequisite: ELEN 2425, MATH 3306, and either ELEN 3320 or COSC 3344. Lab fee \$2.

**ELEN 4446. Electronics II. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A second course in microelectronics emphasizing the analysis and design of analog integrated circuits. Topics include: MOSFET and BJT fabrication technologies; current mirrors and biasing techniques; amplifier topologies; frequency response of analog integrated circuits; feedback, stability, and amplifier compensation techniques; output stages; noise in integrated circuits; linear integrated circuit applications. Prerequisites: ELEN 3445 and ELEN 3314 Lab fee: \$2.

## Department of Mechanical, Environmental, and Civil Engineering

The department of Mechanical, Environmental, and Civil Engineering (MECE) offers bachelor's degrees in Civil Engineering, Environmental Engineering, Mechanical Engineering, and a master's degree in Mechanical Engineering. MECE majors engage in hands-on applications of discipline-related concepts and tools, taught in an engaging, student-centered, academic success focused environment. Our department houses state of the art instructional and research equipment including industry standard software, 3D printing, HPLC analysis, automation and robotics, hydraulic flume, 145 mph wind tunnel and a 100 kN

universal testing machine. Students gain practical experience with these tools throughout the curriculum and also have the opportunity to conduct undergraduate research with our faculty. A degree from the MECE department opens doors to challenging and rewarding, high-salaried, high tech engineering and computing careers.

## Math Readiness

All MECE bachelor's degrees start with MATH 2413 Calculus I as the first mathematics course. Placement into Calculus 1 is by the CLMPE placement exam, or by college credit for MATH 1316 Plane Trigonometry or MATH 2412 Precalculus. Contact Tarleton's Center for Access and Academic Testing (<http://www.tarleton.edu/caat/>) for test information and locations. Incoming students are strongly encouraged to **take the CLMPE math placement exam prior to orientation** so they may enroll in the proper math course. If the student is college-ready in mathematics but is not prepared to take Calculus I as the first course, then he or she will be required to take MATH 2412 Precalculus. Engineering majors who are not college-ready in mathematics are designated as "Pre-engineering" (PREN) until they are eligible to enroll in Precalculus; at that time they will declare an engineering major and begin engineering coursework.

## Departmental Course Prerequisite Policy

It is important for students to stay academically prepared as they progress through their curriculum. Prerequisite (taken previously) and corequisite (taken previously or concurrently) courses are in place to establish the foundational knowledge and skills needed to be successful in any given course. For all programs in the MECE department, students must earn a grade of "C" or better in all required Engineering, Computer Science, Mathematics and Science coursework to graduate, as well as to proceed to follow-up courses. The following summarizes the policy for allowing/disallowing forward progress when prerequisite (prereq) and/or corequisite (coreq) conditions are not fully met:

- If a student earns an F in a prereq course or has not taken that prereq, the student may NOT enroll in the follow-up course.
- If a student earns a D in a prereq for a course, the student IS allowed a prereq waiver to enroll in the follow-up course only if ALL THREE of the following conditions are met:
  - The student has an overall GPA of 2.2 or higher, AND
  - If by not enrolling in the follow-up course, the student's graduation date is adversely impacted (advisor must check the cascading effect of not enrolling in a course), AND
  - The student has not exceeded the max of FOUR prereq waivers.

If a student qualifies for a prereq waiver, the student must re-enroll in the prereq course concurrently; if the prereq course is not offered concurrently, the student must re-enroll on its immediate next offering. A student may utilize a maximum of FOUR prerequisite waivers over the duration of their pursuit of a degree within the ENCS Department. Changing majors within the department does not reset the waiver count.

The department also allows a maximum of TWO engineering courses in a curriculum that can be taken as a transient (temporary) student at another university. Consult the department website, office or an advisor for additional information on these policies.

## Civil Engineering

The Civil Engineering (CVEN) program at Tarleton State University was launched in Fall 2014. The program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org> (<https://nam11.safelinks.protection.outlook.com?url=http%3A%2F%2Fwww.abet.org%2F&data=04%7C01%7CAGAPIE%40tarleton.edu%7C8440dc5d24a14b88d3fc08d8df135a6c%7C2c5ee638a96349c0ac26828dd9b78d5e%7C0%7C0%7C637504621495074894%7CUnknown%7CTWFPbGZsb3d8eyJWJoiMC4wLjAwMDAaILCJQljoiv2luMzIiLCJBTiI6I6k1haWwLJCjXVCi6Mn0%3D%7C1000&sdata=miktx%2FeS9ehBn5vwhOh4z7yZLggSW0HQKkznVvAYFDg%3D&reserved=0>). The mission of the CVEN program is to prepare the students to work competently as a professional engineer in Civil Engineering related industries and consulting firms, for engineering licensure and for graduate studies through a rigorous curriculum utilizing modern analytical tools, hands-on laboratory experiences and field applications. The program includes the following broad fields of specialization: structural engineering, transportation engineering, construction engineering, hydrology and water resources engineering, geotechnical engineering, materials, and mechanics. Throughout the program students develop their ability to communicate effectively in a team-oriented and project-driven environment. Additional studies in ethics and sustainability design develop students' ability to understand the responsibilities to public safety and to protect the environment as a civil engineer.

The mission of the CVEN program aligns with the mission of the College of Science and Technology (<http://catalog.tarleton.edu/undergrad/collegeofsciencetechnology/>), as well as the mission of Tarleton State University (<http://catalog.tarleton.edu/undergrad/tarletonstateuniversityanoverview/>).

Students must earn a grade of "C" or better in all required Engineering, Mathematics and Science coursework to graduate. Students must also take, or be registered to take, the Fundamentals of Engineering (FE) licensure exam to graduate.

## Bachelor of Science in Civil Engineering

### Required Courses

**Placement for Calculus 1 is by the CLMPE placement exam, or by college credit for MATH 1316 or MATH 2412. Contact Tarleton's Center for Academic Testing for test information and locations.**

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		43
ENGR 1100 [shared]	Transitioning to University Studies in Engineering	
ENGR 1211	Engineering Fundamentals I	2
ENVE 2251	Fundamentals of GIS for Engineers	2
ENGR 2321	Engineering Mechanics: Statics	3
ENGR 2324	Engineering Mechanics: Dynamics	3
ENGR 3311	Engineering Mathematical Methods	3
ENGR 4259	Engineering Capstone I	2
ENGR 4360 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Engineering Capstone II	3
CVEN 2200	Surveying	2
CVEN 2312	Intro to Civil Engineering	3
CVEN 2235	Civil Engineering Graphics	2
CVEN 3301	Structural Analysis	3
CVEN 3320	Construction Planning and Management	3
CVEN 3423	Strength of Materials	4
CVEN 3430	Civil Engineering Materials	4
CVEN 4305	Reinforced Concrete Design	3
CVEN 4306	Steel Design	3
CVEN 4325	Foundation Engineering	3

CVEN 4450 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Transportation Engineering	4
CVEN 4360	Highway Planning and Design	3
ENVE 2311	Soil Mechanics	3
ENVE 3300	Fluid Mechanics	3
ENVE 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Engineering Hydrology	3
ENVE 4310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Water Resources Engineering	3
Basic Science Elective:		4
GEOL 1403 or BIOL 1406	Physical Geology Biology for Science Majors	
CHEM 1409	College Chemistry for Engineers	4
PHYS 2425 [shared]	University Physics I	
PHYS 2426 [shared]	University Physics II	
MATH 2413 [shared]	Calculus I	
MATH 2414	Calculus II	4
MATH 3433	Calculus III	4
MATH 3306	Differential Equations	3
Total Hours		129

## Environmental Engineering

The Environmental Engineering program at Tarleton State University is accredited by the Engineering Accreditation Commission of ABET, [www.abet.org](http://www.abet.org). The mission of the Environmental Engineering program is to prepare graduates for employment as an engineer in Environmental Engineering related industries and consulting firms, for engineering licensure, and for graduate studies in Environmental Engineering, Civil Engineering or related disciplines. This is accomplished through a curriculum supported by hands-on laboratory and field experiences in which students develop their ability to synthesize concepts into solutions, use modern analytical tools and techniques, communicate professionally and work in a team environment. The program includes a breadth of topics including water and wastewater treatment, environmental risk assessment, solid and hazardous waste management, remediation engineering and project management. Additional studies in ethics and policy assure that the graduate understands the special responsibilities of an engineer related to public safety and environmental issues. This results in engineering graduates who strive to advance the engineering profession through technical competence, innovative problems solving and design, professional conduct, and lifelong learning. Additional details can be found on the department website: [www.tarleton.edu/encs](http://www.tarleton.edu/encs).

Students must earn a grade of "C" or better in all Engineering, Mathematics, and Science coursework in order to graduate. Students must also take, or be registered to take, the Fundamentals of Engineering (FE) licensure exam in order to graduate.

## Bachelor of Science in Environmental Engineering

### Required Courses

**Placement for Calculus 1 is by the CLMPE placement exam, or by college credit for MATH 1316 or MATH 2412. Contact Tarleton's Center for Academic Testing for test information and locations.**

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		43
ENGR 1100 [shared]	Transitioning to University Studies in Engineering	
ENGR 1211	Engineering Fundamentals I	2
ENGR 2322	Engineering Thermodynamics	3
ENGR 3311	Engineering Mathematical Methods	3
ENGR 4259	Engineering Capstone I	2
ENGR 4360 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Engineering Capstone II	3
CVEN 2235	Civil Engineering Graphics	2
ENVE 2251	Fundamentals of GIS for Engineers	2
ENVE 2310	Introduction to Environmental Engineering	3
ENVE 2311	Soil Mechanics	3
ENVE 3300	Fluid Mechanics	3
ENVE 3301	Environmental Systems Modeling	3
ENVE 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Engineering Hydrology	3
ENVE 3333	Groundwater Contamination and Remediation	3
ENVE 3340	Environmental Risk Assessment	3
ENVE 3350	Environmental Biotechnology	3
ENVE 4302	Atmospheric Systems and Air Pollution Control	3
ENVE 4310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Water Resources Engineering	3
ENVE 4320	Chemical and Biological Processes in Water and Wastewater Treatment	3
ENVE 4319	Physical Operations in Water and Wastewater Treatment	3
ENVE 4350	Solid and Hazardous Waste Management	3
ENVE 4325	Environmental Monitoring and Measurements	3
MATH 2413 [shared]	Calculus I	
MATH 2414	Calculus II	4

MATH 3433	Calculus III	4
MATH 3306	Differential Equations	3
CHEM 1409	College Chemistry for Engineers	4
CHEM 2323	Organic Chemistry I	3
CHEM 2123	Organic Chemistry I Laboratory	1
GEOL 1403	Physical Geology	4
BIOL 4441	Freshwater Biology	4
PHYS 2425 [shared]	University Physics I	
PHYS 2426 [shared]	University Physics II	
Total Hours		129

## Mechanical Engineering

The Mechanical Engineering program at Tarleton State University was approved in January 2017 and is accredited by the Engineering Accreditation Commission of ABET, [www.abet.org](http://www.abet.org) (<https://nam11.safelinks.protection.outlook.com?url=http%3A%2F%2Fwww.abet.org%2F&data=04%7C01%7CAGAPIE%40tarleton.edu%7C289384552c6a4c6752b508d8ddd75623%7C2c5ee638a96349c0ac26828dd9b78d5e%7C0%7C0%7C637503264299483035%7CUnknown%7CTWFpbGZsb3d8eyJWoiMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6I1haWwiLCJXVCi6Mn0%3D%7C1000&sdata=KFAsFpXWRiIFQN9DLsy4cS8yE628z1ipn739UWIXVTS%3D&reserved=0>). The mission of the Mechanical Engineering program is to prepare graduates for employment as an engineer in a breadth of Mechanical Engineering related industries, for engineering licensure, and for graduate studies in Mechanical Engineering or related discipline. This is accomplished through a curriculum supported by hands-on laboratory and prototyping experiences in which students develop their ability to synthesize concepts into solutions, use modern analytical tools and techniques, communicate professionally and work in a team environment. The program includes topics such as thermal-fluid system design, mechanical system design, mechatronics, and alternative energy systems. Additional studies in ethics develop students' ability to understand the engineer's responsibilities to society. This results in engineering graduates who strive to advance the engineering profession through technical competence, innovative problems solving and design, professional conduct, and lifelong learning. Additional details can be found on the department website: [www.tarleton.edu/encs](http://www.tarleton.edu/encs).

Students must earn a grade of "C" or better in all Engineering, Mathematics, and Science coursework in order to graduate. Students must also take, or be registered to take, the Fundamentals of Engineering (FE) licensure exam in order to graduate.

## The Bachelor of Science Degree in Mechanical Engineering

### Required Courses

General Education Requirements (<http://catalog.tarleton.edu/undergrad/academicaffairs/>) 43

**Placement for Calculus 1 is by the CLMPE placement exam, or by college credit for MATH 1316 or MATH 2412. Contact Tarleton's Center for Academic Testing for test information and locations.**

ENGR 1100 [shared]	Transitioning to University Studies in Engineering	
ENGR 1211	Engineering Fundamentals I	2
ENGR 2321	Engineering Mechanics: Statics	3
MEEN 2115	Engineering Computer Aided Manufacturing	1
ENGR 2212	Programming for Engineers	2
ENGR 2322	Engineering Thermodynamics	3
ENGR 2324	Engineering Mechanics: Dynamics	3
ENGR 3311	Engineering Mathematical Methods	3
ENGR 4259	Engineering Capstone I	2
ENGR 4360 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Engineering Capstone II	3
ELEN 2425	Electrical Circuit Theory	4
ELEN 3320	Engineering Analysis Techniques	3
CVEN 3423	Strength of Materials	4
MEEN 3305	Fluid Mechanics	3
MEEN 2210	Engineering Computer Aided Design	2
MEEN 3325	Advanced Thermodynamics	3
MEEN 3335	Mechanical Vibration	3
MEEN 3345	Heat Transfer	3
MEEN 4300 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Renewable Energy Systems and Applications	3
MEEN 4205	Mechanical Engineering Experimental Lab	2
MEEN 4310	Mechanical Engineering Design I	3
MEEN 4320	Mechanical Engineering Design II	3
MEEN 4420	Thermal-Fluid System Design	4
MEEN 4425	Mechatronics	4
MEEN 4443	Linear Control Systems	4
CHEM 1409	College Chemistry for Engineers	4
PHYS 2425 [shared]	University Physics I	
PHYS 2426 [shared]	University Physics II	
MATH 2413 [shared]	Calculus I	
MATH 2414	Calculus II	4
MATH 3433	Calculus III	4
MATH 3306	Differential Equations	3
Total Hours		128

## Civil Engineering Courses

### **CVEN 2200. Surveying. 2 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

Introduction to the principles of measurements of distances, angles, and elevations; use of modern surveying equipment, area calculations, effects of observation errors; topographic mapping, traverse and area computations, and triangulation. Prerequisites: ENGR 1211; MATH 2413 or concurrent registration. Lab fee: \$2.

### **CVEN 2235. Civil Engineering Graphics. 2 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

Introduction to technical drawing applied to civil engineering; design and drawing of various reinforced concrete structure members and connections; use of computer graphic tools, such as AUTOCAD for drawing geometric construction, isometric projection, sectional view, dimensioning, multi-view projections and plans. Lab fee: \$2.

### **CVEN 2312. Intro to Civil Engineering. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the disciplines of civil engineering practice through understanding of various sub-specializations within civil engineering discipline such as geotechnical, structural, transportation, water resources and environmental engineering; sustainable design approaches to civil engineering projects through critical thinking and environmental stewardship; and professional and ethical obligations of civil engineering profession. Prerequisite: ENGR 1212 or concurrent registration.

### **CVEN 3301. Structural Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduction to the basic principles of structural analysis; various methods of analyses for beams, trusses, rigid frames, as well as statically indeterminate beams and trusses; laboratory component includes the modeling of structural deflections, reactions, internal forces of frame and truss structures using software such as RISA-3D, SAP2000 and/or MATLAB. Prerequisite: CVEN 3423 Lab fee: \$2.

### **CVEN 3320. Construction Planning and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Importance of construction planning and management from awarding contract to completion; construction equipment and management techniques; scheduling, and control techniques in civil engineering; scheduling, progress monitoring, and recovery schedules, and use of tools for schedule optimization. Prerequisite: CVEN 2312.

### **CVEN 3325. Contracts and Construction Engineering. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Legal aspect of construction industry, ownership, and contractor; contracts and contracting procedure; drawing and specifications used in contract, cost estimation and bidding; contract surety bonds, construction insurance; construction project management and administration; effective project time management; project cost management; prevailing labor market, labor laws, and labor relations; ethics and project safety aspect of construction engineering. Prerequisites: ENGL 1302; CVEN 2310; CVEN 2325.

### **CVEN 3423. Strength of Materials. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Application of the theory of strength of materials to engineering design and analysis. Topics include stresses and strains in members subjected to tension, compression, torsion, and shear; flexural and shearing stresses in beams, principal stresses and deflection of beams, column analysis. Prerequisite: ENGR 2321 Lab fee: \$2.

### **CVEN 3430. Civil Engineering Materials. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introductions to materials engineering; general properties and behavior of construction materials used in civil engineering particularly their mechanical and non-mechanical properties of cement, aggregate, concrete, metals, steel, aluminum, plastics, wood, and composites; environmental influences and construction material behavior; laboratory evaluation of civil engineering material properties through experiments; standard specifications for material properties, techniques for testing. Prerequisite: CVEN 2312 Lab fee: \$2.

### **CVEN 4086. Special Problems. 1-4 Credit Hours (Lecture: 1-4 Hours, Lab: 1-4 Hours).**

Directed study of selected topics in Civil Engineering. May be repeated with approval of department head.

### **CVEN 4305. Reinforced Concrete Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Flexural analysis and design of reinforced concrete beams including singly and doubly reinforced rectangular beams and T-beams, shear and diagonal tension, serviceability, bond, anchorage and development length, short and slender columns, slabs, footings, and retaining walls, including computer software and a design project. Prerequisite: CVEN 3423.

### **CVEN 4306. Steel Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Fundamentals of analysis and design of steel structures; structural elements; simple and eccentric connections; includes a design project. Prerequisite: CVEN 3423.

### **CVEN 4325. Foundation Engineering. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Focus on geotechnical design of shallow foundations, including spread footings, mats, driven piles, and drilled piers; coverage of bearing capacity, settlement, group effects, lateral load capacity of various foundation types; subsurface exploration, construction of deep foundations and analysis of pile behavior using wave equation and dynamic monitoring methods. Prerequisites: CVEN 2312 and ENVE 2311 Lab fee: \$2.

### **CVEN 4360. Highway Planning and Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).**

This course aims to help students understand the basic principles and techniques in highway planning and design. It includes highway planning process, design of the alignment of intersections, evaluation of earthwork requirements, and safety consideration. Upon completion students should be able to perform basic highway design. The course also covers the topics in highway design in the FE exam. Prerequisite: ENGR 3311 Lab fee: \$2.

### **CVEN 4450. Transportation Engineering. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Introduction to highway engineering and traffic analysis; geometric design of highways, traffic flow and queuing theory, highway capacity and level of service analysis, traffic control and analysis at intersections, travel demand and traffic forecasting. Prerequisite: CVEN 2312 Lab fee: \$2.

## Engineering Courses

### **ENGR 1100. Transitioning to University Studies in Engineering. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of engineering and computer science disciplines.

### **ENGR 1211. Engineering Fundamentals I. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Introduction to engineering fundamentals, including problem solving methods and concepts, algorithm development, and analysis tools, including spreadsheets. Introduction to engineering as a profession, including ethics, team-based design, technical communication, and career paths. Prerequisite: Corequisite: MATH 1316 or 2412 or 2413. Lab fee: \$2.

### **ENGR 1212. Engineering Fundamentals II. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Development of skills in problem solving, design, analysis, estimation, communication and teamwork; introduction to accounting and conservation principles in engineering sciences emphasis on computer applications and programming. Prerequisites: ENGR 1211; MATH 2413 or concurrent registration, PHYS 2425 or concurrent registration. Lab fee: \$20.

### **ENGR 2212. Programming for Engineers. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

Programming principles and techniques for matrix and array operations, equation solving, and numeric simulations applied to engineering problems and visualization of engineering information; platforms include spreadsheets, symbolic algebra packages, engineering analysis software, and laboratory control software. Prerequisite: MATH 2413 Lab fee: \$2.

**ENGR 2251. Fundamentals of GIS for Engineers. 2 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

This course offers an introduction to methods of managing and processing geographic information. Basic principles of geographic information systems and their use in spatial analysis and information management are introduced. Students gain experience with cutting-edge geospatial technologies and an understanding of their capabilities. Application in engineering is emphasized. Prerequisite: MATH 2413 or concurrent registration Lab fee: \$2.

**ENGR 2303. Engineering Economy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles of economics equivalence; time value of money, analysis of single and multiple investments; comparison of alternatives; capital recovery and tax implications; certainty; uncertainty; risk analysis; public sector analysis; and break-even concepts. Prerequisites: MATH 2413 or concurrent registration.

**ENGR 2321. Engineering Mechanics: Statics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theory and analysis of bodies in equilibrium, including vector algebra, Newtonian mechanics, forces due to friction; forces acting on members of trusses and frame structures, and determinations of centroids and moments of inertia. Prerequisites: Either ENGR 1211, and concurrent enrollment in PHYS 2425 and MATH 2414; or PHYS 2425, and concurrent enrollment in ENGR 1211 and MATH 2414.

**ENGR 2322. Engineering Thermodynamics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theory and application of energy methods in engineering; conservation principles to investigate traditional thermodynamics (e.g., temperature, thermodynamic equilibrium, and heat). Prerequisite: ENGR 1211; MATH 2414 or concurrent registration.

**ENGR 2324. Engineering Mechanics: Dynamics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Application of theory and principles of mechanics to dynamic particles and rigid body systems in rectilinear and curvilinear systems, including forces, acceleration, conservation of energy, and impulse and momentum. Prerequisite: ENGR 2321.

**ENGR 3311. Engineering Mathematical Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course presents mathematical techniques frequently encountered in advanced engineering analyses. The topics include the following areas: linear algebra, including matrix and eigenvalue applications; probability and statistics, including descriptive and inferential statistics, probability densities, statistical simulations and quality control. Prerequisites: MATH 2413 and ENGR 1211.

**ENGR 4086. Special Problems. 1-4 Credit Hours (Lecture: 1-4 Hours, Lab: 1-4 Hours).**

Directed study of selected topics in Engineering. May be repeated with approval of department head.

**ENGR 4259. Engineering Capstone I. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course is the first part of the capstone design experience synthesizing knowledge, skills and values necessary in engineering practice. Includes FE review sessions, engineering ethics, design process including multiple realistic constraints such as social, economic, safety, and sustainability, and the impact of engineering solutions in a global, economic, environmental, and societal context. During this course students develop a proposal for their capstone project. Prerequisites: Within one year of graduation and subject to instructor approval as per departmental capstone policy.

**ENGR 4360. Engineering Capstone II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course is part 2 of the culminating design experience in the last year of the curriculum used to integrate the student's education. Includes reference to business concepts, mathematics, science, engineering and humanities. Emphasizes team work, a holistic approach to problem solving, and incorporates appropriate engineering standards and multiple realistic constraints. Prerequisite: ENGR 4259.

**Environmental Engineering Courses****ENVE 2251. Fundamentals of GIS for Engineers. 2 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

This course offers an introduction to methods of managing and processing geographic information. Basic principles of geographic information systems and their use in spatial analysis and information management are introduced. Students gain experience with cutting-edge geospatial technologies and an understanding of their capabilities. Application in engineering is emphasized. Lab fee: \$2.

**ENVE 2310. Introduction to Environmental Engineering. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to environmental and occupational health, atmospheric systems and air pollution control, hazardous waste management, solid waste management, waste water management, and water supply treatment. Prerequisite: CHEM 1409 or CHEM 1412.

**ENVE 2311. Soil Mechanics. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduction to the principles of soil and their influence on the hydrological cycle, Darcy's law and fluid flow through porous medium, stress distribution and consolidation of soil, subsurface exploration. Prerequisite: MATH 2413; PHYS 2425 or concurrent enrollment Lab fee: \$2.

**ENVE 3300. Fluid Mechanics. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Principles of hydrostatics, dynamics of viscous and inviscid non-viscous fluids, resistance to flow in pipes and open channels, transport processes, energy equation, Bernoulli equation, conservation of mass, conservation of momentum, pump characteristics, similitude, dimensional analysis. Includes an introduction to computational analysis of fluid flow and pressure distributions and laboratory experiences. Prerequisites: PHYS 2425 and MATH 2414 Lab fee: \$2.

**ENVE 3301. Environmental Systems Modeling. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Apply conceptual and numerical techniques to model environmental systems. Use differential equations to describe processes. Prerequisites: MATH 3306 and ENVE 2310 Lab fee: \$2.

**ENVE 3310. Engineering Hydrology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Study of the hydrologic cycle, precipitation processes, soil moisture, infiltration, groundwater, rainfall-runoff processes, utilization of water resources, and frequency analysis; introduction to HEC-HMS programs for modeling hydrologic processes, elementary principles of field work. Prerequisite: ENVE 3300.

**ENVE 3333. Groundwater Contamination and Remediation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to the fundamentals of subsurface flow with emphasis on the examination of the fate and transport of inorganic and organic contaminants therein and their management. Topics include groundwater flow and well hydraulics, modeling of contaminant transport processes, site investigations, natural attenuation, remediation and legal issues in groundwater protection. Prerequisite: ENVE 3310; MATH 3306 or concurrent registration.

**ENVE 3340. Environmental Risk Assessment. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduction to the fundamentals of environmental and ecological risk assessment, including toxicity assessment, characterizing fate and transport processes in various environmental media, evaluating exposure pathways, dose-response assessment and modeling uncertainty. Prerequisites: ENVE 2310 and ENGR 3311 Lab fee: \$2.

**ENVE 3350. Environmental Biotechnology. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Application of fundamental principles of aquatic chemistry, molecular biology and biochemistry to understand and analyze complex chemical/biological processes in environmental engineering (natural and engineered systems). Prerequisite: CHEM 1409 or CHEM 1412; MATH 2414; ENVE 2310 Lab fee: \$2.

**ENVE 3400. Fluid Mechanics. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Principles of hydrostatics, dynamics of viscous and inviscid non-viscous fluids, resistance to flow in pipes and open channels, transport processes, energy equation, Bernoulli equation, conservation of mass, conservation of momentum, pump characteristics, similitude, dimensional analysis. Includes an introduction to computational analysis of fluid flow and pressure distributions and laboratory experiences. Prerequisites: PHYS 2425 and MATH 2414. Lab fee: \$2.

**ENVE 3401. Environmental Systems Modeling. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Apply conceptual and numerical techniques to model environmental systems. Use differential equations to describe processes. Prerequisites: MATH 3306 and ENVE 2310. Lab fee \$2.

**ENVE 3420. Groundwater Hydrology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Topics include aquifer characteristics, infiltration, fluid dynamics of groundwater flow, potential flows, well analysis, water quality, groundwater pollution, legal issues in groundwater. Credit for both HYDR 320 and ENVE 320 will not be awarded. Prerequisites: ENVE 2411, GEOL 1403 or ENVE 2310, CHEM 1412, MATH 2414. Lab fee \$10.

**ENVE 3440. Environmental Risk Assessment. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to the fundamentals of environmental and ecological risk assessment, including toxicity assessment, characterizing fate and transport processes in various environmental media, evaluating exposure pathways, dose-response assessment and modeling uncertainty. Prerequisite: ENVE 2310 and either ENGR 3311 or MATH 3311 Lab fee: \$2.

**ENVE 3450. Environmental Biotechnology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Application of fundamental principles of aquatic chemistry, molecular biology and biochemistry to understand and analyze complex chemical/biological processes in environmental engineering (natural and engineered systems). Prerequisite: CHEM 1409 or CHEM 1412, MATH 2414, ENVE 2310 Lab fee: \$2.

**ENVE 4086. Special Problems. 1-4 Credit Hours (Lecture: 1-4 Hours, Lab: 0 Hours).**

Directed study of selected topics in Environmental Engineering. May be repeated with approval of department head.

**ENVE 4302. Atmospheric Systems and Air Pollution Control. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of atmospheric impact on air pollution. Study of sources of air pollution and their control to include gases and particulate matter. Study of air pollution regulations and air pollution modeling. Design of systems to control and abate air pollution. Study and design of sampling systems to monitor air pollution. Prerequisite: CHEM 1409, ENGR 2322.

**ENVE 4310. Water Resources Engineering. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Fundamentals of hydraulics applicable to open channel flow, natural streams and waterways; irrigation flow characteristics; hydrologic analysis; fluid measurement methods; introduction to hydraulic models including HEC-RAS; and economic aspects of water resources. Prerequisite: ENVE 3300.

**ENVE 4319. Physical Operations in Water and Wastewater Treatment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Physical operations in water and wastewater treatment are covered in this course. These include the design of lift stations and gravity sewers, screens, sedimentation tanks, clarifiers and holding basins. Prerequisite: ENVE 3300.

**ENVE 4320. Chemical and Biological Processes in Water and Wastewater Treatment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers processes associated with water and wastewater treatment that are mediated chemically or using biological means as well as the design of systems that use such mechanisms. Design of secondary treatment systems, removal of nutrients and design of tertiary treatment systems are covered. Prerequisites: CHEM 2323 (coreq); ENVE 3350 (coreq).

**ENVE 4325. Environmental Monitoring and Measurements. 3 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

Studying and analyzing environmental engineering processes and systems through appropriate experimental methods. The course will include sampling, protocol development and design of experiments, relevant measurement techniques and experimental methods. Emphasis on quality control, calibration, documentation and interpretation of results facilitating the development of best practice approaches for experimental design and analysis. Prerequisite: ENVE 3350 (coreq); ENVE 4320 (coreq) Lab fee: \$2.

**ENVE 4330. Texas Water Resource Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The ecological relation of water in this biosphere with special reference to the human role; the role of behavioral sciences (social, legal, economic, political, and psychological) in the development, conservation, regulation, and utilization of water resources; current political structure and laws pertaining to the administration of water resources in the state of Texas. Prerequisites: ENVE 3310 and GOVT 2306.

**ENVE 4350. Solid and Hazardous Waste Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to provide students with the necessary background and knowledge pertaining to the engineering design of solid and hazardous waste management and disposal. Topics covered include landfill design, resource conservation recovery and reuse, hazardous waste management. Prerequisites: CHEM 1409 or CHEM 1412, and ENVE 2310.

**ENVE 4420. Water and Waste Water Treatment. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Treatment and distribution of residential and industrial water supplies, waste water treatment and disposal methods of municipal and industrial systems, environmental toxicology; aspects of groundwater monitoring and water quality maintenance. Laboratory analysis of water and waste water quality. Design of elementary treatment, distribution, and collection systems. Prerequisites: CHEM 2423 or both CHEM 2323 and CHEM 2123, ENVE 2310, and ENVE 3400 Lab fee \$2.

## Mechanical Engineering Courses

**MEEN 2115. Engineering Computer Aided Manufacturing. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours).**

This is a fundamental course that demonstrates the integration of Computer-Aided-Design (CAD) and Computer-Aided-Manufacturing (CAM), and examines how to program and operate Computer Numerical Control (CNC) mills and lathes. It is a study of modern prototyping and machining methods, with emphasis on teaching the use of CAM software. This program converts 2D and 3D CAD drawing geometry directly into tool path information that is used to drive numerically-controlled turning and milling machines. Prerequisite: MEEN 2210 (prereq); MATH 2413 (coreq).

**MEEN 2210. Engineering Computer Aided Design. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Fundamentals of engineering design and solid modeling using computer aided drafting tools; application of solid modeling, analysis and simulation software and 3-D printing to problem solving and design. Prerequisite: ENGR 1211 (coreq); MATH 2412 (coreq) Lab fee: \$2.

**MEEN 2310. Engineering CAD/CAM. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Application of solid modeling, analysis and simulation software and 3-D printing to problem solving and design. Fundamentals of engineering design and solid modeling using computer-aided drafting tools. Standard terminologies, conventions, processes, operations, design and operational characteristics of key hardware components, programming techniques, applications, merits and demerits of Computer Numerical Controlled (CNC) machines. Prerequisite: ENGR 1212; MATH 2413 or concurrent registration Lab fee: \$2.

**MEEN 3305. Fluid Mechanics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to fluid mechanics, and emphasizes fundamental concepts and problem-solving techniques. Topics to be covered include fluid properties, fluid statics, fluid kinematics, control volume analysis, dimensional analysis, internal flows (pipe flows), and external flows (lift and drag). Brief introductions to computational fluid dynamics (CFD), compressible flow, and fluid power systems such as turbomachinery (pumps and turbines) will also be provided. Prerequisite: PHYS 2425, MATH 2414, ENGR 2322.

**MEEN 3310. Materials and Manufacturing Processes in Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the relationship between product design and manufacturing, assembly, testing and service. Includes materials selection, traditional and nontraditional manufacturing process, inspection, reliability, quality engineering and the economic impact of modern process engineering. Also emphasizes mechanical properties of materials, material microstructures and use of design methodology. Prerequisites: MEEN 2210, CVEN 3423.

**MEEN 3314. Signals and Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Modeling and analysis of electrical and mechanical systems using Laplace transformation methods; transient and steady-state analysis; Fourier series; Fourier transform; elementary feedback. Prerequisite: ELEN 2425, MATH 3306 or concurrent registration.

**MEEN 3325. Advanced Thermodynamics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Design of power and refrigeration systems, mixing or separation, multiphase, air conditioning and energy conversion processes; engine design and operating parameters dealing with thermo-chemistry of fuel air mixtures; properties of working fluids; power cycle analysis with thermodynamic properties and working fluids. Prerequisites: ENGR 2322, CHEM 1409, and MATH 3306 (coreq).

**MEEN 3335. Mechanical Vibration. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Modeling, analysis and design for mechanical vibrations. Fundamentals of free vibration, harmonically excited vibration and vibration under general forcing conditions for one degree and multidegree of freedom systems; vibration design strategies including isolation and absorbers; analysis of mechanical systems for stability, resonance, damping, and modal coupling. Prerequisite: ENGR 2324, CVEN 3423, MATH 3306 Lab fee: \$2.

**MEEN 3345. Heat Transfer. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Heat transfer by conduction, convection, and radiation; steady-state and unsteady heat conduction; free and forced convection heat transfer; radiative heat transfer; heat exchanger analysis. Prerequisite: ENGR 2322, MEEN 3305, MATH 3306.

**MEEN 3350. Measurement System Design. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Design of measurement systems including hardware and software specifications, design, prototyping and testing. Includes fundamentals of data acquisition, design of experiments, instrumentation and sensor calibration commonly used in industry and research (e.g., sensors, signal conversion and conditioning, and wireless data communications). Prerequisite: ELEN 3314, MEEN 2210, PHYS 2426 Lab fee: \$2.

**MEEN 3400. Fluid Mechanics. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Perform analyses involving hydrostatics, fluid dynamics, pipe flow, open-channel flow, pumps, and dimensional analysis. Design and conduct fluid mechanics experiments. Perform computer simulations of fluid processes. Prerequisites: PHYS 2425 and MATH 2414 Lab fee: \$2.

**MEEN 3440. Heat Transfer. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Steady and transient conduction in one- and two-dimensions; forced and natural convection; radiation; phase change; basic heat exchangers design; elements of thermal system design. Includes an introduction to computational analysis of heat transfer and temperature distributions and laboratory experiences. Prerequisite: ENGR 2322 Lab fee: \$2.

**MEEN 4086. Special Problems. 1-4 Credit Hours (Lecture: 1-4 Hours, Lab: 1-4 Hours).**

Directed study of selected topics in Mechanical Engineering. May be repeated with approval of department head.

**MEEN 4205. Mechanical Engineering Experimental Lab. 2 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

Experimentation and measurements in fluid mechanics and heat transfer; efficiency analysis; design of experiment; data processing and analysis; report writing. Prerequisite: MEEN 3305, MEEN 3345 Lab fee: \$2.

**MEEN 4300. Renewable Energy Systems and Applications. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Study of renewable energy sources, future demands, energy management and conservation techniques with focus on sources such as solar energy, biomass (conversions), wind power, geothermal energy, ocean energy, fuel cells and hydro power; assessing the viability of renewable energy systems; and analysis of renewable energy systems, applications, backup energy needs and economic factors. Prerequisites: MEEN 3325, MEEN 3305, MEEN 3345.

**MEEN 4310. Mechanical Engineering Design I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Application of principles of mechanics and physical properties of materials, stress fundamentals and failure theories to the design, selection and analysis of linear elastic solid materials in machine elements with consideration of economics, safety and design for manufacturing. Prerequisite: MEEN 2210, MEEN 2115, CVEN 3423, ENGR 2324.

**MEEN 4320. Mechanical Engineering Design II. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Modeling, analysis and design of machine elements such as springs, bearings, gears, shafts, and mechanisms based on extensive application of physics, mathematics, core engineering principles and industrial practice; design for optimal manufacturability, quality and reliability in the mechanical engineering practice of design. Prerequisite: MEEN 4310, MEEN 3305 Lab fee: \$2.

**MEEN 4420. Thermal-Fluid System Design. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Application of thermodynamics, heat transfer and fluid mechanics concepts to the analysis and design of thermal-fluid systems. Emphasis on component and system modeling, energy balances, performance measurements and experimental design. Prerequisite: ENGR 2322, MEEN 3305, MEEN 3345 Lab fee: \$2.

**MEEN 4425. Mechatronics. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study and design of electromechanical devices including comprehensive principles from mechanics, electronics, instrumentation and software; includes sensors, control systems and actuators along with how to choose a proper controller for mechanical engineering design problems. Prerequisites: ELEN 2425, MEEN 4310; ELEN/MEEN 4443 Lab fee: \$2.

**MEEN 4443. Linear Control Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Application of state variable and frequency domain techniques to modeling and analysis of single input, single output linear control systems; physical implementation of control systems by integrating sensors, actuators and other control system components; use of software design tools. Prerequisite: ELEN 2425, ELEN 3320 or COSC 3344, MATH 3306. Lab fee: \$2.

## Engineering Technology

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The mission of the Department of Engineering Technology is to provide students an academically challenging program of study in technical fields that prepares graduates to establish successful careers and assume leadership roles in engineering, manufacturing, construction, and education. Engineering Technology is part of the engineering field which requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities. The Department offers programs of study leading to a Bachelor of Science degree in Manufacturing Engineering Technology, Mechanical Engineering Technology, Industrial Technology, and Construction Science and Management. For the adult student seeking to advance career opportunities, the department offers two degrees online, a Bachelor of Applied Arts and Sciences degree in Manufacturing and Industrial Management and a Master of Science degree in Engineering and Quality Management, to allow our students to maintain professional and personal commitments while continuing an education.

## Bachelor of Science in Construction Science and Management

The mission of the Bachelor of Science in Construction Science and Management is to provide graduates with knowledge and skills that are valued by commercial, residential, industrial and heavy civil sectors of the construction industry. Construction science and management graduates will gain knowledge of construction materials and methods, structural systems, soils, site development, surveying, contract administration, codes, plans and specifications, planning, estimating, scheduling, and evaluating project performance. Students graduating with this degree will find themselves with the skills and knowledge to compete in a regional, national and international job market.



## The Bachelor of Science in Construction Science and Management

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
CHEM 1411 [shared] or GEOL 1403	College Chemistry I Physical Geology	
PHYS 2425 [shared] or PHYS 1401	University Physics I College Physics I	
MATH 1314 [shared]	College Algebra	
MATH 2412	Precalculus Math	4
ENGT 2303 [shared]	Engineering Economy	
Stat Requirement (Select One):		3
MATH 1342	Elementary Statistical Methods	
BUSI 2311	Business Statistics	
CNST 1305	Construction Graphics	3
CNST 1306	Construction Materials and Methods	3
CNST 1307	Construction Methods-Concrete and Masonry	3
CNST 2323	Construction Estimating I	3
CNST 3301	Building Mechanical and Electrical Systems	3
CNST 3302	Construction Estimating II	3
CNST 3308	Structural Steel and Timber Construction	3
CNST 3309	Commercial Construction and Industrial Subsystems	3
CNST 3311 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Construction Materials Testing and Inspection	3
ENGT 3318 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Research and Reporting For Technologists	3
CNST 3320	Construction Safety Management	3
CNST 3321	Construction Management	3
CNST 3335	Construction Layout and Site Development	3
CNST 3385 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Construction Project Scheduling	3
CNST 4310	Site & Building Foundations	3
CNST 4313	Construction Law and Ethics	3
CNST 4322	Building Information Modeling	3
CNST 4325	Contract Administration	3
CNST 4395	Construction Capstone	3
ACCT 3300	Accounting Concepts	3
BUSI 1301	Business Principles	3
MGMT 3300	Principles of Management	3
Electives		5
Total Hours		120

## The Bachelor of Science in Manufacturing Engineering Technology

The Bachelor of Science degree in Manufacturing Engineering Technology educates students in a wide range of manufacturing related areas: quality, ergonomics, production planning, management, control systems, productivity, automated systems, and computer modeling. The Manufacturing Engineering Technology courses are supplemented with a foundation of industrial technology courses and emphases in mathematics, statistics, and the sciences. A wide choice of electives compliments the degree, allowing the student maximum flexibility in the areas of business, science, mathematics, computer information systems, and engineering.

### Bachelor of Sciences in Manufacturing Engineering Technology

#### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>		42
ENGT 1305	Principles of Drafting	3
ENGT 1306	Applied Statics	3
ENGT 1317	Machining Technology	3
ENGT 2303 [shared]	Engineering Economy	
ENGT 2335	Solid Modeling	3
ENGT 3303 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Industrial Materials	3
ENGT 3318 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Research and Reporting For Technologists	3
ENGT 3316	Manufacturing Systems	3
ENGT 3324 or ENGT 3325	Applied Polymer Processing Composites Manufacturing	3
ENGT 3336	Industrial Controls	3
ENGT 3375	Continuous Improvement	3

ENGT 3386	Quality Management	3
ENGT 3395 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Fundamentals of Industrial Project Management	3
ENGT 4326	Applications of Linear Programming and Optimization	3
ENGT 4336	Production Planning	3
ENGT 4346	Manufacturing Management	3
ENGT 4347	Metrics and Measurements	3
ENGT 4375	Facility Planning	3
ENGT 4395	Engineering Technology Projects	3
MATH 1316	Plane Trigonometry (or above)	3
or MATH 2412	Precalculus Math	
MATH 2413 [shared]	Calculus I	
MATH 2414	Calculus II	4
COSC 1310	Procedural Programming	3
CHEM 1411 [shared]	College Chemistry I	
PHYS 2425 [shared]	University Physics I	
Advanced Electives		3
Electives		11
Total Hours		120

<sup>1</sup> Please see Academic Information section.

## The Bachelor of Science in Mechanical Engineering Technology

The mission of the Mechanical Engineering Technology program is to prepare students for the challenges in manufacturing and manufacturing support. Students develop the technical skills needed to solve problems through design, process, and personnel improvements and practices that are common in an industrial setting. Coursework focuses on mechanical engineering but includes the use of laboratories to reinforce student learning by designing, manufacturing, and/or troubleshooting physical systems.

### The Bachelor of Science Degree in Mechanical Engineering Technology

#### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
ENGT 1305	Principles of Drafting	3
ENGT 1306	Applied Statics	3
ENGT 1317	Machining Technology	3
ENGT 2303 [shared]	Engineering Economy	
ENGT 2335	Solid Modeling	3
ENGT 3301	Applied Dynamics	3
ENGT 3303 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Industrial Materials	3
ENGT 3305	Machine Design	3
ENGT 3313	Mechanics of Materials	3
ENGT 3318 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Research and Reporting For Technologists	3
ENGT 3327	Mechanical Analysis	3
ENGT 3336	Industrial Controls	3
ENGT 3375	Continuous Improvement	3
ENGT 3385	Thermal Fluid Sciences I	3
ENGT 4322	Thermal Fluid Sciences II	3
ENGT 4326	Applications of Linear Programming and Optimization	3
ENGT 4356	Embedded Industrial Systems	3
ENGT 4375	Facility Planning	3
ENGT 4395	Engineering Technology Projects	3
MATH 1316	Plane Trigonometry	3
or MATH 2412	Precalculus Math	
MATH 2413 [shared]	Calculus I	
MATH 2414	Calculus II	4
CHEM 1411 [shared]	College Chemistry I	
PHYS 2425 [shared]	University Physics I	
Advanced Elective or Minor Course		6
General Elective		11
Total Hours		120

### The Bachelor of Science Degree in Industrial Technology

The Bachelor of Science degree in Industrial Technology prepares students for roles in a technical career. Areas of study include drafting and design, manual and CNC machining, and automation. Students have room in their program of study to pursue a minor in business, computer science, or other content areas. Industrial Technology graduates often work in manufacturing in such areas as technical support, front line supervision, or machine operators. Industrial Technology students can also pursue a teaching certification to teach in a secondary school.

## The Bachelor of Science Degree in Industrial Technology

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>		42
ENGT 1305	Principles of Drafting	3
ENGT 1317	Machining Technology	3
ENGT 2335	Solid Modeling	3
ENGT 3303 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Industrial Materials	3
or ENGT 3304	Manufacturing Materials	
ENGT 3317	Machine Tool Technology	3
ENGT 3324	Applied Polymer Processing	3
or ENGT 3325	Composites Manufacturing	
ENGT 3345	Industrial Design	3
ENGT 3350	Numerical Control Systems	3
MATH 1316	Plane Trigonometry	3
or MATH 2412	Precalculus Math	
Total Hours		69

### Additional Required Courses for Concentrations

#### General Without Certification

ENGT 1306	Applied Statics	3
ENGT 3316	Manufacturing Systems	3
ENGT 3318 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Research and Reporting For Technologists	3
ENGT 3320	Industrial Safety	3
ENGT 3336	Industrial Controls	3
ENGT 3375	Continuous Improvement	3
ENGT 4395	Engineering Technology Projects	3
Advanced ENGT Electives		9
Electives from any field (6 Hours Advanced) <sup>2</sup>		21
Total Hours		51

#### Technology Education (Secondary Teacher Certification)

ENGT 1306	Applied Statics	3
ENGT 3314	Principles of Technology Education	3
ENGT 3393	Modular Technology	3
ENGT 4305	Architectural Drafting	3
ENGT 3336	Industrial Controls	3
ENGT 3316	Manufacturing Systems	3
BCIS 1305	Business Computer Applications	3
COMM 1316	News Photography I	3
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical writing and Document Design	3
EDUC 3320	Foundations of Teaching: Elementary (EC-6) Classrooms	3
EDUC 3330	Models of Instruction	3
EDUC 4330	Application of Effective Teaching Practices	3
EDUC 4335	Issues of Professionalism	3
EDUC 4690	Clinical Teaching	6
Select one of the following:		3
PSYC 2308	Child Psychology	
PSYC 3303	Educational Psychology	
CHFS 3300	Child Development	
READ 3351	Content Area Literacy	3
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
Total Hours		51

<sup>1</sup> Please see Academic Information section.

<sup>2</sup> Some students may choose to use 18 hours of electives for a minor in any field other than ENGT.

## The Bachelor of Applied Arts and Sciences in Manufacturing and Industrial Management

The Bachelor of Applied Arts and Sciences (BAAS) degree is designed for students who have training in a technical area. Education received at technical schools, community colleges, military technical schools, and employer-sponsored training schools may be applied toward the degree. With appropriate

documentation, the technical training may be supplemented with a maximum of 15-21 semester credit hours for work experience. The degree allows students to choose between two emphasis areas.

## The Bachelor of Applied Arts and Sciences Degree in Manufacturing and Industrial Management

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
<b>Prior Learning Credit</b>		<b>12-36</b>
MATH 1316	Plane Trigonometry	3
or MATH 1342	Elementary Statistical Methods	
ENGT 3318 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Research and Reporting For Technologists	3
ENGT 3375	Continuous Improvement	3
ENGT 3395 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Fundamentals of Industrial Project Management	3
Advanced Electives		12
Advanced ENGT		6
Electives		0-24
Total Hours		108

### Additional Required Courses for Concentrations

#### Industrial Management

ENGT 3386	Quality Management	3
ENGT 4336	Production Planning	3
ENGT 4346	Manufacturing Management	3
ENGT 4347	Metrics and Measurements	3
Total Hours		12

#### Safety Management

ENGT 3326	Ergonomics and Work Methods	3
ENGT 3320	Industrial Safety	3
ENGT 4320	Occupational Safety and Health	3
ENGT 3360	Safety Management	3
Total Hours		12

#### General

Advanced ENGT		12
Total Hours		12

## The Bachelor of Applied Science Degree in Construction Science and Management

The mission of the Bachelor of Applied Science in Construction Science and Management is to provide graduates with knowledge and skills that are valued by commercial, residential, industrial and heavy civil sectors of the construction industry. Construction Science and Management graduates will gain knowledge of construction materials and methods, structural systems, soils, site development, surveying, contract administration, codes, plans and specifications, planning, estimating, scheduling, and evaluating project performance. Students graduating with this degree will find themselves with the skills and knowledge to compete in a regional, national and international job market. The BAS in Construction Science and Management is geared towards students who have an Associate's degree in a technical field and are interested in earning their Bachelor's.

## The Bachelor of Applied Science in Construction Science and Management

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		42
<b>Prior Learning Credit</b>		<b>12-24</b>
BUSI 1301	Business Principles	3
MATH 1316	Plane Trigonometry	3-4
or MATH 2412	Precalculus Math	
GEOL 1403 [shared]	Physical Geology	
PHYS 1401 [shared]	College Physics I	
ENGT 2303 [shared]	Engineering Economy	
ENGT 3318 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Research and Reporting For Technologists	3
CNST 2323	Construction Estimating	3
CNST 3302	Construction Cost Estimating and Analysis	3
CNST 3308	Structural Steel and Timber Construction	3
CNST 3309	Commercial Construction and Industrial Subsystems	3
CNST 3320	Construction Safety Management	3
CNST 3321	Construction Management	3
CNST 3335	Construction Layout and Site Development	3

CNST 3385 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Construction Project Scheduling	3
CNST 4313	Construction Law and Ethics	3
CNST 4322	Building Information Modeling	3
CNST 4325	Contract Administration	3
ACCT 3300	Accounting Concepts	3
MGMT 3300	Principles of Management	3
Electives		6-18
Total Hours		120

### The Bachelor of Applied Science Degree in Manufacturing Engineering Technology

The Bachelor of Applied Science degree in Manufacturing Engineering Technology educates students in a wide range of manufacturing related areas: quality, ergonomics, production planning, management, control systems, productivity, automated systems, and computer modeling. The Manufacturing Engineering Technology courses are supplemented with a foundation of industrial technology courses and emphases in mathematics, statistics, and the sciences. A wide choice of electives complements the degree, allowing the student maximum flexibility in the areas of business, science, mathematics, computer information systems, and engineering. The BAS in Manufacturing Engineering Technology is geared towards students who have an Associate's degree in a technical field and are interested in earning their Bachelor's.

### The Bachelor of Applied Science Degree in Manufacturing Engineering Technology

#### Required Courses

General Education Requirements (<http://catalog.tarleton.edu/undergrad/academicaffairs/>) 43

Prior Learning Credit 12-24

MATH 1316 or MATH 2412	Plane Trigonometry Precalculus Math	3-4
MATH 2413 [shared]	Calculus I	
MATH 2414	Calculus II	4
PHYS 2425 [shared]	University Physics I	
ENGT 2303 [shared]	Engineering Economy	
ENGT 2335	Solid Modeling	3
ENGT 3303 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Industrial Materials	3
ENGT 3318 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Research and Reporting For Technologists	3
ENGT 3324 or ENGT 3325	Applied Polymer Processing Composites Manufacturing	3
ENGT 3336	Industrial Controls	3
ENGT 3350	Numerical Control Systems	3
ENGT 3375	Continuous Improvement	3
ENGT 3386	Quality Management	3
ENGT 3395 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Fundamentals of Industrial Project Management	3
ENGT 4326	Applications of Linear Programming and Optimization	3
ENGT 4336	Production Planning	3
ENGT 4347	Metrics and Measurements	3
ENGT 4395	Engineering Technology Projects	3
Electives		7-19
Total Hours		120

### The Bachelor of Applied Science Degree in Mechanical Engineering Technology

The mission of the Mechanical Engineering Technology program is to prepare students for the challenges in manufacturing and manufacturing support. Students develop the technical skills needed to solve problems through design, process, and personnel improvements and practices that are common in an industrial setting. Coursework focuses on mechanical engineering but includes the use of laboratories to reinforce student learning by designing, manufacturing, and/or troubleshooting physical systems. The BAS in Mechanical Engineering Technology is geared towards students who have an Associate's degree in a technical field and are interested in earning their Bachelor's.

### The Bachelor of Applied Science Degree in Mechanical Engineering Technology

#### Required Courses

General Education Requirements (<http://catalog.tarleton.edu/undergrad/academicaffairs/>) 43

Prior Learning Credit 12-24

MATH 1316 or MATH 2412	Plane Trigonometry Precalculus Math	3
MATH 2413 [shared]	Calculus I	
MATH 2414	Calculus II	4
PHYS 2425 [shared]	University Physics I	
ENGT 2335	Solid Modeling	3
ENGT 3301	Applied Dynamics	3

ENGT 3303 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Industrial Materials	3
ENGT 3305	Machine Design	3
ENGT 3313	Mechanics of Materials	3
ENGT 3318 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Research and Reporting For Technologists	3
ENGT 3327	Mechanical Analysis	3
ENGT 3336	Industrial Controls	3
ENGT 3375	Continuous Improvement	3
ENGT 3385	Fluid Mechanics	3
ENGT 3395 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Fundamentals of Industrial Project Management	3
ENGT 4322	Applied Thermodynamics	3
ENGT 4395	Engineering Technology Projects	3
Electives		7-19
Total Hours		120

## Construction Courses

### CNST 1305. Construction Graphics. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).

Computer based 2D & 3D graphics used in the construction industry including CAD/REVIT based drawing development, construction drawing interpretation, site/plan/elevation/section/detail drawings, structural and MEP drawings. Residential and commercial construction based. Lab fee: \$10.

### CNST 1306. Construction Materials and Methods. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).

This course introduces students to the basic building materials and systems used in constructing buildings, bridges, and infrastructure projects. It offers the basic understanding of the use of common systems such as foundations, structural framing/skeleton, building envelopes, and finishes. Namely, it introduces students to proper terminology and usage of wood, steel, and concrete materials and selected manufactured components. Lab fee: \$10.

### CNST 1307. Construction Methods-Concrete and Masonry. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).

This course is an investigation into concrete and masonry construction methods, testing, and design used in residential and commercial construction. Topics include: concrete slab, wall, footing, and pier construction; brick and concrete masonry unit (CMU) wall construction; and decorative concrete/masonry design techniques. Lab fee: \$30.

### CNST 2323. Construction Estimating. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).

This course introduces students to the skills and tools necessary to prepare formal cost estimations for residential construction projects. It focuses on pricing, indirect costs, bid analysis and use of computer aided software. The goal of this course is to expand the student's skills in new topics of estimating and to assist in developing high confidence in the application of construction estimating skills. This course addresses the typical procedures from familiarization with the CSI Divisions, building plans, material quantification, work breakdown, work quantification, pricing and bid submittals while creating detailed cost estimates. Prerequisite: CNST 1306, CNST 1307 Lab fee: \$2.

### CNST 3301. Building Mechanical and Electrical Systems. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).

This course introduces students to the planning and construction of mechanical and electrical systems common to construction projects. It involves basic calculations of cooling/heating loads, determination of temporary power demands, and sizing of pipes, HVAC equipment, and ducts. Lab fee: \$30.

### CNST 3302. Construction Cost Estimating and Analysis. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).

This course covers quantification and pricing of direct field costs and general condition costs for light commercial and industrial construction projects from contract documents as well as preparation of complete lump sum bid package ready for project execution with emphasis on the use of software in the estimating process. Prior knowledge or experience in construction, mechanical, and electrical systems is recommended. Prerequisite: CNST 2323, CNST 3301, or appropriate Occupational Specialization credit Lab fee: \$2.

### CNST 3308. Structural Steel and Timber Construction. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).

Design and analysis of temporary structures used in construction, including scaffolding, shoring, ground support systems, concrete falsework, and formwork, bracing, soldier beam and lagging, trenching, equipment bridges, and temporary support of permanent structures. Besides, this course introduces construction safety associated with temporary structures. Prerequisites: CNST 1306 or appropriate Occupational Specialization credit, and either PHYS 1401 or PHYS 2425. Lab fee: \$2.

### CNST 3309. Commercial Construction and Industrial Subsystems. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).

This course introduces students to the terminology and functions of details of mechanical and electrical systems common to process and industrial plant projects. It involves basic calculations of systems, determination of power requirements, and selection of systems. Lab fee: \$2.

### CNST 3311. Construction Materials Testing and Inspection. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Construction materials testing and inspection procedures in laboratory and field situations using standard testing equipment, methods, and field inspection techniques per ASTM and ACI standards. Laboratory reports, computer analysis, data collection and simulated field inspections are included. Focus is placed on acceptance testing for construction materials. Prerequisites: CNST 1306 Lab fee: \$2.

### CNST 3320. Construction Safety Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course introduces students to OSHA regulations and industry practices related to creating and maintaining safe construction sites. Students will be eligible to sit for the 10-hour OSHA safety certification exam. Prerequisites: CNST 1306 or concurrent enrollment or appropriate Occupational Specialization credit.

### CNST 3321. Construction Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Construction Management courses including construction operations and key project management skills. Critical path scheduling, duration, logic, resource leveling, and the calculation of costs. Typical contract formats: project planning with emphasis on legal aspects of various types of corporations and structure.

### CNST 3335. Construction Layout and Site Development. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).

Basic surveying techniques for construction layouts, fundamentals and regulations related to land development. Prerequisites: MATH 1316 or MATH 2412 or appropriate Occupational Specialization credit Lab fee: \$2.

### CNST 3385. Construction Project Scheduling. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course explores major problems, tasks and techniques required to manage the technical program in each phase of the product life cycle. Organizational planning, decision-making, and internal external interface techniques for each phase of the project life cycle are addressed. Additional concepts such as: Earned Value Analysis (EVA), Critical Path Management (CPM), Project Requirements Analysis, and Schedule Task Analysis will be explored in depth. Lab fee: \$2.

### CNST 4084. Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).

Topics will vary according to timeliness and special needs. May be taken more than once for credit.

**CNST 4086. Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

This course is designed to meet the needs of Engineering Technology students who have above average academic ability and who need to pursue subject matter that is not normally included in the Engineering Technology curriculum. Approval for enrollment in this course shall be with the concurrence of the individual instructor and the department head. The student must be currently enrolled in one of the majors offered in the Engineering Technology Department.

**CNST 4310. Site & Building Foundations. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

The course gives an overview of the difference and correlation between soil mechanics and foundations engineering. Soil mechanics is the branch of engineering that involves the study of the properties of soils and their behaviors under stress and strain in idealized conditions. Foundation engineering is the application of the principles of soil mechanics in the planning, design and construction of foundations for buildings, highways, dams and so forth. This course presents a detailed look into soil properties and foundations design. Prerequisites: PHYS 1401 or PHYS 2425. Lab fee: \$2.

**CNST 4313. Construction Law and Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to basic understanding of contractual issues that are significant to construction managers. The course is designed to teach basic concepts of contract law and to recognize legal issues making decisions based on current industrial standards. The course also focuses on addressing ethics in the construction industry.

**CNST 4322. Building Information Modeling. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course is designed specifically to both introduce specific BIM (Building Information Modeling) techniques and software as well as further develop VDC (Virtual Design and Construction) software as they align with current managerial methods and project delivery platforms. The course is also designed and developed to promote discussion with respect to the roles played by owners, designers, builders, and suppliers. Specific attention is paid to BIM's role in various project platform delivery systems including DESIGN-BID-BUILD, DESIGN BUILD, CM AT RISK, and IPD. Prerequisite: CNST 4325, CNST 3385, CNST 3321, Minimum of 90 hours coursework complete Lab fee: \$2.

**CNST 4323. Construction Estimating. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course introduces students to the skills and tools necessary to prepare formal bids for construction projects. It focuses on pricing, indirect costs, bid analysis and use of computer aided software. The goal of this course is to expand your skills in new topics of estimating and to assist you in developing high confidence in the application of the estimating skills you learned previously. The course addresses the bidding procedure from receipt of bid documents through work breakdown, work quantification, pricing and bid submittal for lump sum and unit price bids, and preparation of design/build proposals. Prerequisites: CNST 1306, 1307, and 3301 Lab fee: \$2.

**CNST 4325. Contract Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to issues regarding administering construction contracts. It focuses on understanding of the purpose of contract documents, legal hierarchy of the documents, the interrelationships among the documents, liabilities accepted with each document, and typical challenges related to communications among the parties involved, establishing chain of commands, warranties, and progress/final payments. Prerequisites: CNST 3321.

**CNST 4395. Construction Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Capstone projects course emphasizing a team approach to the analysis and solutions of Construction problems. Projects will be supplied by industry whenever possible. Emphasizes scheduling, design, working in teams. A final written report drawings and presentations will be provided to the customer. Prerequisite: Minimum of 90 hours coursework complete and department head approval.

## Engineering Technology Courses

**ENGT 1100. Transitioning to University Studies in Engineering Technology. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of Engineering Technology.

**ENGT 1305. Principles of Drafting. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

An introduction to mechanical drafting involving geometrical constructions, orthographic projection, dimensioning techniques, sectional views, auxiliary views, isometric views, and other topics related to manufacturing and other areas of drafting. Lab fee \$10.

**ENGT 1306. Applied Statics. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course will focus on understanding the resolution and composition of forces and moments; free-body diagrams; equilibrium of particles and rigid bodies; simple structures; friction; centroid; moments of inertia. Prerequisite: Concurrent with MATH 1316 or 2412.

**ENGT 1317. Machining Technology. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

A study of metals and their machining characteristics and application. Emphasis is placed on layout, precision measurement, and heat treating. Laboratory experiences include work with sheet metal, metal casting, and metal lathe operation. Lab fee \$2.

**ENGT 2303. Engineering Economy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles of economics equivalence; time value of money, analysis of single and multiple investments; comparison of alternatives; capital recovery and tax implications; certainty; uncertainty; risk analysis; public sector analysis; and break-even concepts. Prerequisite: MATH 1316, MATH 2412, or MATH 2413.

**ENGT 2309. Electrical Circuits. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Principles of electricity, magnetism, and basic laws. Fundamentals of analog and digital electronic components and circuits, including applied areas. Laboratory involves experiments with basic circuits and test equipment. Lab fee: \$2.

**ENGT 2310. Introduction to Manufacturing Processes. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

A study of metals and their machining characteristics and application. Emphasis is placed on layout, precision measurement, and heat treating. Laboratory experiences include work with sheet metal, metal casting, and metal lathe operation. Lab fee \$10.

**ENGT 2335. Solid Modeling. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

A study of complex three-dimensional solid models used in the fields of mechanical engineering, sheet metal, welding, and other areas of manufacturing and engineering. Orthographic views projected from solid models and annotation techniques are used to produce engineering drawings. Prerequisite: ENGT 1305 or 3 semester hours of drafting or approval of the instructor. Lab fee \$10.

**ENGT 3099. Cooperative Education. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 3-9 Hours).**

This course is designed to offer students the opportunity to integrate academic study with work experience that is germane to their major or minor. Enrollment requires a two-semester minimum commitment that may be accomplished by 1) alternating semesters of full-time study with semesters of curriculum-related employment, or 2) enrolling in courses at least half-time (6 semester hours) and working part-time in parallel positions of curriculum-related employment. The department Cooperative Education advisor will supervise the student's experience and assign the final grade based on the student's final report which is required to complete the course. Students may participate in the Cooperative Education program for an unlimited number of semesters but a maximum of 6 hours credit may be counted toward a degree. Prerequisites: Completion of 30 semester hours which includes 12 hours in the major or minor discipline in which the Cooperative Education course is desired, minimum overall GPA of 2.5 and a minimum GPA of 3.0 in the appropriate major or minor field, and department head approval. Field experiences fee \$50.

**ENGT 3301. Applied Dynamics. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course will study the principal concepts and application of dynamics. The topics include kinematics and kinetics analysis of particle motion, kinematics and kinetics analysis of two-dimensional rigid body motion, and principal of work and energy and its application in particle and two-dimensional rigid body motion analysis. Prerequisites: MATH 2413 and ENGT 1306.

**ENGT 3303. Industrial Materials. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A study of the structure, properties, processing, and application of metallic, polymeric, ceramic, and composite materials utilized in manufacturing. Laboratory exercises include processing methods, physical and mechanical testing, modification of properties, manufacturing applications, and material identification. Prerequisites: CHEM 1411 and ENGL 1302 Lab fee \$2.

**ENGT 3304. Manufacturing Materials. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A study of the properties, processing, and application of metallic, polymeric, ceramic, and composite materials utilized in manufacturing. Emphasis is placed on broad characteristics and applications of industrial materials.

**ENGT 3305. Machine Design. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Application of mechanics and strength of materials to the analysis, synthesis and design of machine elements; theories of failure, stress concentrations, fatigue life and thermal stress, consideration of economics and safety; projects in creative mechanical design. Prerequisite: MATH 2413 and ENGT 3313.

**ENGT 3309. Control Systems for Mechanical Application. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Application of computers to control industrial processes. Study of continuous- and discrete-time control algorithms; digital signal processing; and system control concepts applied to process control. Prerequisite: ENGT 2303. Lab fee: \$2.

**ENGT 3313. Mechanics of Materials. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Stresses and strains in elastic members under tensile, compressive, shearing, torsional and bending loads; combined stresses; shear and moment diagrams; Mohr's circle; deflection of beams; thin-walled pressure vessels; stability of columns and buckling. Prerequisites: Concurrent with MATH 2413 and ENGT 1306.

**ENGT 3314. Principles of Technology Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the Texas Technology Education curriculum, to include the areas of communication, manufacturing, construction, energy, power, transportation, computer applications, bio-related technology, electricity, electronics, graphics, principles of technology, and other related technologies.

**ENGT 3316. Manufacturing Systems. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

A study of organizational and production techniques used in manufacturing. A thematic team approach will be used to design and produce a product using principles of mass production. Concepts of manufacturing that will be studied will include: principles of tooling, quality, plant layout, resource planning and scheduling. Prerequisites: ENGT 1305, 1317.

**ENGT 3317. Machine Tool Technology. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Fundamentals and principles of metal removal processes. Emphasis is placed on metal lathes, milling machines, grinding machines, and electric discharge machines. Prerequisite: ENGT 1317. Lab fee \$10.

**ENGT 3318. Research and Reporting For Technologists. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A study of research tools, methods, and data collection techniques used in the field of Engineering Technology. Emphasis will be placed on gathering, analyzing, and presenting technical information related to manufacturing topics in both oral and written form. Technical reports, product documentation, and correspondence will also be discussed.

**ENGT 3319. Motor Control and Machine Automation. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

A study of power transformers, single and multiphase circuits. The study of DC machines, AC single and multiphase synchronous and induction machines, and an introduction to power electronics. Lab fee: \$2.

**ENGT 3320. Industrial Safety. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of principles and practices used to establish a safe and healthful environment for industrial personnel. Includes a study of general industrial safety, safety and health regulation agencies, hazard recognition and correction, and first aid. Credit for both ENGT 3320 and MGMT 3320 will not be awarded.

**ENGT 3323. Computer-Aided Design with AutoCAD. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

The application of the principles of computer-aided design as they relate to manufacturing and construction. Computerized generation of drafting and design data, using AutoCAD, to create two- and three-dimensional geometries.

**ENGT 3324. Applied Polymer Processing. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course is a study of thermoplastic and thermosetting materials and processes used in plastics manufacturing. Emphasis will be placed on injection molding, thermoforming, extrusion, rotational casting, elastomeric mold fabrication, resin casting, and coatings. Also, the impact of material selection on processing parameters will be stressed. Prerequisite: ENGT 3303. Lab fee: \$2.

**ENGT 3325. Composites Manufacturing. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course includes a study of basic organic-matrix composites manufacturing and assembly processes, especially as these relate to aerospace and construction composite products. Lab exercises will include composite hand layup procedures, composite tool design, pultrusion, and assembly processes for composite products. Prerequisite: ENGT 3303. Lab fee: \$2.

**ENGT 3326. Ergonomics and Work Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the design of man-machine systems with particular emphasis on the application of ergonomics to the manufacturing workplace and environment. Use of anthropometric data in design; limitations of human performance; effects of environmental stress on work performance, safety, and health. Lab fee \$2.

**ENGT 3327. Mechanical Analysis. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

The course works with the principal concepts and application of Finite Element Analysis (FEA). The topics include fundamental stress/strain analysis of linear static systems and comparing with FEM software on lab projects. The topics also include fundamental of mechanical fracture and fatigue analysis and if time permits performing FEM analysis of them using software on lab projects. Prerequisites: ENGT 3313.

**ENGT 3336. Industrial Controls. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

The theory and application of electronic programmable devices such as programmable logic controllers, temperature controllers, counters, etc. Emphasis is also given to control devices using pneumatics and hydraulics. Ladder logic and input/output devices will be emphasized. Lab Fee: \$10.00.

**ENGT 3345. Industrial Design. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

An application based course that exposes students to industrial design and provides experience in the varied aspects of the design process, culminating in a final, individual design project. Topics include, but are not limited to: Working drawings, tolerancing, dimensioning, material selection and pricing, sketching and proper design techniques. Prerequisite: ENGT 2335 or approval of the instructor. Lab fee \$2.

**ENGT 3350. Numerical Control Systems. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Principles, techniques, and applications of numerically controlled machine tools. Application of the APT system. Laboratory experiences in processing, writing, debugging, and processing the N/C part program. Prerequisite: ENGT 1317 or approval of the instructor. Lab fee \$10.

**ENGT 3360. Safety Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Occupational safety engineering and management with emphasis on control of hazardous materials, fire prevention, safety considerations in production facility design and maintenance, and operation of effective safety programs.

**ENGT 3375. Continuous Improvement. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The role of the manufacturing engineer in continuous improvement projects to improve design and production processes. The student will utilize modern tools and techniques for planning and managing continuous improvement projects, integrating and deploying change programs, data based decision making, and resource management.



**ENGT 3385. Fluid Mechanics. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course is an introduction to fluid mechanics, and emphasizes fundamental concepts and problem-solving techniques. Topics to be covered include fluid properties, fluid statics, fluid kinematics, control volume analysis, internal flows (pipe flows), and external flows (lift and drag). Brief introductions to computational fluid dynamics (CFD), compressible flow, and fluid power systems such as turbomachinery (pumps and turbines) will also be provided. Prerequisites: MATH 2413.

**ENGT 3386. Quality Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the application of various methods used by manufacturing to quantify product quality. This will include a review of the ASTM, ANSI, and ISO tests as they apply to metallic, polymeric, ceramic, and composite materials. Statistical Quality Control, Statistical Process Control, Total Quality Management, and ISO 9000 will also be investigated. Laboratory assignments will acquaint the student with the variety of instrumentation that is used in quality control and their use. Lab fee \$2.

**ENGT 3393. Modular Technology. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course will investigate various systems used in modular technology education. Modular technology studies will include broadcasting technology, applied physics, power energy, transportation, graphic communication, composites, and computer application. Prerequisite: junior standing. Lab fee \$15.

**ENGT 3395. Fundamentals of Industrial Project Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

As an introductory course for project management, the course covers essential elements to successfully initiate and complete a project in general. Topics will include five of the basic elements of project management; project initiation, planning, executing, controlling and closing a project. The course includes the use of Project Management software.

**ENGT 395. Industrial Project Management. 5 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).****ENGT 4086. Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

This course is designed to meet the needs of Engineering Technology students who have above average academic ability and who need to pursue subject matter that is not normally included in the Engineering Technology curriculum. Approval for enrollment in this course shall be with the concurrence of the individual instructor and the department head. The student must be currently enrolled in one of the majors offered in the Engineering Technology Department. Prerequisite: completion of 30 or more hours in the Department of Engineering Technology.

**ENGT 4303. Weld Design. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course presents the basics of weld design, welded structure manufacturing, and structural design as it applies to welded structures.

**ENGT 4305. Architectural Drafting. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

A course in residential architectural drafting using computer-aided drafting. Emphasis is placed on residential design and home planning. Lab fee \$10.

**ENGT 4320. Occupational Safety and Health. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of principles and practices used to establish a safety and health program within industrial and retail environments. The course includes a study of general safety regulations and occupational safety program strategies as they pertain to internal organizational efforts. Related topics such as safety and health regulation agencies, hazard recognition and correction, and first aid.

**ENGT 4322. Applied Thermodynamics. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of the basic concepts and laws of thermodynamics and the application of these laws or principles to simple engineering systems. Topics include the First Law of Thermodynamics, the Second Law of Thermodynamics, thermodynamic properties, and various cycles. Prerequisite: MATH 2414.

**ENGT 4326. Applications of Linear Programming and Optimization. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

An introduction to applications of linear and nonlinear programming, single and multiple objective optimization, sensitivity, forecasting, queuing theory, and decision analysis. The student will be able to implement these concepts using a COTS software application as applied in industrial and public settings. Lab fee \$10.

**ENGT 4336. Production Planning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the principles and theory used in the design and maintenance of production operations and inventory systems. These include forecasting techniques, inventory models, production control models and assembly line balancing. Particular emphasis is on MRP. Just-in-Time, and Synchronous Manufacturing.

**ENGT 4339. Process Control Instrumentation. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Introduction to process control principles and practices. Study of analog and digital signal conditioning; thermal, mechanical and optical transducers; electromechanical, pneumatic and hydraulic devices; and the application of computer-aided tools for process control instrumentation. Prerequisite: ENGT 3336, 3309. Lab fee: \$2.

**ENGT 4346. Manufacturing Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Applications of modern manufacturing principles including: design for manufacturability, group technology, just-in-time, synchronous manufacturing, concurrent engineering, flexible manufacturing, and product management to effectively manage the manufacturing environment.

**ENGT 4347. Metrics and Measurements. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers topics in ergonomics, the man-machine interface, managing worker methods, and time studies. We will cover topics that lead to measuring and monitoring work both by human and machines. Prerequisite: ENGT 3375.

**ENGT 4350. NUMerical Control Programming. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

A continuation of I T 350 in which more advanced programming techniques are studied. Included is a study of the various N/C part programming languages, and evaluation of N/C equipment and the further refinement of the APT/NC language. Prerequisite: ENGT 3350. Lab fee \$10.

**ENGT 4356. Advanced Industrial Controls. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Feedback control system analysis. Proportional, integral and derivative controls of automated systems. Control system design and compensation. Analog and digital simulation. Prerequisite: MATH 2413, ENGT 3336.

**ENGT 4361. Computer Aided Manufacturing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The principles of computer aided manufacturing and simulation as they relate to mechanical design and assemblies. Software tools will be used to analyze parametric parts and assemblies for strength, function, range of motion and interference. Prerequisite: Approval of the instructor.

**ENGT 4375. Facility Planning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers topics in Facilities Planning and design for Operations. We will cover topics that lead to making good decisions for facility layout including product, process flow, material handling, and facility location techniques. Prerequisite: ENGT 3375.

**ENGT 4376. Automated Manufacturing Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An analysis of materials flows to design automated manufacturing systems in the manufacturing environment. This will include material handling systems, how computer-aided manufacturing software improves productivity, automated storage and retrieval systems, automated guided vehicles, bar-coding systems, automated warehousing, and the programming and application of robots.

**ENGT 4384. Internship. 3 Credit Hours (Lecture: 0 Hours, Lab: 6 Hours).**

An approved, supervised, comprehensive work experience consisting of a minimum of 240 hours (6 weeks) in an industrial or manufacturing enterprise. Prerequisite Course(s): Junior or senior classification and approval of academic advisor and department head. The internship may be repeated for a maximum of 6 hours of credit. Field experience fee \$75.

**ENGT 4385. Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will vary according to timeliness and special needs. May be taken more than once for credit.

**ENGT 4395. Engineering Technology Projects. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

A capstone projects course emphasizing a team approach to the analysis and solutions of manufacturing problems. Projects will be supplied by industry whenever possible. Emphasizes scheduling, design, working in teams, final written report and presentation. Restricted to Engineering Technology majors. Prerequisite: Senior standing. Lab fee \$15.

## Biological Sciences

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The Department of Biological Sciences offers two distinct four-year curricula that lead to the baccalaureate degree. These are the Bachelor of Science in Biology and the Bachelor of Science in Biomedical Science. In addition, Pre-Health professional programs are offered which include Pre-Medicine, Pre-Dentistry, Pre-Physical Therapy, Pre-Pharmacy, and Pre-Veterinary Medicine. Secondary teaching certificates may be obtained with Science Certification or Life Science Certification. The curricula are designed to maximize career opportunities and to prepare students for various graduate and professional school programs. The Department of Biological Sciences provides a broad range of courses and other learning opportunities designed to prepare students for a diverse array of careers. Particular attention is given to maintaining updated curricula to keep pace with the rapidly changing field of biology. Whenever possible we emphasize hands-on experience with the biological techniques and instrumentation used by biologists world-wide and encourage students to become involved in faculty initiated research experiences.

A Master of Science degree is also offered. For further information, see the graduate section (p. 443) of this catalog.

## Bachelor of Science in Biology

### The Bachelor of Science Degree in Biology

#### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>		43
BIOL 1406	Biology for Science Majors	4
BIOL 1407	Biology for Science Majors II	4
BIOL 2300	Cell Biology	3
BIOL 3407	Microbiology	4
BIOL 3303	Genetics	3
BIOL 3103	Genetic Techniques	1
BIOL 3353	Ecology and Evolution	3
or BIOL 3363	Study Abroad: Ecology and Evolution	
BIOL 4398 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Current Topics in the Life Sciences	3
CHEM 1411 [shared]	College Chemistry I <sup>2</sup>	
CHEM 1412 [shared]	College Chemistry II <sup>2</sup>	
PHYS 1401	College Physics I	4
CHEM 2323 & CHEM 2123	Organic Chemistry I and Organic Chemistry I Laboratory	4
PHYS 1402	College Physics II	4
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	3
MATH 2412 [shared]	Precalculus Math (shared)	
Total Hours		83

#### Additional Required Courses for Concentrations

##### General Without Certification

Advanced BIOL Electives		18
MATH 3450	Principles of Bio-Statistics	4
Electives (6 Hours Advanced)		15
Total Hours		37

##### Aquatic Ecology

BIOL 3449	Animal Diversity	4
BIOL 4401	Ecology	4
BIOL 4462	Ichthyology	4
BIOL 4441	Freshwater Biology	4
BIOL 3340	Introduction to Marine Biology	3
EASC 3350	Environmental Science	3

GEOL 1403	Physical Geology	4
MATH 3450	Principles of Bio-Statistics	4
EASC 3340	Oceanography	3
BIOL 3430	Phycology	4
Total Hours		37

**Environmental**

BIOL 3415	Plant Taxonomy	4
BIOL 3436	Plant Physiology	4
BIOL 3449	Animal Diversity	4
BIOL 4401	Ecology	4
BIOL 4441	Freshwater Biology	4
or BIOL 4462	Ichthyology	
BIOL 3340	Introduction to Marine Biology	3
EASC 3350	Environmental Science	3
GEOL 1403	Physical Geology	4
MATH 3450	Principles of Bio-Statistics	4
Electives		3
Total Hours		37

**Molecular**

BIOL 3413	Molecular Biology	4
BIOL 3485	Immunology	4
BIOL 3395	Pathogenic Microbiology	3
BIOL 4374	Biochemistry I	3
BIOL 4375	Biochemistry II	3
BIOL 4378	Biochemistry Lab	3
CHEM 2325 & CHEM 2125	Organic Chemistry II and Organic Chemistry II Laboratory	4
MATH 3450	Principles of Bio-Statistics	4
Electives (4 Hours Advanced)		9
Total Hours		37

**Wildlife**

BIOL 3415	Plant Taxonomy	4
BIOL 3449	Animal Diversity	4
or BIOL 3436	Plant Physiology	
BIOL 4401	Ecology	4
BIOL 4420	Terrestrial Field Ecology	4
Select any 3 of the following courses:		12
BIOL 4430	Ornithology	
BIOL 4440	Herpetology	
BIOL 4451	Mammalogy	
BIOL 4462	Ichthyology	
MATH 3450	Principles of Bio-Statistics	4
WSES 2322	Principles of Wildlife Conservation and Management	3
Elective		2
Total Hours		37

**Zoology**

BIOL 3406	Comparative Vertebrate Anatomy	4
BIOL 3449	Animal Diversity	4
MATH 3450	Principles of Bio-Statistics	4
BIOL 4340	Developmental Biology	3
Select 22 hours from the following:		22
BIOL 4320	Behavioral Ecology	
BIOL 4430	Ornithology	
BIOL 4440	Herpetology	
BIOL 4445	Parasitology	
BIOL 4451	Mammalogy	
BIOL 4462	Ichthyology	
BIOL 4460	Animal Physiology	
Total Hours		37

**Terrestrial Ecology**

BIOL 3449	Animal Diversity	4
BIOL 4401	Ecology	4
BIOL 4320	Behavioral Ecology	3

BIOL 4420	Terrestrial Field Ecology	4
MATH 3450	Principles of Bio-Statistics	4
WSES 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Plant-Animal Interactions	3
WSES 4311	Fire Ecology	3
One of the Following Courses:		4
BIOL 4445	Parasitology	
BIOL 3436	Plant Physiology	
One of the Following Courses:		4
BIOL 4430	Ornithology	
BIOL 4440	Herpetology	
BIOL 4451	Mammalogy	
Advanced Elective		4
Total Hours		37

### Botany

MATH 3450	Principles of Bio-Statistics	4
BIOL 3415	Plant Taxonomy	4
BIOL 3420	Plant Pathology	4
BIOL 3449	Animal Diversity	4
BIOL 3430	Phycology	4
BIOL 4401	Ecology	4
BIOL 3436	Plant Physiology	4
BIOL 4086	Biology Problems (Herbarium Techniques Botanical Research Institute of Texas)	3
Biology Elective		3
WSES 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Plant-Animal Interactions	3
Total Hours		37

<sup>1</sup> Please see Academic Information section.

<sup>2</sup> Course may be counted toward general education requirement.

## Bachelor of Science in Biomedical Science

### The Bachelor of Science Degree in Biomedical Science

#### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ) <sup>1</sup>		43
BIOL 1406	Biology for Science Majors	4
BIOL 1407	Biology for Science Majors II	4
BIOL 2300	Cell Biology	3
BIOL 3406	Comparative Vertebrate Anatomy	4
BIOL 3303	Genetics	3
BIOL 3103	Genetic Techniques	1
BIOL 3407	Microbiology	4
BIOL 3353	Ecology and Evolution	3
or BIOL 3363	Study Abroad: Ecology and Evolution	
BIOL 4460	Animal Physiology	4
BIOL 4374	Biochemistry I	3
BIOL 4398 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Current Topics in the Life Sciences	3
CHEM 1411 [shared]	College Chemistry I <sup>2</sup>	
BIOL 1185	Career Pathways in Biomedical Science	1
CHEM 1412 [shared]	College Chemistry II <sup>2</sup>	
PHYS 1401	College Physics I	4
or PHYS 2425	University Physics I	
CHEM 2123	Organic Chemistry I Laboratory	1
CHEM 2323	Organic Chemistry I	3
PHYS 1402	College Physics II	4
or PHYS 2426	University Physics II	
<b>Placement into MATH 2413 is based upon the score obtained on the college level MATH placement exam</b>		
MATH 2412 [shared]	Precalculus Math	
or MATH 2413	Calculus I	
MATH 3450	Principles of Bio-Statistics	4
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	

ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	3
Total Hours		99

### Additional Required Courses for Concentrations

#### General Without Certification

Select two of the following:		6-8
BIOL 3380	Introduction to Virology	
BIOL 3395	Pathogenic Microbiology	
BIOL 3402	Histology	
BIOL 3413	Molecular Biology	
BIOL 3485	Immunology	
BIOL 4340	Developmental Biology	
BIOL 4350	Vaccines	
BIOL 4445	Parasitology	
BIOL 4375	Biochemistry II	
BIOL 4378	Biochemistry Lab	
Electives (7 Hours Advanced)		15
Total Hours		21

#### Pre-Medical/Pre-Dental

PSYC 2301 [shared]	General Psychology	
BIOL 3485	Immunology	4
Select one of the following:		3-4
BIOL 3380	Introduction to Virology	
BIOL 3395	Pathogenic Microbiology	
BIOL 3402	Histology	
BIOL 3413	Molecular Biology	
BIOL 4340	Developmental Biology	
BIOL 4350	Vaccines	
BIOL 4445	Parasitology	
BIOL 4375	Biochemistry II	
BIOL 4378	Biochemistry Lab	
Electives (6 Hours Advanced)		10
CHEM 2325	Organic Chemistry II	3
CHEM 2125	Organic Chemistry II Laboratory	1
Total Hours		21

#### Pre-Physical Therapy

Select two of the following:		6-8
BIOL 3380	Introduction to Virology	
BIOL 3395	Pathogenic Microbiology	
BIOL 3402	Histology	
BIOL 3413	Molecular Biology	
BIOL 3485	Immunology	
BIOL 4340	Developmental Biology	
BIOL 4350	Vaccines	
BIOL 4445	Parasitology	
BIOL 4375	Biochemistry II	
BIOL 4378	Biochemistry Lab	
PSYC 2301 [shared]	General Psychology <sup>2</sup>	
PSYC 3307	The Human Lifespan	3
SOCI 1301	Introductory Sociology	3
Advanced Electives		4
Electives		5
Total Hours		21

#### Pre-Veterinary

COMM 1315 [shared] or COMM 2302	Public Speaking Business and Professional Speaking	
PSYC 2301 [shared]	General Psychology	
BIOL 4375	Biochemistry II	3
Select one of the following:		3-4
BIOL 3380	Introduction to Virology	

BIOL 3395	Pathogenic Microbiology	
BIOL 3402	Histology	
BIOL 3413	Molecular Biology	
BIOL 3485	Immunology	
BIOL 4340	Developmental Biology	
BIOL 4350	Vaccines	
BIOL 4445	Parasitology	
BIOL 4378	Biochemistry Lab	
AGRI 1419	General Animal Science	4
CHEM 2125	Organic Chemistry II Laboratory	1
CHEM 2325	Organic Chemistry II	3
ANSC 3409	Feeds and Feeding <sup>4</sup>	4
or ANSC 3308	Principles of Animal Nutrition	
Advanced Electives <sup>4</sup>		3-4
Total Hours		21

### Pre-Pharmacy

Select 2 of the following:		6-8
BIOL 3380	Introduction to Virology	
BIOL 3395	Pathogenic Microbiology	
BIOL 3402	Histology	
BIOL 3413	Molecular Biology	
BIOL 3485	Immunology	
BIOL 4340	Developmental Biology	
BIOL 4350	Vaccines	
BIOL 4445	Parasitology	
BIOL 4375	Biochemistry II	
BIOL 4378	Biochemistry Lab	
MATH 2413	Calculus I <sup>3</sup>	4
CHEM 2125	Organic Chemistry II Laboratory	1
CHEM 2325	Organic Chemistry II	3
ECON 2301 [shared]	Principles of Macroeconomics <sup>2</sup>	
PHIL 1301 [shared]	Introduction to Philosophy <sup>2</sup>	
Advanced Electives		7
Total Hours		21

<sup>1</sup> Please see Academic Information section.

<sup>2</sup> Course may be counted toward general education requirement.

<sup>3</sup> A student who counts MATH 2413 towards general education requirements must complete an additional 4 hours, in this concentration, of coursework in order to meet the 120 hour requirement.

<sup>4</sup> Students choosing to complete ANSC 3308 to meet this requirement, must complete 1 additional advanced credit hour to meet the 120 hour program requirement and 45 advanced hours requirement.

## Important Information Regarding Health Professions Programs

The Pre-Medical/Pre-Dental, Pre-Physical Therapy, and Pre-Veterinary Support Areas in Biomedical Science are designed to meet or exceed the entrance requirements for medical, dental, physical therapy, and veterinary programs in Texas. Other health profession programs including, but not limited to Physician Assistant, Pharmacy, Optometry, Chiropractic, Occupational Therapy, Podiatry, Radiology Technician, and Dental Hygiene can vary considerably in terms of entrance requirements. Students interested in such programs are encouraged to earn a BS in Biomedical Science by following the General Biomedical Science Support Area. By allowing greater flexibility in elective courses, the General Biomedical Science Support Area can be easily adjusted to meet the entrance requirements of these health profession programs.

A program in Pre-Veterinary Medicine is also offered through the Department of Animal Science and Veterinary Technology. Although the Pre-Veterinary programs offered through the Departments of Animal Science and Veterinary Technology, and Biological Sciences each meet all the requirements for admission to the Texas A&M College of Veterinary Medicine, a student is typically best suited for one program or the other. It is important that a student discuss with an advisor which program is best suited to his or her interests, skills, and goals.

It is important to know that health profession programs may change entrance requirements without notice. Therefore, it is the responsibility of the student to check these requirements and work closely with an advisor to ensure that all requirements are met. If all of the entrance requirements for a professional program have been met, it is sometimes possible for a student to matriculate to the professional program prior to completing a degree at Tarleton. In this case, a student might meet the requirements of a Bachelor of Science degree at Tarleton by

1. fulfilling the "Degree Requirements" as stated in the Academic Information section of the catalog and
2. transferring the necessary hours from an approved professional school to Tarleton for a minimum total of 120 hours.

### Professors

- Calahan, John Dr.
- Higgins, Christopher Dr.
- Nelson, Allan Dr.
- Pierce, James Dr.
- Pfau, Russell Dr.
- Sanderford, Max Dr.
- Sudman, Philip Dr.

## Associate professors

- Herrmann, Kristin Dr.
- Meik, Jesse Dr.
- Rathburn, Harold Dr.
- Murray, Karen Dr.
- Speshock, Janice Dr.

## Assistant professors

- Chraibi, Victoria Dr.
- Edwards, Dustin Dr.

## Instructor

- Burns, Bridget Ms.
- Johnson, Terry Mr.
- Price, Callie Ms.
- Scoggins, Brian Mr.

## Courses

### **BIOL 1100. Transitioning to University Studies in Biology/Biomedical Sciences. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of biology and biomedical disciplines.

### **BIOL 1185. Career Pathways in Biomedical Science. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Exploration of opportunities in the health professions, biomedical research, biomedical industry, and related fields. Course is open to all majors interested in life science careers related to health and disease.

### **BIOL 1406. Biology for Science Majors. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Fundamental principles of living organisms will be studied, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Concepts of cytology, reproduction, genetics, and scientific reasoning are included. Laboratory activities will reinforce the fundamental principles of living organisms, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Study and examination of the concepts of cytology, reproduction, genetics, and scientific reasoning are included. Lab fee: \$2.

### **BIOL 1407. Biology for Science Majors II. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

The diversity and classification of life will be studied, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals. Laboratory activities will reinforce study of the diversity and classification of life, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals. Lab fee: \$2.

### **BIOL 2020. Biology Connect 2020. 0 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).**

### **BIOL 2300. Cell Biology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the study of cells, including structure and function of cellular components, bioenergetics, cellular transport and communication, and the cell cycle. Prerequisites: BIOL 1406.

### **BIOL 2310. Essential Elements of Biology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

The study of morphology, anatomy, growth, life cycles, ecology, behavior, classification, and uses of organisms. Human systems and tissues and mechanisms of heredity and metabolism will be introduced. The laboratory will give experience in the use of the microscope, dissecting procedures, and problem solving. Enrollment in this course is restricted to Interdisciplinary Studies Majors. Prerequisite: 3 hours of CHEM, PHYS, or GEOL Lab fee: \$2.

### **BIOL 2401. Anatomy and Physiology I. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Basic physiological principles and their applications in the study of the skeletal, muscular, and nervous systems are emphasized. Substantial microscopic observation required. Lab fee: \$2.

### **BIOL 2402. Anatomy & Physiology II. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Integrated study of human anatomy and physiology. Includes study of the structure and function of the human body including the following systems: endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics). Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis. The lab provides a hands-on learning experience for exploration of human system components and basic physiology. Lab fee: \$2.

### **BIOL 2420. Microbiology for Non-Science Majors. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

A survey of the microorganisms, their environments, and their interactions with multicellular organisms, particularly man. The course concentrates on the microorganisms which are pathogenic to man, human diseases, treatments for the diseases, and their prevention. Microorganisms need time to grow and therefore there will be several laboratory assignments throughout the course of the semester where students will be required to return the next day for about 15-45 minutes for culture analysis. Course is appropriate for pre-nursing majors. Prerequisites: 8 hours of BIOL or CHEM Lab fee: \$2.

### **BIOL 3103. Genetic Techniques. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Application of modern genetic techniques to generate, analyze, and interpret data. Emphasis will be placed on the development of practical laboratory skills. Prerequisites: BIOL 3303 or concurrent enrollment. Lab fee: \$2.

### **BIOL 3303. Genetics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the study of genetics including the nature of genetic material, mechanisms of gene expression and inheritance, population genetics and evolution, and application of modern DNA technology. Prerequisites: 8 hours of BIOL with a grade of C or higher and CHEM 1411 or higher.

### **BIOL 3340. Introduction to Marine Biology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

General considerations of the marine environment including habitats, biota, zoogeography, and humans' impact. Prerequisites: BIOL 1406, 1407.

### **BIOL 3353. Ecology and Evolution. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The objective of this course is to convey a basic understanding of how life evolves, how organisms interact with their environments, and how evolutionary and ecological principles can be applied to a wide range of questions. Prerequisites: BIOL 1406, 1407 and 3303.

### **BIOL 3363. Study Abroad: Ecology and Evolution. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is intended to convey a basic understanding of how life evolves, how organisms interact with their environments, and how evolutionary and ecological principles can be applied to a wide range of questions. Emphasis will be placed on the writing process. This course will be an Applied Learning Experience. Prerequisite: BIOL 1406, BIOL 1407, BIOL 3303.

**BIOL 3380. Introduction to Virology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the basic principles in the study of viruses. It will provide a foundation to understanding virus architecture and nomenclature, virus replication cycles, mechanisms of viral entry and spread of infection, host responses to viral infections, laboratory research and diagnostics of viral diseases, and epidemiology of viral infections. Prerequisites: BIOL 3407.

**BIOL 3395. Pathogenic Microbiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the disease-producing capacities of various microorganisms with emphasis on the diagnostic procedure of isolation and identification. Prerequisites: BIOL 3407 with minimum grade of "C" or approval by the department head.

**BIOL 3402. Histology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to cellular ultrastructure. Study of vertebrate tissues and their arrangement in various organs. Prerequisite: 8 hours of BIOL Lab fee: \$2.

**BIOL 3406. Comparative Vertebrate Anatomy. 4 Credit Hours (Lecture: 3 Hours, Lab: 4 Hours).**

The morphology, physiology, and phylogeny of the organ systems of vertebrates. Laboratory study of representative vertebrates. Prerequisite: 8 hours of biology. Lab fee: \$2.

**BIOL 3407. Microbiology. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Study of microorganisms; characteristics, physiology, genetics, and their interrelations with humans. Substantial microscopic observation required. Microorganisms need time to grow and therefore there will be several laboratory assignments throughout the course of the semester where students will be required to return the next day for about 15-45 minutes for culture analysis. Prerequisites: 2 semesters of BIOL and 1 semester of CHEM, or 1 semester of BIOL and 2 semesters of CHEM, or approval by the department head. Lab fee \$2.

**BIOL 3413. Molecular Biology. 4 Credit Hours (Lecture: 3 Hours, Lab: 4 Hours).**

Fundamentals of gene expression, gene regulation, DNA metabolism and nucleic acid structure, recombinant DNA techniques and protein structure. Prerequisites: BIOL 3303 and 3103, and either CHEM 2423 or both CHEM 2323 and CHEM 2123.

**BIOL 3415. Plant Taxonomy. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Principles of plant taxonomy. Field and laboratory studies of common Texas wild flowers and trees with emphasis on identification, collection, and preparation of herbarium specimens. Prerequisites: 8 hours of BIOL with a grade of C or better, junior classification, or department head approval. Lab fee \$2.

**BIOL 3420. Plant Pathology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Study of the various types of plant diseases and specific examples of each type. Emphasis upon identification, host-parasite interactions, pathogen dissemination, and control methods. Prerequisite: BIOL 1406, 3407 or approval by department head. Lab fee: \$2.

**BIOL 3430. Phycology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Hands-on training in the taxonomy, ecology, and ecophysiology of algae. Discussion of current uses of algae for water quality, biofuel, food production, forensic science, and nanotechnology. Prerequisites: BIOL 1406 and BIOL 1407 Lab fee: \$2.

**BIOL 3436. Plant Physiology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of physiology of green plants with emphasis on nitrogen metabolism, respiration, mineral nutrition, photosynthesis, and growth. Prerequisite: BIOL 1406 or BIOL 1407 Lab fee: \$2.

**BIOL 3449. Animal Diversity. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of the morphology, taxonomy, biology, and phylogeny of the invertebrate animals. In lecture, students concentrate on basic concepts of structures, function and evolutionary development of major invertebrate groups. In lab, students are exposed to a large collection of invertebrates, learning about systematics, ecology, structure and phylogenetic relationships. Prerequisite: 12 hours of BIOL or approval by the department head. Lab fee: \$2.

**BIOL 3485. Immunology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Emphasis on the basic concepts of humoral and cell-mediated immunity. Laboratory: current techniques in experimental immunology and serology. Prerequisites: BIOL 2300, BIOL 3407 and one year of CHEM or approval by the department head. Lab fee: \$2.

**BIOL 4086. Biology Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

A course open by invitation to capable juniors and seniors wishing to pursue a biological problem. Students are permitted and encouraged to work independently under the guidance of an instructor. May be repeated for credit, subject to the approval by the department head. Prerequisite: 14 hours of BIOL Lab fee: \$2.

**BIOL 4090. Special Topics. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 3-9 Hours).**

Deals with selected topics in biology. May be repeated for credit when topics vary. Prerequisite: approval of department head.

**BIOL 4185. Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Survey of biological literature, biological instrumentation, history of biology, and current trends in biological sciences. Grading in this course is satisfactory/unsatisfactory. Prerequisite: 12 hours BIOL or approval of department head.

**BIOL 4320. Behavioral Ecology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The aim of this course is to understand variation in behavior among species and among individuals within a species. The course will focus on how behavior affects an animal's ability to survive and reproduce. Prerequisites: 12 hours of biology or approval by department head.

**BIOL 4325. Conservation Biology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles of conservation biology and the major issues that define the discipline. Study of value, threats to, and conservation of biodiversity. Conservation issues at the population and species levels, policy, and practical applications of the science will be included. Prerequisite: Course in Ecology, or department head approval.

**BIOL 4340. Developmental Biology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to basic principles of developmental biology. The course will include sections on classical embryology, the molecular basis of development, and evolution of development. In addition, students will read/discuss relevant articles from the primary literature. Prerequisites: BIOL 3303 or BIOL 3403.

**BIOL 4350. Vaccines. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will cover the basic principles in the study of vaccines by providing a foundation to the understanding of the immune response to vaccinations, development of vaccinations, and the significance of individual human and animal vaccines. Prerequisites: BIOL 3407.

**BIOL 4370. Organisms and Ecosystems of Texas. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

A comparison of the organisms and ecosystems of Texas. Prerequisites: BIOL 1406, BIOL 1407, CHEM 1411, CHEM 1412, and either CHEM 2423 or both CHEM 2323 and CHEM 2123, or approval of department head. Lab fee: \$2.

**BIOL 4374. Biochemistry I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the basic principles of biological chemistry and to fundamental processes of plants, animals and microorganisms. Credit for both BIOL 4374 and CHEM 4374 will not be awarded. Prerequisites: BIOL 3407 with "C" or better, and either CHEM 2423 or both CHEM 2323 and 2123 with "C" or better.

**BIOL 4375. Biochemistry II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A detailed survey of intermediary metabolism. The metabolism of carbohydrates, lipids, proteins and nucleic acids, and the regulation of metabolism are emphasized. Credit for both BIOL 4375 and CHEM 4375 will not be awarded. Prerequisites: BIOL/CHEM 4374, or approval of department head.

**BIOL 4378. Biochemistry Lab. 3 Credit Hours (Lecture: 1 Hour, Lab: 5 Hours).**

Principles and applications of basic methodology for the isolation, purification, characterization, and quantitative determination of biologically important compounds. Credit for both BIOL 4378 and CHEM 4378 will not be awarded. Prerequisite: BIOL 4374 or CHEM 4374 Lab fee: \$2.



**BIOL 4398. Current Topics in the Life Sciences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Students will apply knowledge and skills learned in previous courses to address biological issues through writing, oral presentations, and other assessments. All majors must complete this course to graduate with a BS in Biology or BS in Biomedical Science. Prerequisites: Major in Biology or Biomedical Science and at least 80 hours of coursework completed, including BIOL 1406, BIOL 1407, BIOL 2300, BIOL 3103 and BIOL 3303, BIOL 3353, and BIOL 3407, or Department Head Approval.

**BIOL 4401. Ecology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A scientific study of the biotic and abiotic interactions that determine the distribution and abundance of organisms. Prerequisites: BIOL 1406, BIOL 1407, and 4 hours of chemistry Lab fee: \$2.

**BIOL 4420. Terrestrial Field Ecology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the structure and functioning of terrestrial communities with an emphasis on plants. Laboratories will be conducted over three weekends. Prerequisite: Plant Taxonomy (BIOL 3415) or department head approval Lab fee: \$2.

**BIOL 4430. Ornithology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the basic biology of birds, including origins, systematics, ecology, biogeography, physiology, anatomy, and reproductive biology. Laboratory emphasizes identification of regional avifauna and includes multiple field trips. Prerequisite: BIOL 1406 and BIOL 1407. Lab fee \$2.

**BIOL 4440. Herpetology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A survey of the biology of amphibians and reptiles, with emphasis on phylogenetics, ecology, physiology, morphology, zoogeography, conservation, and taxonomy. Laboratory and field work will provide students with practical experience in collecting, identifying, and preparing specimens of regional species, as well as observing populations in natural settings. Prerequisites: BIOL 1406 and BIOL 1407. Lab fee: \$2.

**BIOL 4441. Freshwater Biology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of aquatic communities and the biogeochemical factors affecting the productivity of ponds, reservoirs, and streams (Limnology). Labs focus on field collections and student-driven experimental research. Prerequisites: 1 year of CHEM and 12 hours of BIOL, including BIOL 1406 and 1407 (or department head approval). Lab fee: \$2.

**BIOL 4445. Parasitology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A survey of the various invertebrate parasites of medical importance with particular reference to epidemiology and the host-parasite relationship. Prerequisites: 12 hours of BIOL or approval by the department head. Lab fee \$10.

**BIOL 4451. Mammalogy. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the evolution, anatomy, behavior, ecology, systematics, and basic biology of mammals. Laboratory work includes identification of regional mammals as well as techniques for the collection and preparation of mammalian specimens. Prerequisite: BIOL 1406 and BIOL 1407. Lab fee \$2.

**BIOL 4460. Animal Physiology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An advanced course in the fundamentals of vertebrate physiology emphasizing physiologic mechanisms from a basic molecular/cellular level up to the level of organ systems, which include the nervous, endocrine, muscular, cardiovascular, respiratory, digestive and urinary systems. The basic physiologic mechanisms are presented in the context of human physiology, however, how selected animals are adapted to particular environments is addressed. Laboratory exercises involve the use of electronic instrumentation to measure physiologic responses non-invasively in human volunteers or in surgically prepared animals. Prerequisite: 12 hours of BIOL and one semester of organic chemistry with laboratory. Lab fee: \$2.

**BIOL 4462. Ichthyology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the anatomy, behavior, ecology, evolution, taxonomy, and zoogeography of fishes. Field and laboratory work provide students with practical experience in collecting, identifying, and studying fishes. Emphasis will be placed on local fauna. Prerequisite: BIOL 1406 and BIOL 1407. Lab fee \$2.

## Chemistry, Geosciences, and Physics

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Department of Chemistry, Geosciences & Physics  
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(254) 968-9894  
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The Department of Chemistry, Geosciences, and Physics provides rigorous, high-class programs with experts dedicated to student mastery. Located only an hour southwest of Fort Worth in the heart of Stephenville, campus is nestled in the Hill Country of Texas, with access to nearby facilities and research opportunities in DFW, Austin, Waco, Abilene, and College Station.

Learning reaches beyond the classroom at Tarleton, and we are proud of our traditions of friendliness and of treating students with respect and individual attention. We take pride in our small advanced classes which provided access to our faculty in a one-on-one environment. Tarleton's faculty members are dedicated to your needs and they make every effort to be responsive and progressive.

These traits are also present in Tarleton's Department of Chemistry, Geosciences and Physics, which offers Bachelor of Science degrees in Physics (<https://www.tarleton.edu/degrees/bachelors/bs-physics/>), Chemistry (<https://www.tarleton.edu/degrees/bachelors/bs-chemistry/>), or Geosciences (<https://www.tarleton.edu/degrees/bachelors/bs-geoscience/>), as well as Master of Science degrees in Environmental Science (<https://www.tarleton.edu/degrees/masters/ms-environmental-science/>) and Geosciences (<https://www.tarleton.edu/degrees/masters/ms-geoscience/>).

Tarleton's Chemistry, Geosciences, and Physics Department emphasizes the personal bond between student and faculty mentor. Through personalized advising, we encourage you to identify your preferences in choosing a degree program that will prepare you professionally and challenge you academically.

### The Bachelor of Science Degree in Chemistry

Chemistry is for students with the desire to be a part of the future and the drive to test established thought. Students who like to work with both their hands and their minds will enjoy the challenge and excitement of this creative science. Chemists work with highly sophisticated instruments, with computers, with basic lab ware and chemicals, and with other people.

Over 60% of all chemists work in industry, producing the products and technologies that shape our everyday lives - pharmaceuticals, textiles, rubber, glass, polymers, paper, conductors, and food. In the industrial environment a chemist may be working in research, inventing or improving a chemical compound or process. Other chemists are involved in manufacturing a product or running experiments to test the quality or safety of products.

More than 20 % of all chemists are engaged in teaching and/or research in schools, colleges, and universities. Chemists in educational institutions enjoy the challenge of communicating the excitement of chemistry to new generations.

Federal, state, and local governments employ about 10 % of the chemistry work force. These chemists work in a variety of governmental agencies on issues dealing with science and technology, health care, the environment, defense, and industry. Individuals with degrees in chemistry are also found working in many diverse fields such as medicine, technical writing, law, information science, agriculture, health and safety, instrumentation, sales and personnel work, management, manufacturing, library science, engineering, environmental protection, forensics, materials science, and as small business owners.

Many chemistry graduates enter the job market directly; however, approximately 60% of graduates elect post-graduate study. Approximately 10,000 men and women receive an undergraduate degree in chemistry annually; however, this number has dropped somewhat in recent years, and the National Science Foundation has expressed much concern about whether there will be sufficient numbers of trained chemists in the future.

The demand for chemists remains strong in the 21st century as society moves into a more highly developed technological age dependent on materials and the science that produces them.

The Department of Chemistry, Geosciences, and Physics offers programs of study leading to the Bachelor of Science degree in Chemistry with or without teacher's certification. The degree prepares students for graduate studies or careers in the scientific community or academia.

## The Bachelor of Science Degree in Chemistry

### Required Courses

**Placement for Calculus 1 is by the CLMPE placement exam, or by college credit for MATH 1316 or MATH 2412. Contact Tarleton's Center for Academic Testing for test information and locations.**

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ):		43
CHEM 1411 [shared]	College Chemistry I	
CHEM 1412 [shared]	College Chemistry II	
CHEM 2323	Organic Chemistry I	3
CHEM 2123	Organic Chemistry I Laboratory	1
CHEM 2325	Organic Chemistry II	3
CHEM 2125	Organic Chemistry II Laboratory	1
CHEM 3407	Quantitative Analysis	4
CHEM 3423 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Physical Chemistry I	4
CHEM 4160	Professional Lab Safety Techniques and Ethics in Chemistry	1
CHEM 4408	Instrumental Analysis	4
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	3
MATH 2413 [shared]	Calculus I	
MATH 2414	Calculus II	4
Total Hours		71

### Additional Required Courses for Concentrations

#### Biochemistry

BIOL 1406	Biology for Science Majors	4
BIOL 1407	Biology for Science Majors II	4
BCIS or COSC Elective		3
BIOL 3407	Microbiology	4
BIOL 3303	Genetics	3
BIOL 3103	Genetic Techniques	1
BIOL 3413	Molecular Biology	4
CHEM 4327 or CHEM 4345	Structural Organic Analysis Medicinal Chemistry	3
CHEM 4328	Inorganic Chemistry	3
CHEM 3324	Physical Chemistry II	3
CHEM 4374	Biochemistry I	3
CHEM 4375	Biochemistry II	3
BIOL 4378	Biochemistry Lab	3
PHYS 1401	College Physics I	4
PHYS 1402	College Physics II	4
Total Hours		49

#### Forensic Chemistry

CRIJ 1301	Introduction to Criminal Justice	3
CRIJ 1306	Court Systems and Practices	3
BIOL 1406	Biology for Science Majors	4
BIOL 3407	Microbiology	4
MATH 3450	Principles of Bio-Statistics	4
CHEM 4327	Structural Organic Analysis	3
CHEM 4374	Biochemistry I	3
CHEM 4378	Biochemistry Lab	3
CRIJ 3305	Criminology	3
CHEM 4328	Inorganic Chemistry	3
CRIJ 3315	Rules of Criminal Evidence	3

CRIJ 4316 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Methods of Criminal Justice Research	3
Advanced CHEM elective		2
PHYS 1401	College Physics I	4
PHYS 1402	College Physics II	4
COMM 2302 [shared]	Business and Professional Speaking	
Total Hours		49

**Interdisciplinary**

Select one of the following:		4
GEOL 1403	Physical Geology	
GEOL 1404	Historical Geology	
GEOL 1407	Introduction to Environmental Science	
BIOL 1406	Biology for Science Majors	
BIOL 1407	Biology for Science Majors II	
Supporting field (14 Hours Advanced) <sup>1</sup>		21
Advanced Electives		8
Advanced CHEM Electives		1
PHYS 1401	College Physics I	4
PHYS 1402	College Physics II	4
COMM 2302 [shared]	Business and Professional Speaking	
CHEM 4328	Inorganic Chemistry	3
CHEM 3124	Physical Chemistry II Laboratory	1
CHEM 3324	Physical Chemistry II	3
Total Hours		49

**Pre-Health**

BIOL 1406	Biology for Science Majors	4
BIOL 1407	Biology for Science Majors II	4
ECON 2301 [shared]	Principles of Macroeconomics	
PSYC 2301	General Psychology	3
or PSYC 2314	Life Span Growth & Development	
BIOL 3407	Microbiology	4
BIOL 3303	Genetics	3
BIOL 3103	Genetic Techniques	1
BIOL 3413	Molecular Biology	4
MATH 3450	Principles of Bio-Statistics	4
CHEM 4345	Medicinal Chemistry	3
CHEM 4374	Biochemistry I	3
CHEM 4375	Biochemistry II	3
Advanced CHEM Electives		5
PHYS 1401	College Physics I	4
PHYS 1402	College Physics II	4
COMM 2302 [shared]	Business and Professional Speaking	
Total Hours		49

**Professional Chemistry**

Advanced Electives		6
BIOL 1406	Biology for Science Majors	4
BIOL 1407	Biology for Science Majors II	4
CHEM 4327	Structural Organic Analysis	3
CHEM 4328	Inorganic Chemistry	3
CHEM 4374	Biochemistry I	3
CHEM 4378	Biochemistry Lab	3
CHEM 3324	Physical Chemistry II	3
CHEM 3124	Physical Chemistry II Laboratory	1
CHEM 4086	Chemistry Problems: Undergraduate Research	1-4
Electives		4
Advanced Chemistry Electives		6
COMM 2302 [shared]	Business and Professional Speaking	
PHYS 2425	University Physics I	4
PHYS 2426	University Physics II	4
Total Hours		49

**With Teacher Certification, Chemistry (8-12)**

Sophomore Literature [shared]

Select one of the following [shared]:

COMM 1311	Introduction to Speech Communication	
COMM 1315	Public Speaking	
COMM 2302	Business and Professional Speaking	
GEOL 1407	Introduction to Environmental Science	4
BCIS or COSC elective		3
Select one of the following:		3
PSYC 2308	Child Psychology	
PSYC 3303	Educational Psychology	
CHFS 3300	Child Development: Theory, Research, and Practice	
READ 3351 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Content Area Literacy	3
EDUC 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Middle and Secondary Classrooms	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
EDUC 4335	Issues of Professionalism	3
EDSP 4361	Teaching Strategies for Adolescent Students with Learning Disabilities	3
EDUC 4690	Clinical Teaching	6
Electives (3 hours must be advanced)		5
Advanced Chemistry Elective		5
PHYS 1401	College Physics I	4
PHYS 1402	College Physics II	4
Total Hours		49

### Teacher Certification, Physical Science (8-12)

Select one of the following [shared]:

Sophomore Literature [shared]

COMM 1311	Introduction to Speech Communication	
COMM 1315	Public Speaking	
COMM 2302	Business and Professional Speaking	
GEOL 1407	Introduction to Environmental Science	4
BCIS or COSC elective		3
MATH 3306	Differential Equations	3
or MATH 3433	Calculus III	
PHYS 3334	Modern Physics I	3
Select one of the following:		3
PSYC 2308	Child Psychology	
PSYC 3303	Educational Psychology	
CHFS 3300	Child Development: Theory, Research, and Practice	
READ 3351 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Content Area Literacy	3
EDUC 3321 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Foundations of Teaching: Middle and Secondary Classrooms	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
EDUC 4335	Issues of Professionalism	3
EDUC 4690	Clinical Teaching	6
EDSP 4361	Teaching Strategies for Adolescent Students with Learning Disabilities	3
Elective		1
Advanced Chemistry elective		3
PHYS 2425	University Physics I	4
PHYS 2426	University Physics II	4
Total Hours		49

### Environmental Chemistry

GEOL 1403	Physical Geology	4
GEOL 1407	Introduction to Environmental Science	4
BIOL 1406	Biology for Science Majors	4
EASC 3350	Environmental Science	3
BIOL 3407	Microbiology	4
MATH 3450	Principles of Bio-Statistics	4
SOIL 3101	Soil Science Laboratory	1
SOIL 3301	Soil Science	3
EASC 4313 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Techniques	3
CHEM 4327	Structural Organic Analysis	3
CHEM 4328	Inorganic Chemistry	3

CHEM 4477	Environmental Chemistry	4
Advanced Chemistry Elective		1
COMM 2302 [shared]	Business and Professional Speaking	
PHYS 1401	College Physics I	4
PHYS 1402	College Physics II	4
Total Hours		49

<sup>1</sup> Possible support fields include biology, geoscience, physics, business administration, and other fields approved by department heads involved

## The Bachelor of Science Degree in Environmental Science

- **Science.** Designed for students interested in pursuing careers with environmental consulting companies or conducting environmental assessments of land and water resources. Excellent for students interested in pursuing a graduate degree in environmental science, hydrology, or environmental engineering.
- **Soil Science.** Focuses on the chemical, physical, and ecological properties of soils vital to the conservation of many natural resources. Includes soil fertility, soil as a component of the environment, soil's role in land management, soil genesis, soil morphology, and soil classification. Prepares the student for careers as a soil conservationist or soil scientist with such agencies as the Natural Resource Conservation Service, or the US Forest Service, US Bureau of Land Management, US Environmental Protection Agency, and other State and Federal agencies working in both wildland and agricultural systems.
- **Geospatial Information Science.** For students interested in land-use planning or in analyzing environmental interactions. Excellent program for students interested in environmental education or work with environmental advocacy organizations. Includes an option for a GIS certification while exploring ecological, social, and economic interactions across the landscape.
- **Environmental Policy.** For students interested in environmental law, in investigating the impacts of government policies on environmental conditions, and in assessing impacts of resource use and pollution on human communities. Also for business professionals involved in developing or implementing environmentally sound business practices. Includes an in-depth exploration of environmental policies, environmental law, environmental sociology, and environmental economics.

## The Bachelor of Science Degree in Environmental Sciences

### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		43
BIOL 1406 [shared]	Biology for Science Majors	
CHEM 1411 [shared]	College Chemistry I	
GEOL 1403	Physical Geology	4
AGRI 1307 & AGRI 1107	Agronomy and Agronomy Laboratory	4
or GEOL 1407	Introduction to Environmental Science	
MATH 2412 [shared]	Precalculus Math	
MATH 3450	Principles of Bio-Statistics	4
ENVS/SOIL 3302	Soils, Land Use, and The Environment	3
BIOL 1407	Biology for Science Majors II	4
GEOG/ENVS/WSES 2451	Introduction to Geographic Information Systems	4
WSES 2405	Ecology for Natural Resource Managers	4
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	3
Choose one of the following:		3
WSES 4313	Vegetation Measurement, Inventory, and Monitoring	
SOIL 3412	Soil Genesis, Morphology, and Classification	
EASC 3350	Environmental Science	
EASC 4313 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Techniques	
SOIL 3301 & SOIL 3101	Soil Science and Soil Science Laboratory	4
Choose one of the following:		3
WSES 3313	Plant Diversity and Conservation	
WSES 4303	Ecological Restoration	
Choose one of the following:		4
WSES 3406	Wildland Plant Identification and Ecology	
WSES 3408	Dendrology and Woody Plant Identification	
BIOL 3407	Microbiology	
Select 3 credits of the following:		3
ENVS 4088	Undergraduate Research	
WSES 4088	Undergraduate Research in the Natural Resource Sciences	
ENVS 4084	Environmental Science Internship	
WSES 4084	Internship in the Natural Resource Sciences	
ENVS 4340	Environmental Science Field Study	
WSES 4340	Natural Resource Field Studies	
WSES 4342	Study Abroad	
ENVS 4187 or WSES 4187	Environmental Science Capstone Senior Capstone Seminar	1

AGRI 1100 [shared]	Transitioning to University Studies in Environmental and Agricultural Management	
Total Hours		91

### Additional Required Courses for Concentrations

#### Science

CHEM 1412	College Chemistry II	4
PHIL 2303 [shared]	Introduction to Logic	
Choose 4 hours from the following:		4
CHEM 4477	Environmental Chemistry	
SOIL 4212	Soil Ecology	
SOIL 4213	Soil Physical Properties	
POLS 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Policy	3
or POLS 4311	Environmental Law	
WSES 3308	Analysis of Natural Resource Data	3
SOIL 4450	Soil Nutrient Cycling	4
Choose one of the following: <sup>1</sup>		3
ENVS 3323	Ethical Issues in Agriculture and the Natural Resources	
ENVS 3375	Population, Pollution, and Resource Depletion	
WSES 3315	Sustainability	
SOCI 3312	Environmental Sociology	
ECON 3304	Environmental Economics	
WSES 4306	Water Resources Policy and Management	
COMM 3305	Environmental Communication	
PHIL 4305	Environmental Ethics	
POLS 4310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	International Environmental Issues	
POLS 4311 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Law	
Choose one course from the following: <sup>1</sup>		2
SOIL 4213	Soil Physical Properties	
BIOL 4441	Freshwater Biology	
CHEM 4477	Environmental Chemistry	
GEOL 3310	Geomorphology	
Choose one course from the following: <sup>1</sup>		2
WSES 3309	Aquaponics	
WSES 3313	Plant Diversity and Conservation	
WSES 3403	Natural History of the Vertebrates	
WSES 3406	Wildland Plant Identification and Ecology	
WSES 3408	Dendrology and Woody Plant Identification	
WSES 4303	Ecological Restoration	
WSES 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Plant-Animal Interactions	
WSES 4311	Fire Ecology	
SOIL 4212	Soil Ecology	
BIOL 3407	Microbiology	
BIOL 3415	Plant Taxonomy	
BIOL 3340	Introduction to Marine Biology	
Choose at least four hours from any WSES, ENVS, EASC, CHEM, or GEOL 3XXX or 4XXX courses. <sup>1</sup>		4
Total Hours		29

#### Geospatial Information Science

PHIL 2303 [shared]	Introduction to Logic	
ENVS 3305	GIS for Natural Resource Scientists	3
EASC 3360	Remote Sensing	3
GEOG 3450	Intermediate Geographic Information Systems	4
Choose one of the following courses: <sup>1</sup>		3
GEOG 4451	Applied Remote Sensing	
BCIS 3333	C# Programming	
POLS 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Policy	3
or POLS 4311	Environmental Law	
Choose one course from the following: <sup>1</sup>		3
ENVS 3323	Ethical Issues in Agriculture and the Natural Resources	

ENVS 3375	Population, Pollution, and Resource Depletion	
WSES 3315	Sustainability	
WSES 4306	Water Resources Policy and Management	
COMM 3305	Environmental Communication	
SOCI 3312	Environmental Sociology	
ECON 3304	Environmental Economics	
PHIL 4305	Environmental Ethics	
POLS 4310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	International Environmental Issues	
Choose at least five hours from the following: <sup>1</sup>		5
SOIL 4212	Soil Ecology	
WSES 3309	Aquaponics	
WSES 3313	Plant Diversity and Conservation	
WSES 3403	Natural History of the Vertebrates	
WSES 4303	Ecological Restoration	
WSES 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Plant-Animal Interactions	
WSES 4311	Fire Ecology	
BIOL 3340	Introduction to Marine Biology	
BIOL 3407	Microbiology	
BIOL 3415	Plant Taxonomy	
Choose one course from the following: <sup>1</sup>		2
SOIL 3412	Soil Genesis, Morphology, and Classification	
SOIL 4213	Soil Physical Properties	
SOIL 4450	Soil Nutrient Cycling	
BIOL 4441	Freshwater Biology	
CHEM 4477	Environmental Chemistry	
GEOL 3310	Geomorphology	
EASC 3350	Environmental Science	
Choose at least three hours from any WSES, ENVS, EASC, CHEM, GEOG, or GEOL 3XXX or 4XXX courses. <sup>1</sup>		3
Total Hours		29

### Environmental Policy

ECON 1301 [shared]	Introduction To Economics	
SOCI 4302 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Methods of Social Research	3
POLS 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Policy	3
POLS 4310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	International Environmental Issues	3
POLS 4311 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Law	3
SOCI 1301	Introductory Sociology	3
SOCI 3312	Environmental Sociology	3
Choose two courses from the following: <sup>1</sup>		6
ENVS 3323	Ethical Issues in Agriculture and the Natural Resources	
ENVS 3375	Population, Pollution, and Resource Depletion	
WSES 3315	Sustainability	
WSES 4306	Water Resources Policy and Management	
COMM 3305	Environmental Communication	
ECON 3304	Environmental Economics	
PHIL 4305	Environmental Ethics	
Choose one course from the following: <sup>1</sup>		2
ENVS 3302	Soils, Land Use, and The Environment	
WSES 3309	Aquaponics	
WSES 3313	Plant Diversity and Conservation	
WSES 3403	Natural History of the Vertebrates	
WSES 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Plant-Animal Interactions	
WSES 4311	Fire Ecology	
SOIL 4212	Soil Ecology	
SOIL 4213	Soil Physical Properties	
SOIL 4450	Soil Nutrient Cycling	
BIOL 3340	Introduction to Marine Biology	

BIOL 3407	Microbiology	
BIOL 3415	Plant Taxonomy	
BIOL 4441	Freshwater Biology	
EASC 3340	Oceanography	
GEOL 3310	Geomorphology	
Choose three hours from any WSES, ENVS, ANSC, EASC, CHEM, POLS, or GEOL 3XXX or 4XXX courses. <sup>1</sup>		3
Total Hours		29

### Soil Science

PHIL 2303 [shared]	Introduction to Logic	
CHEM 1412	College Chemistry II	4
GEOL 3314	Geochemistry	3
or CHEM 3314	Geochemistry	
SOIL 3412	Soil Genesis, Morphology, and Classification	4
SOIL 4212	Soil Ecology	2
SOIL 4213	Soil Physical Properties	2
SOIL 4450	Soil Nutrient Cycling	4
SOIL 2112	Soil Morphology	1
POLS 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Policy	3
or POLS 4311	Environmental Law	
Choose one of the following: <sup>1</sup>		3
WSES 3315	Sustainability	
WSES 3323	Ethical Issues in Agriculture and the Natural Resources	
WSES 3305	GIS for Natural Resource Scientists	
WSES 3320	Watershed Management	
WSES 3406	Wildland Plant Identification and Ecology	
WSES 4306	Water Resources Policy and Management	
WSES 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Plant-Animal Interactions	
CHEM 2323 & CHEM 2123	Organic Chemistry I and Organic Chemistry I Laboratory	
GEOL 1404	Historical Geology	
GEOL 1407	Introduction to Environmental Science	
POLS 4310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	International Environmental Issues	
POLS 4311 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Law	
BIOL 3420	Plant Pathology	
BIOL 3436	Plant Physiology	
GEOL 3400	Crystallography and Mineralogy	
CHEM 4477	Environmental Chemistry	
ENVS 3375	Population, Pollution, and Resource Depletion	
Upper-level electives:		3
Choose at least three from SOIL, ENVS, WSES, or GEOL 3XXX or 4XXX. <sup>1</sup>		
Total Hours		29

<sup>1</sup> In the event a course is listed in multiple elective areas, credit will be awarded for the course in only one of the areas.

## The Bachelor of Science Degree in Geoscience

This degree emphasizes the study of the physical, chemical, and biological processes of the Earth, from its deep interior to the surface. Geoscience majors also study topics such as:

- Rivers/beaches
- Volcanoes
- Glaciers
- Earthquakes/plate tectonics
- Global Climate Change
- Soils/sediments

Each of these paths is tailored for helping the student reach their desired career goals, and our geoscience faculty advisers will assist the student in making the most of their degree. Each of these concentrations is described below:

- **Geology:** (<https://www.tarleton.edu/degrees/bachelors/bs-geoscience/documents/geoscience-geology.pdf>) Majors concentrate on the standard geological sciences, and most graduate and go to work in the oil field. Some will go on the graduate work in sedimentology, stratigraphy, paleontology, environmental science and seismic work, to name a few. Those who get their master's will often work for major oil companies, but could go on to teach and work other field oriented jobs, depending on their concentration.



- Environmental Science: (<https://www.tarleton.edu/degrees/bachelors/bs-geoscience/documents/geoscience-environmental.pdf>) This degree combines chemistry, geology, and biological sciences. Most people who graduate with this degree will either go on to graduate studies or directly into the field working remediation and environmental assessment jobs.
- Petroleum Geology: (<https://www.tarleton.edu/degrees/bachelors/bs-geoscience/documents/geoscience-petroleum.pdf>) This degree is designed to aid those students going directly into petroleum work. Courses are much more intensive. Most majors will go on to do a master's, then work in the petroleum field.
- Science Teacher Certification (Grades 8-12): (<https://www.tarleton.edu/degrees/bachelors/bs-geoscience/documents/geoscience-scienceteaching.pdf>) a well-defined route leading to teacher certification in science. Upon graduation, students are prepared to teach grades 8-12 sciences courses in the State of Texas.
- Hydrogeology: (<https://www.tarleton.edu/degrees/bachelors/bs-geoscience/documents/geoscience-hydrogeology.pdf>) Another highly intensive degree, this is intended for those who wish to work on our water resources. Majors will go on to work in waterways and groundwater assessment.
- Earth Science: (<https://www.tarleton.edu/degrees/bachelors/bs-geoscience/documents/geoscience-earthscience.pdf>) A very diverse route for those who want a rounded science experience or want to explore the different earth science fields. Many will go on to get alternative teacher certification from the state of Texas, or go on to study fields such as oceanography and meteorology.

### Accelerated Bachelor-to-Master of Science Concentration

Students in the BS/MS 5 YR concentration must apply for and be accepted into the MS program in order to complete this degree concentration. The application process will occur during year 3 of the BS program. Students in the BS/MS 5 YR concentration must maintain a 3.0 undergraduate cumulative GPA. Transfer students must complete a minimum of two full-time semesters and 24 hours at Tarleton State University. If students decide that they do not want to complete or are not accepted into the MS program, they can transition to the BS degree in Geosciences.

### The Bachelor of Science Degree in Geoscience

#### Required Courses

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> ):		42-43
CHEM 1411 [shared]	College Chemistry I	
CHEM 1412 [shared]	College Chemistry II	
GEOL 1403	Physical Geology	4
GEOL 1100 [shared]	Transitioning to University Studies in Geosciences	
Total Hours		46

#### Additional Required Courses for Concentrations

##### Earth Science

BIOL 1406	Biology for Science Majors	4
BIOL 1407	Biology for Science Majors II	4
GEOL 1404	Historical Geology	4
GEOL 1407	Introduction to Environmental Science	4
GEOL 3400	Crystallography and Mineralogy	4
GEOL 3310	Geomorphology	3
GEOL 4305 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Field Geology	3
EASC 2451	Introduction to Geographic Information Systems	4
EASC 3320	Astronomy	3
EASC 3330	Meteorology	3
EASC 3340	Oceanography	3
EASC 4313 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Techniques	3
MATH 1314 [shared] or MATH 2412	College Algebra Precalculus Math	
Choose three of the following:		9-11
GEOL 3406	Igneous and Metamorphic Petrology	
GEOL 3405	Paleontology	
GEOL 3413	Stratigraphy and Sedimentology	
GEOL 3412 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Structural Geology	
GEOL 3314	Geochemistry	
GEOL 3320	Hydrogeology	
GEOL 4311	Economic Geology	
GEOL 4312	Petroleum and Subsurface Geology	
Select two of the following:		7-8
MATH 1316	Plane Trigonometry	
MATH 2413	Calculus I	
MATH 2414	Calculus II	
MATH 3450	Principles of Bio-Statistics	
Advanced Electives		16
Total Hours		74

##### Environmental Science

SOIL 3301 & SOIL 3101	Soil Science and Soil Science Laboratory	4
ENVS 3302	Soils, Land Use, and The Environment	3-4

or SOIL 3412	Soil Genesis, Morphology, and Classification	
Select two of the following:		8
CHEM 2323 & CHEM 2123	Organic Chemistry I and Organic Chemistry I Laboratory	
CHEM 3407	Quantitative Analysis	
CHEM 4408	Instrumental Analysis	
CHEM 4477	Environmental Chemistry	
GEOL 1407	Introduction to Environmental Science	4
GEOL 3400	Crystallography and Mineralogy	4
GEOL 3314	Geochemistry	3
GEOL 4305 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Field Geology	3
GEOL 3310	Geomorphology	3
Select three of the following:		9-10
GEOL 3413	Stratigraphy and Sedimentology	
EASC 3330	Meteorology	
GEOL 3320	Hydrogeology	
EASC 3340	Oceanography	
EASC 2451	Introduction to Geographic Information Systems	4
EASC 3350	Environmental Science	3
EASC 4313 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Techniques	3
MATH 3450	Principles of Bio-Statistics	4
Select two of the following:		7-8
MATH 1316 or MATH 2412	Plane Trigonometry Precalculus Math	
MATH 2413	Calculus I	
MATH 2414	Calculus II	
BIOL 1406	Biology for Science Majors	4
BIOL 1407	Biology for Science Majors II	4
BIOL 4401	Ecology	4
Total Hours		74-75

**Geology**

Select one of the following:		8
BIOL 1406 & BIOL 1407	Biology for Science Majors and Biology for Science Majors II	
PHYS 1401 & PHYS 1402	College Physics I and College Physics II	
PHYS 2425 & PHYS 2426	University Physics I and University Physics II	
Electives (12 Hours Advanced)		15
GEOL 1404	Historical Geology	4
GEOL 3400	Crystallography and Mineralogy	4
GEOL 3406	Igneous and Metamorphic Petrology	4
GEOL 3405	Paleontology	4
GEOL 3413	Stratigraphy and Sedimentology	4
GEOL 3412 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Structural Geology	4
GEOL 4305 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Field Geology	3
EASC 2451	Introduction to Geographic Information Systems	4
EASC 4313 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Techniques	3
Select three of the following:		9
GEOL 3310	Geomorphology	
GEOL 3314	Geochemistry	
GEOL 3320	Hydrogeology	
GEOL 4311	Economic Geology	
GEOL 4312	Petroleum and Subsurface Geology	
Select two of the following:		8
MATH 2412	Precalculus Math	
MATH 2413	Calculus I	
MATH 2414	Calculus II	

MATH 3450	Principles of Bio-Statistics	
Total Hours		74
<b>Hydrogeology</b>		
Select two of the following:		8
CHEM 2323 & CHEM 2123	Organic Chemistry I and Organic Chemistry I Laboratory	
CHEM 3407	Quantitative Analysis	
CHEM 4408	Instrumental Analysis	
CHEM 4477	Environmental Chemistry	
GEOL 1407	Introduction to Environmental Science	4
EASC 2451	Introduction to Geographic Information Systems	4
EASC 3350	Environmental Science	3
SOIL 3301 & SOIL 3101	Soil Science and Soil Science Laboratory	4
EASC 4313 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http:// catalog.tarleton.edu/undergrad/ academicaffairs/</a> )]	Environmental Techniques	3
GEOL 3400	Crystallography and Mineralogy	4
GEOL 3406	Igneous and Metamorphic Petrology	4
GEOL 3310	Geomorphology	3
GEOL 3413	Stratigraphy and Sedimentology	4
GEOL 3314	Geochemistry	3
GEOL 3320	Hydrogeology	3
GEOL 4305 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http:// catalog.tarleton.edu/undergrad/ academicaffairs/</a> )]	Field Geology	3
PHYS 1401 or PHYS 2425	College Physics I University Physics I	4
PHYS 1402 or PHYS 2426	College Physics II University Physics II	4
MATH 3450	Principles of Bio-Statistics	4
MATH 2412 [shared]	Precalculus Math	
MATH 2413	Calculus I	4
MATH 2414	Calculus II	4
Advanced Electives		3
Total Hours		73

**Teacher Certification Science (8-12)**

ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http:// catalog.tarleton.edu/undergrad/ academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http:// catalog.tarleton.edu/undergrad/ academicaffairs/</a> )]	Composition II	
Select one of the following [shared]:		
COMM 1311	Introduction to Speech Communication	
COMM 1315	Public Speaking	
COMM 2302	Business and Professional Speaking	
BIOL 1406	Biology for Science Majors	4
BIOL 1407	Biology for Science Majors II	4
BIOL 4401	Ecology	4
BIOL 4370	Organisms and Ecosystems of Texas	3
CHEM 2323 & CHEM 2123	Organic Chemistry I and Organic Chemistry I Laboratory	4
GEOL 1404	Historical Geology	4
GEOL 1407	Introduction to Environmental Science	4
PHYS 1401	College Physics I	4
PHYS 1402	College Physics II	4
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http:// catalog.tarleton.edu/undergrad/ academicaffairs/</a> )]	Technical Writing and Document Design	3
EASC 4313 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http:// catalog.tarleton.edu/undergrad/ academicaffairs/</a> )]	Environmental Techniques	3
MATH 1314 [shared]	College Algebra	
Advanced EASC/GEOL Elective		2
Select two of the following:		6
EASC 3320	Astronomy	
EASC 3330	Meteorology	
EASC 3340	Oceanography	

EASC 3350	Environmental Science	
Select one of the following:		3-4
MATH 1316	Plane Trigonometry	
MATH 2412	Precalculus Math	
MATH 2413	Calculus I	
EDUC 3321	Foundations of Teaching: Middle and Secondary Classrooms	3
EDUC 3330	Models of Instruction	3
EDUC 4331	Instructional Strategies for Middle and Secondary Classrooms	3
EDUC 4335	Issues of Professionalism	3
EDUC 4690	Clinical Teaching	6
Select one of the following:		3
PSYC 3303	Educational Psychology	
CHFS 3300	Child Development: Theory, Research, and Practice	
READ 3351	Content Area Literacy	3
Total Hours		76

### Petroleum Geology

Placement for Calculus 1 is by the CLMPE placement exam, or by college credit for MATH 1316 or MATH 2412. Contact Tarleton's Center for Academic Testing for test information and locations.

EASC 2451	Introduction to Geographic Information Systems	4
GEOL 1404	Historical Geology	4
GEOL 3400	Crystallography and Mineralogy	4
GEOL 3405	Paleontology	4
GEOL 3412 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Structural Geology	4
GEOL 3314	Geochemistry	3
GEOL 3406	Igneous and Metamorphic Petrology	4
GEOL 3413	Stratigraphy and Sedimentology	4
GEOL 4315	Sedimentary Petrology	3
GEOL 4316	Well Log Analysis	3
GEOL 4305 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Field Geology	3
GEOL 4311	Economic Geology	3
GEOL 4312	Petroleum and Subsurface Geology	3
GEOL 4317	Seismic Interpretation	3
GEOL 4320	Paleoecology	3
PHYS 1401	College Physics I	4
or PHYS 2425	University Physics I	
PHYS 1402	College Physics II	4
or PHYS 2426	University Physics II	
MATH 1342	Elementary Statistical Methods	3
MATH 2413 [shared]	Calculus I	
MATH 2414	Calculus II	4
GEOL 4600	Field Camp	6
Total Hours		73

### Accelerated Bachelor-to-Master of Science Degree in Geoscience

Placement for Calculus 1 is by the CLMPE placement exam, or by college credit for MATH 1316 or MATH 2412. Contact Tarleton's Center for Academic Testing for test information and locations.

Select one of the following:		8
PHYS 1401 & PHYS 1402	College Physics I and College Physics II	
PHYS 2425 & PHYS 2426	University Physics I and University Physics II	
GEOL 1403	Physical Geology	4
GEOL 1404	Historical Geology	4
GEOL 3400	Crystallography and Mineralogy	4
GEOL 3405	Paleontology	4
GEOL 3406	Igneous and Metamorphic Petrology	4
GEOL 3412 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Structural Geology	4
GEOL 4305 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Field Geology	3
EASC 2451	Introduction to Geographic Information Systems	4
EASC 4313 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Environmental Techniques	3

<b>Select Three of the following:</b>		<b>9</b>
GEOL 3310	Geomorphology	
GEOL 3314	Geochemistry	
GEOL 3320	Hydrogeology	
GEOL 4311	Economic Geology	
GEOL 4312	Petroleum and Subsurface Geology	
GEOL 4315	Sedimentary Petrology	
GEOL 4316	Well Log Analysis	
GEOL 4317	Seismic Interpretation	
GEOL 4320	Paleoecology	
MATH 2413	Calculus I	4
MATH 2414	Calculus II	4
GEOL 4600	Field Camp	6
Advanced Electives		8
<b>Total Hours</b>		<b>73</b>

## Physics

Physics is the science that investigates and tries to understand the basic laws of nature. In this pursuit, it deals with the entire range of natural phenomena from the smallest domain of sub-nuclear particles to the largest domain of distant objects in the universe. This breadth of interests is reflected in the type of work pursued by physicists. Some are interested in research on problems that are at the frontiers of knowledge. Some apply this newly acquired knowledge to make practical advances in fields like engineering. Still others use the knowledge of physics as a basis for careers in medicine, law, teaching or administration. The Tarleton physics program is one of the best equipped undergraduate programs in Texas with state-of-the-art undergraduate research facilities including a 32" robotic telescope and 1 MV tandem particle accelerator. The physics program provides several different tracks including medical physics for students interested in medicine, dentistry, or medical physics and an astronomy track so that students can tailor the program to meet their educational goals. By adding two or three additional courses with a support area of mathematics or computer science, a student in the classical can obtain a second bachelors degree in their support area. For students interested in teaching at the high school level, secondary (grades 8-12) certification in either Physical Science or Math/Physics is available. Through Tarleton's membership in the Texas Electronic Coalition for Physics and students may take upper-level elective physics courses from professors across the Texas A&M System. Through Tarleton's membership in the Nuclear Power Institute students may take nuclear engineering courses from Texas A&M's nuclear engineering department to prepare the student for entry into nuclear engineering graduate program.

## Joint B.S. Degree in Physics

### Field of Study Courses

Field of Study 18 hrs (at least 6 hrs Advanced) 18

### Other Required Courses

General Education Requirements (<http://catalog.tarleton.edu/undergrad/academicaffairs/>) 43

PHYS 2425 [shared]	University Physics I	
PHYS 2426 [shared]	University Physics II	
PHYS 3331	Mechanics I	3
PHYS 3332	Electromagnetic Field Theory	3
PHYS 3333 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Thermodynamics	3
PHYS 3334	Modern Physics I	3
PHYS 4330	Mathematical Methods for Physicists and Engineers	3
PHYS 4335	Quantum Physics	3
PHYS 4337 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Nuclear Physics and Techniques	3
PHYS 4340 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Advanced Physics Laboratory	3
PHYS 4161 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Physics Research Project	1
PHYS 4162 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Physics Research Seminar	1
MATH 2413 [shared]	Calculus I	
MATH 2414	Calculus II	4
MATH 3433	Calculus III	4
MATH 3306	Differential Equations	3
Advanced Physics Electives - 6 hrs		6
COSC Elective - 3 hrs		3
Electives 13 hours		13

## Professors

- Dr Stephen Field
- Dr Arthur Low
- Dr Daniel Marble
- Dr Jimmy McCoy
- Dr Linda Schultz

## Associate professors

- Dr Peter Bell
- Dr Shaukat Goderya
- Dr Michael Hibbs
- Dr Rajani Srinivasan
- Dr Lance Whaley

## Assistant professors

- Dr Bernat Martinez-Ortega
- Dr Ryan Morgan
- Dr Catherine Ronck
- Dr Christopher Saxon

## Instructors

- Mrs Joree Burnett
- Mr Rex Gamble
- Dr Bimal Pandey
- Mrs Geetha Sundarajan

## Chemistry Courses

### **CHEM 1302. Essential Elements of Chemistry. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

An introduction to the science of chemistry with a broad overview of the essential elements of chemistry and real-life applications. Enrollment in this course is restricted to Interdisciplinary Studies majors. Lab Fee \$2.

### **CHEM 1407. Fundamentals of Chemistry. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

A beginning chemistry course for students in applied sciences who need only one semester of general chemistry. The course includes the structure, properties and changes in matter, quantitative relationships in reactions, solutions, equilibrium, pH, buffers and nuclear chemistry. Not recommended for science majors or pre-professional students in health related fields. Does not meet prerequisite for CHEM 1412 or 2423. Lab fee \$2.

### **CHEM 1409. College Chemistry for Engineers. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to important concepts and principles of chemistry with an emphasis on areas considered most relevant in an engineering context. Registration will be restricted to engineering majors only. Engineering students may not receive credit for both CHEM 1408 and CHEM 1411. Prerequisites: MATH 1314, or MATH 2412, or MATH 2413, or concurrent enrollment. Lab fee: \$2.

### **CHEM 1411. College Chemistry I. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Topics to be covered include an introduction to fundamental chemical laws, atomic structure and its relationship to chemical bonding and the periodic properties of elements and compounds, stoichiometry, states of matter, and solutions. Suggested for science majors and pre-professional students. Prerequisite: Choose one of the following: MATH 1314, MATH 1316, MATH 2412, MATH 2413, or concurrent enrollment. Lab fee: \$2.

### **CHEM 1412. College Chemistry II. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Topics to be covered include a study of the chemical and physical properties of selected families of elements, an introduction to energy changes in chemical reactions, chemical equilibria, electrochemistry, rates of chemical reactions, nuclear chemistry, and semi-micro qualitative analysis. This course is a prerequisite for Organic Chemistry I (CHEM 2323 & CHEM 2123). Prerequisite: CHEM 1411. Lab fee: \$2.

### **CHEM 2123. Organic Chemistry I Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 4 Hours).**

Laboratory portion associated with lecture CHEM 2323 Prerequisite: CHEM 1412 or CHEM 1409(for Engineering Majors only) prerequisite or co-enrollment in CHEM 2323 Lab fee: \$2.

### **CHEM 2125. Organic Chemistry II Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 4 Hours).**

Laboratory portion associated with lecture CHEM 2325 Prerequisite: CHEM 2123; CHEM 2323; prerequisite or co-enrollment in CHEM 2325 Lab fee: \$2.

### **CHEM 2323. Organic Chemistry I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The first semester of a year sequence in the chemistry of carbon compounds involving their synthesis, reaction mechanisms, nomenclature, physical and spectral properties. Includes compounds of theoretical, biological, agricultural, and industrial importance. Prerequisite: CHEM 1412 or CHEM 1409(for Engineering Majors only).

### **CHEM 2325. Organic Chemistry II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A continuation of CHEM 2323. The laboratory includes an introduction to qualitative organic analysis. This course is a prerequisite to all organic chemistry courses at the junior or higher level. Prerequisite: CHEM 2323 (2423).

### **CHEM 2423. Organic Chemistry I. 4 Credit Hours (Lecture: 3 Hours, Lab: 4 Hours).**

The first semester of a year sequence in the chemistry of carbon compounds involving their synthesis, reaction mechanisms, nomenclature, physical and spectral properties. Includes compounds of theoretical, biological, agricultural, and industrial importance. Prerequisite: CHEM 1412 or CHEM 1409(for Engineering Majors only) Lab fee: \$2.

### **CHEM 2425. Organic Chemistry II. 4 Credit Hours (Lecture: 3 Hours, Lab: 4 Hours).**

A continuation of Organic Chemistry I (CHEM 2323 and CHEM 2123). The laboratory includes an introduction to qualitative organic analysis. This course is a prerequisite to all organic chemistry courses at the junior or higher level. Prerequisites: CHEM 2423 or both CHEM 2323 and CHEM 2123. Lab fee: \$2.

### **CHEM 3124. Physical Chemistry II Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

A laboratory introduction to the microscopic properties of nature, including an introduction to quantum mechanics and its applications to atomic and molecular spectroscopy. Prerequisite: CHEM 3423 Lab fee: \$2.

### **CHEM 3314. Geochemistry. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

A survey of the application of chemical principles to problems of geology. Topics include the origin and distribution of the elements in addition to exploring the behavior and distribution of various elements in igneous, metamorphic, and sedimentary rocks. Basic concepts of thermodynamics, solution chemistry, and isotope geochemistry will be discussed. Credit for both CHEM 3314 and GEOL 3314 will not be awarded. Prerequisite: CHEM 1412. Lab fee \$10.

### **CHEM 3324. Physical Chemistry II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the microscopic properties of nature, including an introduction to quantum mechanics and its applications to atomic and molecular spectroscopy. Prerequisite: CHEM 3423.

### **CHEM 3407. Quantitative Analysis. 4 Credit Hours (Lecture: 2 Hours, Lab: 6 Hours).**

A study of the experimental and theoretical principles concerning gravimetric and volumetric analysis. Topics include data treatment, equilibrium, precipitation, neutralization, oxidation, reduction, potentiometry, and introduction to spectroscopy. Prerequisites: A grade of C or better in 8 hours of freshman CHEM; junior classification or approval of department head. Lab fee \$10.

**CHEM 3423. Physical Chemistry I. 4 Credit Hours (Lecture: 3 Hours, Lab: 4 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A study of chemical thermodynamics and its application to chemical equilibrium; the macroscopic properties of matter including real gases, solutions, and phase changes; chemical kinetics. Prerequisites: MATH 2414; PHYS 1402 or 2426 or approval of department head. Lab fee \$10.

**CHEM 4086. Chemistry Problems: Undergraduate Research. 1-4 Credit Hours (Lecture: 0 Hours, Lab: 1-4 Hours).**

Conducting an undergraduate research project in Chemistry. May be repeated for credit. A maximum of four hours may be applied toward degree requirements in chemistry. Prerequisite: Approval of department head.

**CHEM 4160. Professional Lab Safety Techniques and Ethics in Chemistry. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

A capstone course intended for a chemistry major to take during their senior year. Lectures will cover the issues of ethics and lab safety in chemistry as well as the societal impacts of chemistry. The lab portion will be devoted to analyzing case studies, doing literature research, and giving professional style presentations. Prerequisite: Student must be within one year of graduation.

**CHEM 4327. Structural Organic Analysis. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

The identification of the principal classes of organic compounds. Prerequisites: CHEM 2425 or both CHEM 2325 and CHEM 2125. Lab fee: \$2.

**CHEM 4328. Inorganic Chemistry. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussion of the models of inorganic chemistry including atomic structure, chemical bonding, periodic properties, stereochemistry, reaction mechanisms, and coordination chemistry. Properties of specific elements and families are also presented Prerequisites: CHEM 2425 or both CHEM 2325 and CHEM 2125, and junior classification or approval of department head.

**CHEM 4329. Polymers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A basic study of polymer chemistry, with special emphasis on the effect of the structure of monomers upon the structure of the polymers, is presented. Prerequisites: CHEM 2425 or both CHEM 2325 and CHEM 2125.

**CHEM 4345. Medicinal Chemistry. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the principles of drug action including receptor-effector theories and the effects of physico-chemical properties on biological activity. The principles of drug design, synthesis, and metabolism will be presented. Prerequisites: CHEM 2425 or CHEM 2325 and CHEM 2125, and BIOL 1407.

**CHEM 4374. Biochemistry I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the basic principles of biological chemistry and to fundamental processes of plants, animals, and microorganisms. Credit for both BIOL 4374 and CHEM 4374 will not be awarded. Prerequisites: One semester of organic chemistry (2 semesters recommended), and 8 hours of biological science or approval of department head.

**CHEM 4375. Biochemistry II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A detailed survey of intermediary metabolism. The metabolism of carbohydrates, lipids, proteins and nucleic acids, and the regulation of metabolism are emphasized. Credit for both BIOL 4375 and CHEM 4375 will not be awarded. Prerequisites: BIOL/CHEM 4374, or approval of department head.

**CHEM 4378. Biochemistry Lab. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

Principles and applications of basic methodology for the isolation, purification, characterization, and quantitative determination of biologically important compounds. Credit for both BIOL 4378 and CHEM 4378 will not be awarded. Prerequisite: BIOL 4374 or CHEM 4374 or concurrent enrollment, or approval of the department head. Lab fee \$15.

**CHEM 4408. Instrumental Analysis. 4 Credit Hours (Lecture: 2 Hours, Lab: 6 Hours).**

A study of the theory and use of instruments for chemical analysis. Techniques include absorption spectroscopy, nuclear magnetic resonance, atomic absorption, flame emission, mass spectroscopy, chromatography, potentiometry, and polarography. Prerequisites: CHEM 3407 and 1 semester of organic chemistry or approval of department head. Lab fee \$10.

**CHEM 4477. Environmental Chemistry. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This is an undergraduate course intended for any student who has completed College chemistry 1 and college chemistry II with an interest towards Environmental Science. This course includes both lecture and laboratory components. Lectures will cover topics which provide the understanding of interactions between chemical compounds whether anthropogenic or natural with the ecosystem. This course will provide qualitative and quantitative knowledge on effects of changes in water, soil, air and its effects on the environment. The lab portion includes bench scale and field scale experiments to put theory to practice. Water and soil samples will be collected from different sources and lab made samples will be used to detect and analyze the various types of pollutants and their mitigation methods will be discussed. Prerequisite: CHEM 1412. Lab fee: \$2.

## Environmental Science Courses

**ENVS 1100. Transitioning to University Studies and Environmental Science. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective.

**ENVS 1301. Society, Natural Resources, and the Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides a broad overview of the role of the environment and natural resources in human society, with particular emphasis on Texas and the United States. A history of the environmental movement is presented. Students study the importance of natural resources in providing basic human necessities, and how these resources are managed. Various careers in environmental science, natural resource management, and wildlife conservation are also discussed.

**ENVS 2451. Introduction to Geographic Information Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This is a cross-listed course with GEOG 2451 Intro to GIS. Basic concepts of design, planning and implementation of geographic information systems. Students will learn how to create, manipulate, project, and interpret geographic information. Students are encouraged to take GEOG 1451: Pre-GIS before this course. Lab fee: \$2.

**ENVS 3302. Soils, Land Use, and The Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Interactions among soil physical, chemical, and biological processes affecting soil, water, and environmental quality. Addressed in relation to land use management practices such as erosion control, soil conservation, soil reclamation, riparian buffers, bioswales, and artificial wetlands. Land use planning tools, including WebSoil Survey and GIS will be used. Prerequisites: WSES/ENVS 3401; or WSES/SOIL 3301 and WSES/SOIL 3101.

**ENVS 3305. GIS for Natural Resource Scientists. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An intermediate course on the use of geographic information systems (GIS) in natural resource management. Builds on concepts learned in introductory GIS course. Laboratory exercises will apply knowledge learned in lectures to solve real world problems in natural resource management using GIS software. Prerequisite: WSES 2451.

**ENVS 3307. Systems Thinking. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course focuses on the examination and analysis of complex systems, particularly in the environmental, natural resources, and sustainability fields. Major topics will include system structure, system behavior, feedback loops, stock and flow models, non-linear and emergent properties, self-organization, and the application of systems thinking to problem-solving. A significant component of the course will be development and analysis of computer models of complex systems. Prerequisite: C or better in MATH 1314 or equivalent, or approval of the instructor.

**ENVS 3315. Sustainability. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explore the varied perspectives of sustainability and analyze factors that contribute to or decrease system sustainability. Investigation of the social, economic, and environmental barriers to achieving sustainable systems and options for overcoming these barriers. Credit will be awarded only for POLS 3315, ENVS 3315, or WSES 3315. Prerequisite: GOVT 2305 or GOVT 2306 or POLS 2304 or approval of the instructor.

**ENVS 3323. Ethical Issues in Agriculture and the Natural Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will examine the several major ethical issues facing agriculture and natural resources sciences in our current society. Readings, discussions and lectures will focus on the scientific, capitalistic, and philosophical motivation in common ethical issues. Upon completion of the course, students will be able to construct and dissect ethical arguments and hopefully become more aware of the ethical dilemmas we all face each day. Can receive credit for WSES 3323, ENVS 3323 or ANSC 3323.

**ENVS 3375. Population, Pollution, and Resource Depletion. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles and philosophies associated with the development, management, and use of natural resources are studied in the relationship to the ecological and social implications inherent in management alternatives involving the natural environmental and the use of renewable natural resources. Can receive credit for either ENVS 3375 or WSES 3375. Prerequisite: Junior classification.

**ENVS 4084. Environmental Science Internship. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Formally arranged and approved on-the-job training with a cooperating sponsor in government or private sector of the environmental field. A minimum of 40 hours of training is required for each hour of academic credit. A maximum of six hours of credit may be earned. Oral and written reports of the experience are required. Prerequisite: Junior or Senior classification and approval of the instructor.

**ENVS 4086. Environmental Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Independent study or research of current topics in student's major. Content and credit dependant on depth of study. May be repeated for credit subject to approval of program lead or department head as appropriate.

**ENVS 4088. Undergraduate Research. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Fundamental research methods will be addressed through a faculty-directed project. Participation in an abbreviated lecture series may be required. Project components may include a literature review, data collection and analysis, testing, planning, project design, and/or computer modeling. The student may be required to prepare a final report and produce a presentation. Prerequisites: approval of the instructor.

**ENVS 4090. Special Topics. 1-6 Credit Hours (Lecture: 0-6 Hours, Lab: 0 Hours).**

Selected topics in environmental science. May be repeated for credit when topics vary.

**ENVS 4185. Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

A review of current problems and developments in environmental arena. Discussions of current literature and research. May be repeated once for credit.

**ENVS 4187. Environmental Science Capstone. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Integrate and use fundamental concepts learned in previous environmental science courses to research and analyze real-world environmental issues. Oral and written reports on experiential learning, supplemented by appropriate internet and multimedia materials.

**ENVS 4340. Environmental Science Field Study. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A field course involving visits to environmental science businesses, agencies, and organizations including TCEQ, watershed management organizations, river authorities, energy companies, and environmental advocacy organizations to learn about their work and engage in hands-on assessment activities. Requires an extended field trip at student's expense. Prerequisite: Grade of C or better in either WSES 2405 or BIOL 4401.

**ENVS 4390. Special Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

## Geology Courses

**GEOL 1100. Transitioning to University Studies in Geosciences. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

An introduction to geosciences, including earth science, environmental science, geology, hydrogeology, and petroleum geology. Practical study designed to prepare the geoscience student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process.

**GEOL 1403. Physical Geology. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

An introduction to the physical processes that operate in and on the planet Earth. Topics of discussion include: the Earth's structure, rocks and minerals, volcanoes, earthquakes, groundwater, rivers, glaciers, and deserts. Lab fee: \$2.

**GEOL 1404. Historical Geology. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

History of the Earth from the formation of the solar system to the present. Topics include the Earth's development, evolution of life on Earth, changes in the Earth's geography throughout its history, and the tools geologists use to investigate these topics. Lab fee \$10.

**GEOL 1407. Introduction to Environmental Science. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduction to the study of the environment. The course will examine air, water, and soil pollution, and pollution remediation. Energy, mineral resources, and land use will be studied. The course will also emphasize a study of the water supply, water use, and water management. Much of the laboratory will focus on land use planning and environmental pollution remediation. Lab fee: \$2.

**GEOL 1408. Natural Disasters. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Course focuses on the causes, effects, and mitigation of natural disasters around the world. Topics covered will include: plate tectonics, earthquakes, volcanoes, tsunami, landslides, meteor impacts, climate change, and major weather events such as tornadoes, floods, and hurricanes. Emphasis will be on methods used by scientists to monitor and study these natural phenomena, as well as the economic and societal impact of and response to the events. Lab fee: \$2.

**GEOL 3310. Geomorphology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Study of surface processes in geological environments with emphasis on environmental and engineering applications. Topics include weathering, soil formation and erosion, landslides, and landforms associated with rivers, groundwater, coasts, arid and semi-arid climates. Laboratory emphasizes aerial photo and topographic map interpretation. Prerequisites: GEOL 1403. Lab fee \$10.

**GEOL 3314. Geochemistry. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

A survey of the application of chemical principles to problems of geology. Topics include the origin and distribution of the elements and exploration of the behavior and distribution of various elements in igneous, metamorphic, and sedimentary rocks. Basic concepts of thermodynamics, solution chemistry, and isotope geochemistry will be discussed. Credit for both GEOL 3314 and CHEM 3314 will not be awarded. Prerequisite: CHEM 1412. Lab fee \$10.

**GEOL 3320. Hydrogeology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Aquifer characteristics, physical principles of groundwater flow, well analysis, geologic controls on local and regional groundwater movement, water chemistry, groundwater pollution, legal issues in groundwater. Prerequisites: GEOL 1403, CHEM 1412, and either MATH 1316, or MATH 2412, or MATH 2413, or approval of department head. Lab fee: \$2.

**GEOL 3400. Crystallography and Mineralogy. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the basic crystallographic forms, some of the common ore and rock forming minerals. An introduction to Optical Mineralogy. Prerequisite: GEOL 1403. Lab fee \$2.

**GEOL 3405. Paleontology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An introduction to the study of fossils. A survey of the systematics, evolution and paleoecology of microfossils and important macrofossil groups. Prerequisite: GEOL 1403, GEOL 1404 Lab fee: \$2.

**GEOL 3406. Igneous and Metamorphic Petrology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An introduction to the origin, characteristics, and associations of igneous and metamorphic rocks. Introduction to igneous phase diagrams and metamorphic phase equilibria. Prerequisite: CHEM 1411, 1412, GEOL 1403, MATH 1314 or higher. Course fee \$50. Lab fee \$10.



**GEOL 3412. Structural Geology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A study of the forces and processes resulting in the deformation of and structural features of units in the Earth's crust. Lab work includes solution of problems by descriptive geometry, geologic and topographic maps and cross-sections. Prerequisites: GEOL 1403 and GEOL 1404 Lab fee: \$2.

**GEOL 3413. Stratigraphy and Sedimentology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the origin, transportation, and deposition of sediments and the formation of sedimentary rocks. Emphasis on the study of strata and depositional systems and the utilization of sedimentology and stratigraphy in economic geology, environmental geology, hydrogeology and petroleum geology. Prerequisite: GEOL 1403 Lab fee: \$2.

**GEOL 4086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A course open to capable Geology and Earth Science students. Topics may vary according to student need. May be repeated for credit, subject to the approval of the department head. Prerequisite: Junior classification and approval of department head.

**GEOL 4305. Field Geology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An introduction to the identification and interpretation of rocks and geological structures in the field. Field and laboratory activities include rock identification and interpretation, surveying with plane table and alidade, measuring and describing geological sections and field mapping with Brunton compass, air photos, and topographic maps. Prerequisite: GEOL 1403, and 6 hrs upper level GEOL. Lab fee \$2.

**GEOL 4311. Economic Geology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

An introduction to the origin, classification, uses, and economics of metallic and nonmetallic mineral deposits. Lab will introduce reflected light microscopy, alteration petrology and simulate a complete mineral deposit exploration program. Prerequisite: GEOL 3406 or concurrent enrollment. Lab fee \$10.

**GEOL 4312. Petroleum and Subsurface Geology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Origin and distribution of petroleum. Geochemistry and maturation of organic matter; microbiological and thermal degradation of hydrocarbons, conventional and unconventional petroleum systems; principles of primary and secondary migration; seals; hydrocarbon traps, diagenesis of carbonate and clastic reservoir rocks; use of subsurface geologic data to prepare maps and identify prospects. Prerequisite: GEOL 3312, 3413. Lab fee:\$2.

**GEOL 4315. Sedimentary Petrology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Introduction to the physical, chemical, and biologic properties of sedimentary rocks, as revealed by petrographic microscopy, geochemical techniques, and field study. Emphasis is placed on the mineralogy, chemistry, textures, and sedimentary structures that characterize sedimentary rocks, and the relation of these features to their depositional origin and subsequent diagenesis. Prerequisites: GEOL 1403 and GEOL 3413 Lab fee: \$2.

**GEOL 4316. Well Log Analysis. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Petrophysics and modern well-logging methods. Theory and applications of measurements of physical properties of the formation near the well bore, types of well logging tools, interpretation and use of well log information in petroleum exploration and development Prerequisite: GEOL 3413 Lab fee: \$2.

**GEOL 4317. Seismic Interpretation. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Examination of seismic interpretation methods with emphasis on the petroleum industry. Topics include basic reflection theory, seismic acquisition and processing (prestack and poststack), incorporation of well data, picking and mapping horizons, structural interpretation, seismic stratigraphy, advanced seismic interpretation techniques, Direct Hydrocarbon Indicator (DHI), and depth conversion. Hands-on interpretation using standard industry software. Prerequisite: GEOL 3312, GEOL 3413. Lab fee: \$2.

**GEOL 4318. Plate Tectonics. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Plate Tectonics is the unifying theory in modern geology. This course will examine the driving mechanisms of crustal deformation, geophysical and geologic data supporting sea-floor spreading and plate motions, and major type of plate boundaries. We will explore implications of plate tectonics, continental drift, and mountain building, the role of plate tectonic cycle in renewal of Earth's surface, and relation with other geochemical cycles. Readings from original papers. Prerequisite: GEOL 1403, GEOL 3413, Geol 3312 Lab fee: \$2.

**GEOL 4320. Paleocology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

The ecology of ancient life. The course will focus on defining and identifying community structures through time, exploring the rise and fall of communities and the changing populations within them. Emphasis will be on field and hand-sample identification of community affinities based on sediments and life habit. Prerequisite: GEOL 1404, GEOL 3405, GEOL 3413 Lab fee: \$2.

**GEOL 4600. Field Camp. 6 Credit Hours (Lecture: 0 Hours, Lab: 12 Hours).**

Field course practicing field application of geological techniques. Locations visited and material covered vary by year and host institution. Methods practiced include: field mapping, data collection, measurement of sections, and geologic reporting. Prerequisite: Vary by institution. Lab fee: \$2.

## Physics Courses

**PHYS 1302. Essential Elements of Physics. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course introduces fundamental physics and astronomy concepts to students planning to become elementary and middle school teachers. Students are expected to design and conduct inquiry based experiments including the development of hypothesis, collection and analysis of data, and the use of appropriate laboratory equipment. Topics include motion, forces, energy, waves, light, electricity, magnetism, stellar and planetary evolution, and the atom. Enrollment in this course is restricted to Interdisciplinary Studies majors. Prerequisite: MATH 1314. Lab fee: \$2.

**PHYS 1401. College Physics I. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An introduction to mechanics, heat, and wave motion. This course is a trigonometry-based physics course. A student cannot get credit for PHYS 1401 if credit has been previously received for PHYS 2425. Prerequisite: MATH 1316, MATH 2412, MATH 2413 or concurrent enrollment. Lab fee: \$2.

**PHYS 1402. College Physics II. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An introduction to electricity and magnetism, light, and modern physics. This is a trigonometry-based physics course. Prerequisite: PHYS 1401. A student cannot get credit for PHYS 1402 if credit has previously been received for PHYS 2426. Lab fee \$2.

**PHYS 1403. Stars and Galaxies. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A laboratory science course of study in topics of astronomy and astrophysics, including the sun and its source of energy, stellar formation and evolution, black holes, galaxies, cosmology, and the creation and evolution of the universe. Prerequisite: two semesters of high school algebra or MATH 0304. Lab fee: \$2.

**PHYS 1410. Great Ideas of Physics. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Great Ideas of Physics is a laboratory science course designed to introduce the student to the concepts of physics in an elementary mathematical setting, and to discuss their significance to science, technology, and society. Topics will be drawn from both classical and contemporary physics. Prerequisite: Two semesters of high school algebra or MATH 0304. This course cannot be used for credit toward a degree in physics or mathematics. Lab fee: \$2.

**PHYS 1411. Introductory Astronomy I. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

A laboratory science course of study in the topics of astronomy and astrophysics, including the history of astronomy, Kepler's laws, gravitation, formation of the solar system, asteroids, comets, meteors, a detailed survey of the planets and their evolution, and discussion on the possibility of extraterrestrial life in the universe. Prerequisite: Two semesters of high school algebra or MATH 0304. Lab fee: \$2.

**PHYS 2425. University Physics I. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This is an introduction to mechanics, heat, and wave motion. This is a calculus-based physics course. Prerequisite: MATH 2413 or concurrent registration. Lab fee: \$2.

**PHYS 2426. University Physics II. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This is an introduction to electricity, magnetism, optics, and modern physics. Prerequisites: PHYS 2425 and MATH 2414 or concurrent registration. Lab fee: \$2.

**PHYS 3331. Mechanics I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Particle dynamics in one, two, and three dimensions; conservation laws; dynamics of a system of particles; motion of rigid bodies; central force problems. Prerequisites: PHYS 2426; MATH 3306 and MATH 3433 or concurrent registrations.

**PHYS 3332. Electromagnetic Field Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Electrostatics; Laplace's equation; the theory of dielectrics; magnetostatic fields; electromagnetic induction; magnetic fields of currents; Maxwell's equations. Credit for both ELEN 3332 and PHYS 3332 will not be awarded. Prerequisites: PHYS 2426, MATH 3306 and MATH 3433, or concurrent registrations.

**PHYS 3333. Thermodynamics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Concept of temperature, equations of state; the first and the second law of thermodynamics; entropy; change of phase; the thermodynamics functions. Prerequisites: PHYS 2426 (Prerequisite); MATH 3433 (Co-requisite).

**PHYS 3334. Modern Physics I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Foundations of the atomic theory of matter; kinetic theory; elementary particles; radiations; atomic model; atomic structure; atomic spectra and energy levels; quantum theory of radiation; x-rays; special theory of relativity. Prerequisites: PHYS 2426 (Prerequisite); MATH 3433 or MATH 3306 (Corequisite).

**PHYS 3350. Medical Physics I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will provide an introduction to the physics of human physiological processes as well as the physics used in the design of medical diagnostic tools and techniques. Prerequisite: PHYS 2426 or consent of the instructor.

**PHYS 4086. Special Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

This course is designed to develop the theoretical or experimental capabilities, or both, of individual senior physics majors. Prerequisites: Senior classification and approval of department head.

**PHYS 4161. Physics Research Project. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Literature survey and preparation for, and initiation of, a research project agreed to between the student and a faculty advisor, to be completed and reported on in the Research Seminar course. Prerequisites: PHYS 3334.

**PHYS 4162. Physics Research Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An experimental or theoretical project will be continued by the student and the results reported in a seminar. Students who have not yet taken the ETS Physics field test are required to do so while enrolled in Seminar. Prerequisites: PHYS 4161.

**PHYS 4303. Astronomy and Astrophysics. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

A laboratory science course of study in the topics of astronomy and astrophysics, including Planetary Astronomy, Stellar Astrophysics, Galactic Astronomy, Cosmology and Astrobiology. Prerequisites: MATH 2413, PHYS 2425. Lab fee \$8.

**PHYS 4330. Mathematical Methods for Physicists and Engineers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Mathematical techniques from the following areas: infinite series; integral transforming; applications of complex variables; vectors, matrices, and tensors; special functions; partial differential equations; Green's functions; perturbation theory; integral equations; calculus of variations; and groups and group representatives. Credit for both ENPH 4330 and PHYS 4330 will not be awarded. Prerequisite: MATH 3306, 3433.

**PHYS 4332. Optics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Huygen's principle applied to geometric optics; interference; diffraction; polarization; crystal optics; electromagnetic theory of light; interaction of light with matter. Prerequisites: PHYS 2442 and MATH 3306.

**PHYS 4334. Modern Physics II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The constitution of the atomic nucleus; natural radioactivity; artificially induced nuclear transmutations; alpha, beta, and gamma decay; nuclear reactions; nuclear structure and nuclear forces; nuclear fission; neutron physics. Prerequisites: PHYS 3334 and MATH 3306 or concurrent registration.

**PHYS 4335. Quantum Physics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The Schrodinger equation; one dimensional systems; the Heisenberg uncertainty principle; magnetic moments and angular momentum; two and three dimensional systems; approximation methods; scattering theory. Prerequisite: PHYS 3334 (Prerequisite); MATH 3306 or MATH 3433 (Co-requisite).

**PHYS 4336. Solid State Physics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The basic ideas of physics are applied to the understanding of the properties of crystalline materials to include the definition of such materials, electrical and thermal conductivity, heat capacity, crystalline binding, the nature of metals, insulators, and semiconductors, dielectric properties, and magnetic properties. Credit for both ELEN 4336 and PHYS 4336 will not be awarded. Prerequisite: PHYS 3334; MATH 3306 or concurrent registration.

**PHYS 4337. Nuclear Physics and Techniques. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The study of nuclear phenomena and properties including mass, stability, magnetic moment, radioactive decay processes and angular momentum. The use of nuclear techniques to analyze problems in other fields of engineering with a special emphasis on the characterization of electronic materials. Prerequisite Course: PHYS 3334.

**PHYS 4340. Advanced Physics Laboratory. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A laboratory course focusing on advanced techniques and experiments drawn from the full range of physics classes. The student will understand the role of experimental design, advanced data analysis and reduction, error analysis, and the use of computers while investigating physical phenomena. Prerequisites: Corequisite: PHYS 3334. Lab fee: \$30.

**PHYS 4350. Medical Physics II. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

The course covers the physics of ionizing radiation and its application in areas of medical physics, radiation safety, and manufacturing. Prerequisite: PHYS 3334 or consent of instructor. Lab fee \$8.

**PHYS 440. Advanced Physics Laboratory. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

A laboratory course focusing on advanced techniques and experiments drawn from the full range of physics classes. The student will understand the role of experimental design, advanced data analysis and reduction, error analysis, and the use of computers while investigating physical phenomena. Co-requisite: PHYS 334.

## Mathematics

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The Department of Mathematics offers programs of study leading to the Bachelor of Science and Master of Science degrees in Mathematics.

## Mathematics

The Bachelor of Science in Mathematics provides a program of study that prepares students who are:

1. seeking to teach mathematics at the secondary level;
2. seeking employment in industry; or
3. seeking to pursue graduate study in Mathematics.

A Minor in Mathematics requires a minimum of 18 hours of MATH, which will include MATH 2414 Calculus II and at least 6 advanced MATH hours.

On the graduate level, the Master of Science in Mathematics provides a program of study that prepares students beyond the undergraduate level for employment in industry or higher education. Students completing the M.S. in Mathematics also receive preparatory work for pursuing a doctoral degree in mathematics or mathematics education. For further information about the graduate program, see the graduate section of the catalog. For more information about the Mathematics program, visit the departmental web site at [www.tarleton.edu/math](http://www.tarleton.edu/math) (<http://www.tarleton.edu/math/>).

## The Bachelor of Science Degree in Mathematics

### Required Courses

**Placement for Calculus 1 (MATH 2413) is by the CLMPE placement exam, or by college credit for MATH 1316 or MATH 2412. Contact Tarleton's Center for Academic Testing for test information and locations.**

General Education Requirements ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )		43
MATH 2413 [shared]	Calculus I	
MATH 2414	Calculus II	4
MATH 2318	Linear Algebra	3
MATH 3306	Differential Equations	3
MATH 3311	Probability and Statistics I	3
MATH 3320	Foundations of Mathematics	3
MATH 3433	Calculus III	4
MATH 4309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Advanced Analysis	3
MATH 4311	Probability and Statistics II	3
MATH 4332 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Abstract Algebra	3
COSC 1310	Procedural Programming	3
COSC 3344	Computer Applications in Analysis	3
PHYS 2425 [shared]	University Physics I	
ENGL 1301 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition I	
ENGL 1302 [shared] [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Composition II	
GOVT 2305 [shared]	Federal Government (Federal Constitution and Topics)	
GOVT 2306 [shared]	Texas Government (Texas Constitution and Topics)	
Total Hours		78

### Additional Required Courses for Concentrations

#### General

Supporting Field (12 Hours Advanced) <sup>1</sup>		24
Electives		6
Select four of the following:		12
MATH 3301	Number Theory	
MATH 3360	Numerical Analysis	
MATH 3364	Data Analysis	
MATH 4306	Partial Differential Equations	
MATH 4320	Mathematical Modeling	
MATH 4088	Undergraduate Research Project	
MATH 4390	Math Topics	
Total Hours		42

#### Biomathematics

BIOL 1406 [shared]	Biology for Science Majors	
BIOL 1407	Biology for Science Majors II	4
BIOL 3303	Genetics	3
BIOL 3103	Genetic Techniques (Students will need to take BIOL 3103 after or concurrently with BIOL 3303)	1
BIOL 3407	Microbiology	4
BIOL 3353	Ecology and Evolution	3
CHEM 1411	College Chemistry I	4
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	3
MATH 3360	Numerical Analysis <sup>2</sup>	3
MATH 4320	Mathematical Modeling	3
Select two of the following:		8
BIOL 3413	Molecular Biology	

BIOL 3485	Immunology	
BIOL 4401	Ecology	
BIOL 4445	Parasitology	
Select two of the following:		6
MATH 3301	Number Theory	
MATH 3364	Data Analysis	
MATH 4306	Partial Differential Equations	
MATH 4088	Undergraduate Research Project	
MATH 4390	Math Topics	

Total Hours 42

### Financial Analysis

ACCT 2301	Principles of Accounting I-Financial	3
ACCT 2302	Principles of Accounting II-Managerial	3
ACCT 3303	Intermediate Accounting I	3
COMM 2302 [shared]	Business and Professional Speaking	
ECON 2301 [shared]	Principles of Macroeconomics	
ECON 2302	Principles of Microeconomics	3
ECON 4311	Econometrics and Forecasting	3
FINC 3301	Principles of Financial Management	3
ECON 3304	Environmental Economics	3
FINC 4304	Principles of Investments I	3
FINC 4307	Investments II	3
FINC 4300	Advanced Financial Management	3

Select four of the following: 12

MATH 3301	Number Theory	
MATH 3360	Numerical Analysis	
MATH 3364	Data Analysis	
MATH 4306	Partial Differential Equations	
MATH 4320	Mathematical Modeling	
MATH 4088	Undergraduate Research Project	
MATH 4390	Math Topics	

Total Hours 42

### Environmental Mathematics

CHEM 1411 [shared]	College Chemistry I	
CHEM 1412	College Chemistry II	4
ENVE 2251	Fundamentals of GIS for Engineers	2
ENVE 2310	Introduction to Environmental Engineering	3
ENVE 3300	Fluid Mechanics	3
ENVE 3301	Environmental Systems Modeling	3
ENVE 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Engineering Hydrology	3
ENVE 4310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Water Resources Engineering	3

Select three from the following: 9

ENVE 2311	Soil Mechanics	
ENVE 3450	Environmental Biotechnology	
ENVE 3333	Groundwater Contamination and Remediation	
ENVE 4350	Solid and Hazardous Waste Management	
MATH 3360	Numerical Analysis	3
MATH 4320	Mathematical Modeling	3

Select two from the following: 6

MATH 3364	Data Analysis	
MATH 4306	Partial Differential Equations	
MATH 4088	Undergraduate Research Project	
MATH 4390	Math Topics	

Total Hours 42

### Pre-Actuarial

ACCT 2301	Principles of Accounting I-Financial	3
ACCT 2302	Principles of Accounting II-Managerial	3
COMM 2302 [shared]	Business and Professional Speaking	
ECON 2301 [shared]	Principles of Macroeconomics	
ECON 2302	Principles of Microeconomics	3
ECON 3301	Intermediate Macroeconomics	3
ECON 3302	Intermediate Microeconomics	3

## 332 Mathematics

ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	3
FINC 3301	Principles of Financial Management	3
FINC 4304	Principles of Investments I	3
ECON 4311	Econometrics and Forecasting	3
FINC 4308	Principles of Insurance and Risk Management	3
Select four of the following: <sup>3</sup>		12
MATH 3301	Number Theory	
MATH 3360	Numerical Analysis	
MATH 3364	Data Analysis	
MATH 4306	Partial Differential Equations	
MATH 4320	Mathematical Modeling	
MATH 4088	Undergraduate Research Project	
MATH 4390	Math Topics	

Total Hours 42

**Pre-Law**

ACCT 2301	Principles of Accounting I-Financial	3
COMM 1311 [shared]	Introduction to Speech Communication	
COMM 1315	Public Speaking	3
COMM 2302	Business and Professional Speaking	3
COMM 3303	Debate	3

Sophomore ENGL literature [Shared]

ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	3
ENGL 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Editing	3
PHIL 2303	Introduction to Logic	3
PHIL 3301	Ethics in the Professions	3
PSYC 2301 [shared]	General Psychology	

Electives 6

Select four of the following: 12

MATH 3301	Number Theory	
MATH 3360	Numerical Analysis	
MATH 3364	Data Analysis	
MATH 4306	Partial Differential Equations	
MATH 4320	Mathematical Modeling	
MATH 4088	Undergraduate Research Project	
MATH 4390	Math Topics	

Total Hours 42

**Pre-Medical/Pre-Dental**

BIOL 1406	Biology for Science Majors	4
BIOL 1407	Biology for Science Majors II	4
BIOL 3407	Microbiology	4
BIOL 4374	Biochemistry I	3
CHEM 1411	College Chemistry I	4
CHEM 1412	College Chemistry II	4
CHEM 2323 & CHEM 2123	Organic Chemistry I and Organic Chemistry I Laboratory	4
CHEM 2325 & CHEM 2125	Organic Chemistry II and Organic Chemistry II Laboratory	4
COMM 2302 [shared]	Business and Professional Speaking	
PHIL 3301 [shared]	Ethics in the Professions	
PHYS 2426 [shared]	University Physics II	

Select 11 hours from the following: 11

MATH 3301	Number Theory	
MATH 3360	Numerical Analysis	
MATH 3364	Data Analysis	
MATH 4306	Partial Differential Equations	
MATH 4320	Mathematical Modeling	
MATH 4088	Undergraduate Research Project	
MATH 4390	Math Topics	

Total Hours 42

### Data Analysis

MATH 3310	Discrete Mathematics	3
MATH 3364	Data Analysis	3
Select three of the following:		9
MATH 3301	Number Theory	
MATH 3360	Numerical Analysis	
MATH 4306	Partial Differential Equations	
MATH 4320	Mathematical Modeling	
MATH 4088	Undergraduate Research Project	
MATH 4390	Math Topics	
COSC 2341	Data Structures	3
COSC 3360	Python Programming for Data Science	3
COSC 4360	Machine Learning	3
Advised Electives (Data Science Support Field) Courses for the Data Science supporting field are to be chosen from an academic area in which data science is applicable. Supporting field must be developed in consultation with an academic advisor and have department head approval.		15
ENGR 2303 [shared]	Engineering Economy	
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	3
COMM 2302 [shared]	Business and Professional Speaking	
Total Hours		42

### Technical Writing

Sophomore Level English [shared]		
BIOL 1406 [shared]	Biology for Science Majors	
CHEM 1411	College Chemistry I	4
COMM 2302 [shared]	Business and Professional Speaking	
ENGL 3309 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Document Design	3
ENGL 3310 [WI ( <a href="http://catalog.tarleton.edu/undergrad/academicaffairs/">http://catalog.tarleton.edu/undergrad/academicaffairs/</a> )]	Technical Writing and Editing	3
Advanced ENGL electives		6
ENGL 3312	Graphics and Technical Writing	3
Lab Science elective		4
Electives		7
Select four of the following:		12
MATH 3301	Number Theory	
MATH 3360	Numerical Analysis	
MATH 3364	Data Analysis	
MATH 4306	Partial Differential Equations	
MATH 4320	Mathematical Modeling	
MATH 4088	Undergraduate Research Project	
MATH 4390	Math Topics	
Total Hours		42

### Mathematics for Teaching

This concentration is for students currently enrolled in a Secondary Mathematics Education program and wanting to pursue a second major.

Supporting Field in Education (12 hours adv)		24
Electives		6
MATH 3301	Number Theory	3
MATH 4302	College Geometry	3
MATH 4304	Survey of Mathematical Ideas I	3
MATH 4308	Survey of Mathematical Ideas II	3
Total Hours		42

- 1 Courses for the supporting field are to be chosen from an academic area in which mathematics is applicable. Supporting field must be developed in consultation with an academic advisor and have department head approval.
- 2 MATH 4390 Math Topics may be substituted for MATH 3360 Numerical Analysis with department head approval.
- 3 With department head approval, MATH 4086: Statistical Models may substitute for one of the advanced MATH electives.

Course #	Course Title	Semester(s) Offered	Prerequisites
MATH 0303	Basic Mathematics	Fall, Spring, Summer	
MATH 0304	Fundamentals of College Algebra	Fall, Spring, Summer	
MATH 1314	College Algebra	Fall, Spring, Summer	
MATH 1316	Plane Trigonometry	Fall, Spring, Summer	
MATH 1324	Finite Mathematics	Fall, Spring	
MATH 1325	Business Calculus	Fall, Spring	
MATH 1332	Contemporary Mathematics I	Fall, Spring	

MATH 2412	Precalculus	Fall, Spring, Summer
MATH 1342	Elementary Statistical Methods	Fall, Spring, Summer
MATH 2413	Calculus I	Fall, Spring, Summer
MATH 2414	Calculus II	Fall, Spring, Summer
MATH 3301	Number Theory	Spring
MATH 3302	Principles of Geometry	Fall
MATH 3303	Concepts of Elementary Mathematics I	Fall, Spring, Summer
MATH 3305	Concepts of Elementary Mathematics II	Fall, Spring, Summer
MATH 3306	Differential Equations	Fall, Spring
MATH 3310	Discrete Mathematics	Fall, Summer
MATH 3311	Probability & Statistics I	Fall
MATH 3320	Foundations of Mathematics	Spring
MATH 3332	Linear Algebra	Fall
MATH 3433	Calculus III	Fall, Spring
MATH 3450	Biostatistics	Fall, Spring, Summer
MATH 3360	Numerical Analysis	Fall (Even)
MATH 4302	College Geometry	Fall Only
MATH 4304	Survey of Mathematical Ideas	Fall
MATH 4305	Concepts of Elementary Mathematics III	Fall, Spring, Summer
MATH 4309	Advanced Analysis	Fall
MATH 4311	Probability & Statistics II	Spring
MATH 4320	Mathematical Modeling	Fall (Odd)
MATH 4332	Abstract Algebra	Spring
MATH 4370	Introduction to the History of Mathematics	Summer
MATH 4390	Mathematical Topics	Spring

### Professors

- Brawner
- k. Emmert
- Faulkenberry
- Garza
- White
- Winton
- Wyatt

### Associate professors

- Bass
- Cook
- Crawford
- Riggs
- Smith

### Assistant professors

- Gresham
- Mitchell

### Instructors

- S. Emmert
- Groseclose
- Jackson
- McMahan
- Peters
- Summer
- Warren
- Wood

### Courses

**MATH 0001. NCBO Math. 0 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).**

**MATH 0303. Basic Mathematics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course features an intensive study of basic arithmetic concepts and skills, and the introduction to basic algebra as a preparatory course for MATH 0304, Fundamentals of College Algebra. It does not count for degree credit. A student must earn a grade of at least C in order to progress to MATH 0304.

**MATH 0304. Fundamentals of College Algebra. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Functions, algebraic expressions, polynomials, exponents, equations, and systems of linear equations. Primarily for non-science and non-mathematics majors; not for degree credit. A student cannot get credit for MATH 0304 if credit has previously been received for MATH 1314. A student must earn a grade of at least C in order to progress to MATH 1314. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**MATH 0305. Foundations of Statistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An intensive study of fundamental concepts and skills that support the processes in statistics and probability. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**MATH 0306. Foundations of College Algebra. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An intensive study of fundamental concepts and skills that support the processes in College Algebra. Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**MATH 0324. Foundations of Math for Business & Social Sciences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An intensive study of the fundamental concepts and skills that support the mathematical processes in Math for Business & Social Science.

**MATH 0332. Foundations of Contemporary Mathematics 1. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An intensive study of the fundamental concepts and skills that support the mathematical processes in finance, probability, statistics, and geometry. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**MATH 1100. Transitioning to University Studies in Mathematics. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

This course seeks to transition new mathematics majors into university academic life. It will help new students utilize campus resources effectively, learn academic skills, and develop a support network with mathematics faculty and fellow mathematics majors. The course will introduce students to the culture of the mathematics department and mathematics community at large. Prerequisites: Must be a mathematics major.

**MATH 1314. College Algebra. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

The study of radical, quadratic, polynomial, exponential, and logarithmic functions and expressions. Additional topics may include: the Binomial Theorem; sequences and series, matrices, variations, mathematical induction, and conic sections. Approved graphing calculator required. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**MATH 1316. Plane Trigonometry. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Angles and coordinates, trigonometric functions, solutions of triangles and applications, reduction theorems and formulas, identities and conditional equations, addition formulas and derived relations, angular and linear speed, logarithms, and radian measure. Prerequisite: MATH 1314 or concurrent registration.

**MATH 1324. Math for Business & Social Sciences I (Finite Mathematics). 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The application of common algebraic functions, including polynomial, exponential, logarithmic, and rational, to problems in business, economics, and the social sciences. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices; linear programming; and probability, including expected value. Prerequisites: Enrollment in the course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**MATH 1325. Math for Business & Social Sciences II (Business Calculus). 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is the basic study of limits and continuity, differentiation, optimization and graphing, and integration of elementary functions, with emphasis on applications in business, economics, and social sciences. This course is not a substitute for MATH 2413 (Calculus I). This course cannot be counted on a degree program for a mathematics major. Prerequisite: MATH 1314 or MATH 1324.

**MATH 1332. Contemporary Mathematics I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Elementary mathematical applications to problems of finance, probability, statistics, and geometry, and the development of reasoning skills. This course cannot be counted on a degree program for a mathematics major. Prerequisite: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**MATH 1342. Elementary Statistical Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Technology will be incorporated where appropriate. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**MATH 2318. Linear Algebra. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduces and provides models for application of the concepts of vector algebra. Topics include finite dimensional vector spaces and their geometric significance; representing and solving systems of linear equations using multiple methods, including Gaussian elimination and matrix inversion; matrices; determinants; linear transformations; quadratic forms; eigenvalues and eigenvectors; and applications in science and engineering. Prerequisite: MATH 2414.

**MATH 2412. Precalculus Math. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Applications of algebra and trigonometry to the study of elementary functions and their graphs including polynomial, rational, exponential, logarithmic, and trigonometric functions. Additional topics will be chosen from analytical geometry, mathematical induction, sequences, and series. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules. Lab fee: \$2.

**MATH 2413. Calculus I. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Algebraic and transcendental functions, limits, continuity, derivatives and related applications, an introduction to the definite integral, integration, and the Fundamental Theorem of Calculus. Use of computer technology and laboratory assignments will be required in this course. Prerequisite: MATH 1316 or MATH 2412. Lab fee: \$2.

**MATH 2414. Calculus II. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Applications of integration, integration techniques, sequences and infinite series, power series, parametric and polar curves. Use of computer technology and laboratory assignments will be required in this course. Prerequisite: MATH 2413. Lab fee \$5.

**MATH 3301. Number Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of congruence relations, rational integers, diophantine equations, quadratic reciprocity law, linear forms, integral domains, and related topics. Prerequisite: 6 hours of Mathematics including MATH 2413.

**MATH 3302. Principles of Geometry. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduction to Euclidean geometry. Topics will include an introduction to logic, properties of parallel lines, triangles, quadrilaterals, and measurement. Similarity and proportionality will also be addressed. Credit for both MATH 3302 and MATH 4302 will not be awarded. Prerequisite: MATH 2413. Lab fee: \$2.

**MATH 3303. Concepts of Elementary Mathematics I. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course is designed to develop and extend the mathematical content knowledge of prospective elementary and middle school teachers. Topics will include problem solving, sets, functions, mathematical reasoning, numerical fluency, operations and properties of whole numbers, integers, rational numbers, and real numbers. Prerequisites: minimum of 45 hours complete and a C or better in MATH 1314 Lab fee: \$2.

**MATH 3305. Concepts of Elementary Mathematics II. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Basic concepts in algebra, geometry, measurement, probability, data collection, and statistics. Prerequisite: C or better in MATH 3303 Lab fee: \$2.

**MATH 3306. Differential Equations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Solutions and applications of homogeneous and nonhomogeneous ordinary differential equations, including first-order equations and higher-order linear equations. Qualitative properties of solutions are investigated, as well as exact methods for solving differential equations and initial value problems including series, Laplace transform, separation of variables, variation of parameters, and undetermined coefficients. Prerequisite: MATH 2414.

**MATH 3310. Discrete Mathematics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduces students to the techniques and tools of reasoning, decision making and combinatorial problem solving. Topics include sets and logic, combinations, probability, relations, functions and graphs, symbolic logic, finite state and Turing machines. Prerequisites: MATH 2413 or concurrent enrollment.

**MATH 3311. Probability and Statistics I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will include probability axioms and properties; conditional probability and independence; counting techniques; and discrete, continuous, univariate, and multivariate random variables. Prerequisite: MATH 2414.



**MATH 3320. Foundations of Mathematics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to concepts and forms of proof found in advanced mathematics courses. Topics include logic, set theory, mathematical induction, relations, functions, and cardinality. Prerequisites: MATH 2413.

**MATH 3360. Numerical Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to numerical analysis. Topics will be selected from error analysis, solving algebraic equations, interpolation, numerical differentiation and integration, methods for solving systems of equations, approximation theory, and initial value problems of ordinary differential equations. Prerequisite: MATH 2414 and 3 hours of COSC.

**MATH 3364. Data Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Mathematical foundations of data analysis techniques. Applications of Lagrangians to support vector machines, gradient descent methods for artificial neural networks, and conditional probabilities for Bayesian classifiers. Additional topics will be selected from: the class imbalance problem, cost sensitive learning, bootstrapping, kernel methods, impurity measures, distance metrics, topological data analysis, anomaly detection and convergence theorems for various methods. Prerequisites: MATH 2318, MATH 3433, COSC 1310 and one course from MATH 1342, MATH 3311, or MATH 3450.

**MATH 3433. Calculus III. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The calculus of two dimensional vectors, parametric equations, cylindrical and spherical coordinates, multivariable differential calculus, directional derivatives and their applications, multiple integration, vector analysis, line and surface integrals, Green's Theorem, Stokes's Theorem. Use of computer technology and laboratory assignments will be required in this course. Prerequisite: MATH 2414. Lab fee \$5.

**MATH 3450. Principles of Bio-Statistics. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

An introduction to statistical methods that are applied in biology and agriculture. Use of technology and hands-on laboratory assignments will be required in this course. This course cannot be counted on a degree program for a mathematics major. Credit cannot be awarded for both MATH 1342 and 3450. Prerequisite: MATH 1314 or MATH 1316 or MATH 2412 or MATH 2413. Lab fee: \$2.

**MATH 4086. Mathematics Problems. 1-4 Credit Hours (Lecture: 0 Hours, Lab: 1-4 Hours).**

Special problems in mathematics. Not covered by any course in the curriculum. Work may be either theory or laboratory. May be repeated with approval of the department head for additional credit. Prerequisite: Approval of department head.

**MATH 4088. Undergraduate Research Project. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Methods of research in the mathematical sciences or in mathematics education through a research project directed by a departmental faculty member. The student is required to prepare a final report and presentation. No credit is earned until the student has enrolled in at least 3 credit hours and the final report and presentation are certified as completed by the faculty member directing the project, at which time the student will receive 3 credit hours. Prerequisite: Mathematics major, junior standing, 24 semester hours MATH and department head approval.

**MATH 4302. College Geometry. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Topics will include logic, properties of circles and transformations, projective and non-Euclidean geometry. Technology will be included when appropriate. Credit for both MATH 3302 and MATH 4302 will not be awarded. Prerequisite: MATH 2413 Lab fee: \$2.

**MATH 4304. Survey of Mathematical Ideas I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to bring together and supplement the technical material of other mathematics courses to communicate mathematics effectively. Topics in number & operations, number theory, algebra, statistics, and probability will be explored. Technology will be used where appropriate. Prerequisites: MATH 2413 and (MATH 3302 or MATH 4302).

**MATH 4305. Concepts of Elementary Mathematics III. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to develop and extend the mathematical content knowledge of prospective elementary and middle school teachers. Topics will include ratios, proportionality, number theory, and the development of algebraic reasoning through the use of patterns, relations, and functions, with an emphasis on multiple representations (numerical, graphical, verbal, and/or symbolic). Technology will be integrated into the curriculum where appropriate. Prerequisites: Junior Standing and a C or better in MATH 3305.

**MATH 4306. Partial Differential Equations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to theory and applications of partial differential equations. Topics for study may include separation of variables, heat equation, Laplace's equation, wave equation, Fourier series, and Sturm-Liouville eigenvalue problems. Prerequisites: MATH 3306.

**MATH 4308. Survey of Mathematical Ideas II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to bring together and supplement the technical material of other mathematics courses to communicate mathematics effectively. Topics in statistics, probability, trigonometry, precalculus, and calculus will be explored. Technology will be used where appropriate. Prerequisites: MATH 4304 and (MATH 1342 OR MATH 3311).

**MATH 4309. Advanced Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A study of the theory of the calculus of functions of a single variable. Topics include the topology of the real line, functions, sequences and their limits, continuity, differentiation, and analysis of variance. Prerequisite: MATH 2414 and MATH 3320.

**MATH 4311. Probability and Statistics II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will include normal distributions; sampling distributions; the central limit theorem; descriptive statistics; and the theory of statistical estimation and testing, with applications to proportions, means, contingency tables, univariate linear regression, and analysis of variance. Prerequisite: MATH 3311.

**MATH 4320. Mathematical Modeling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced course in mathematical modeling requiring students to build and validate deterministic models of complex phenomena. The course will emphasize both qualitative and quantitative computational techniques of applied mathematics. Prerequisites: MATH 2414 and 6 hours of advanced MATH.

**MATH 4332. Abstract Algebra. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The study of preliminary notions, group theory, the theory of rings and ideals, and polynomial rings. Prerequisites: MATH 2414 and MATH 2318.

**MATH 4370. Introduction to the History of Mathematics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the historical and philosophical development of the various branches of mathematics. The evolution of mathematical ideas will be studied from their developmental stages to the modern concepts used today. Prerequisites: 6 advanced hours in MATH.

**MATH 4384. Internship. 3 Credit Hours (Lecture: 0 Hours, Lab: 4 Hours).**

The student will complete a supervised and comprehensive work experience in a mathematics-related position with a public or private business organization for career preparation in a mathematics-related enterprise. The work experience must be formally approved and arranged with a cooperating sponsor prior to semester of enrollment in the course, and should be completed within the semester of course enrollment. Oral and written reports of the internship experience will be required. Prerequisite: At least 24 hours of degree-applicable MATH coursework with no grade lower than a 'C' in a MATH course, minimum 2.6 MATH GPA, minimum 2.6 overall GPA, junior or senior classification, and approval of department head.

**MATH 4390. Math Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will be selected from areas of mathematics suitable for upper level study. This course may be repeated once, with department head approval, as topics change. Prerequisite: MATH 2414 and 6 hours of upper level mathematics.

## Graduate

Dr. Credence Baker, Graduate Dean  
Administration Annex II, Room 100  
Box T-0350  
(254) 968-9104  
cbaker@tarleton.edu  
www.tarleton.edu/graduate (<http://www.tarleton.edu/graduate/>)

The Texas A&M University System Board of Directors approved graduate degree programs at the master's level for Tarleton State University on November 26, 1969. Meeting in a special session at College Station, the Coordinating Board of the Texas College and University Systems granted approval on December 4, 1969, for three initial master's-level programs, setting the Fall Semester of 1971 as the effective date of graduate course offerings for the programs.

### Goals

The mission of the College of Graduate Studies is to promote excellence in graduate education through teaching, research, and service. The College of Graduate Studies, in conjunction with the Graduate Council, accomplishes its mission through the planning and development of policy and procedures related to graduate education; the recruitment, admission, and retention of qualified students; and by providing support and coordination of high quality course offerings and degree programs.

Evidence of these collective goals is that the graduates will demonstrate the following:

1. Increased professional competence in the chosen field of study;
2. Refined use of analytical methodology; and,
3. Advanced preparation and skills in the academic discipline.

### Administration

Administration of the College of Graduate Studies is the responsibility of the Dean of the College of Graduate Studies. The Graduate Council, comprised of graduate faculty representatives from departments offering graduate programs, assists in establishing policies concerning the graduate school. The Dean of the College of Graduate Studies is chair of the Graduate Council and has the authority to act for the administration and the Council within limits of policy.

### Graduate Degree Programs

Admission policies, program requirements, and comprehensive assessment procedures for each of these graduate degree programs are specifically described within the appropriate departmental sections that follow.

#### College of Agricultural & Environmental Sciences

COLLEGE/DEPARTMENT	MAJOR	DEGREE	SEMESTER CREDIT HOURS
Department of Agricultural and Consumer Sciences	Agricultural and Consumer Resources	MS	36
Department of Animal Science and Veterinary Technology	Animal Science	MS	36
Department of Wildlife, Sustainability and Ecosystem Sciences	Agricultural and Natural Resource Sciences	MS	36

#### College of Business Administration

COLLEGE/DEPARTMENT	MAJOR	DEGREE	SEMESTER CREDIT HOURS
Department of Accounting, Finance and Accounting Economics		MAcc	30
Department of Management	Business Administration	MBA	30
Department of Management	Human Resources Management	MS	30
Department of Management	Management	MS	30-36
Department of Marketing and Computer Information Systems	Information Systems	MS	36

#### College of Education

COLLEGE/DEPARTMENT	MAJOR	DEGREE	SEMESTER CREDIT HOURS
Department of Curriculum and Instruction	Child Development and Family Studies	MS	30
Department of Curriculum and Instruction	Curriculum and Instruction	MED	30-33
Department of Educational Leadership and Technology	Educational Administration	MED	30-33
Department of Educational Leadership and Technology	Educational Leadership	EDD	63
Department of Psychological Sciences	Applied Psychology	MS	30
School of Kinesiology	Athletic Training	MSAT	49
School of Kinesiology	Kinesiology	MS	30

#### College of Health Sciences & Human Services

COLLEGE/DEPARTMENT	MAJOR	DEGREE	SEMESTER CREDIT HOURS
Department of Counseling	Clinical Mental Health Counseling	MS	60
Department of Medical Laboratory Sciences & Public Health	Medical Laboratory Science	MS	36
Department of Nursing	Nursing Administration	MSN	39-42
Department of Nursing	Nursing Education	MSN	39-42
Department of Social Work	Social Work	MSW	32-64

## College of Liberal & Fine Arts

COLLEGE/DEPARTMENT	MAJOR	DEGREE	SEMESTER CREDIT HOURS
Department of Communication Studies	Communication Studies	MA	30
Department of Criminal Justice	Criminal Justice	MCJ	30-36
Department of Criminal Justice	Criminal Justice	PHD	57
Department of English & Languages	English	MA	36
Department of Fine Arts	Music Education	MM	36
School of Criminology, Criminal Justice and Strategic Studies	Public Administration	MPA	36

## College of Science & Technology

COLLEGE/DEPARTMENT	MAJOR	DEGREE	SEMESTER CREDIT HOURS
Department of Biological Sciences	Biology	MS	31-36
Department of Chemistry, Geoscience, and Physics	Environmental Science	MS	32-36
Department of Chemistry, Geoscience, and Physics	Geoscience	MS	32
Department of Engineering and Computer Science	Computer Engineering	MS	33-36
Department of Engineering Technology	Quality and Engineering Management	MS	30
Department of Mathematics	Mathematics	MS	30

## General Graduate Admissions

### Admission to the College of Graduate Studies

Admission to the College of Graduate Studies is administered for the Graduate Council by the Dean of the College of Graduate Studies. Applicants seeking admission must present the following credentials and materials indicating they possess the ability to pursue graduate work successfully:

1. An online application for admission at <http://choose.tarleton.edu/application>. For U.S. citizens, applications must be received one month prior to the regular registration dates indicated in the current University Calendar. A \$50 application-processing fee must accompany each application.
2. Official transcript(s) of all previous academic course work. The transcript must bear the date of bachelor's degree conferral or master's degree if applicable, and indicate that the applicant was in good standing at the last institution attended. Degree must have been earned from a regionally-accredited institution.
3. GRE/GMAT/MAT scores if required by Major department. Please check with your major department to see which exam is preferred (if applicable).
4. A Statement of Purpose addressing career and academic goals. (600 words or less)

Beyond these general requirements for admission to the College of Graduate Studies, departments may set additional standards for admission to degree programs (<https://www.tarleton.edu/graduate/future/requirements.html>), subject to administrative approval.

### Categories of Admission

Enrollment in the College of Graduate Studies requires that students obtain the following:

1. Admission-Good Standing
2. Admission-Warning
3. Admission to a Professional Teacher Certificate Program
4. Admission-Provisional for Tarleton Undergraduates
5. Admission as a Non-Degree Seeking
6. Admission to an Accelerated Bachelor's-to-Master's Program
7. Admission to a Dual Master's Program

#### Admission-Good Standing

- A minimum grade point average of 2.5 (based on a 4-point scale) GPA (overall undergraduate or last 60-hours)
- GRE/GMAT/MAT scores if required by Major department. Please check with your major department to see which exam is preferred (if applicable).
- Completion of specific departmental admission requirements and recommendation for admission from the appropriate department may be required for admission to the chosen field of study.

#### Admission-Warning

- Students admitted under this category are placed on Academic Warning. Students must achieve a 3.0 cumulative grade point average their first semester of enrollment or they will be placed on Academic Suspension (See *Graduate Student Performance* section).
- Admission-Warning status is only granted to students who have between a 2.5-2.99 GPA and apply for a major under specific academic departments that DO NOT require GRE/GMAT/MAT scores.
- Admission is not routinely granted to a student whose GPA (overall undergraduate or last 60-hours) is less than 2.5. In cases when a student has significant experience in their major field of study, and does not meet minimum University/Program admission requirements, departments may choose to submit a special approval request to the College of Graduate Studies. This process may only be initiated by a department and must be approved by the Dean of the College of Graduate Studies.
- Completion of specific departmental admission requirements and recommendation for admission from the appropriate department may be required for admission to the chosen field of study.

#### Admission to a Professional Teacher Certificate Program

- Professional teacher certificate programs are open only to graduate students.
- Admission to a professional teacher certificate program is granted upon the recommendation of the head of the department in which the program is offered and the submission of a certificate plan approved by the University Teacher Certification Officer.
- Professional Teacher Certification is tied to admission to a graduate degree program in the College of Education.

**Admission-Provisional for Tarleton Undergraduates.** An undergraduate enrolled in a bachelor's degree program at Tarleton may be considered for admission to the College of Graduate Studies provided that the student:

- Is within 12 hours of graduation
- Is recommended by his/her major department
- Has attained a minimum 3.0 GPA (overall undergraduate or last 60-hours)
- May take no more than 12 hours of graduate work while in provisional status

**Note:** No undergraduate-level course work may be counted toward a graduate degree. No graduate-level course work may be counted toward an undergraduate degree. Exceptions apply to students admitted to an accelerated bachelor's-to-master's program, or other programs where the use of undergraduate courses towards graduate degrees was specifically approved through the curriculum process. No application is needed for provisional enrollment. Students need to submit the Provisional Student Form to the College of Graduate Studies. Students will submit a graduate application once they are awarded their bachelor's degree.

#### **Admission as a Non-Degree Seeking Student**

Applicants who designate that they do not choose to seek a graduate degree but who hold a baccalaureate degree from a regionally-accredited college may be enrolled for course work in the College of Graduate Studies as **Non-Degree Seeking graduate students**. Students in this category may take up to 18 hours of course work. They waive the right to count more than 12 hours toward an advanced degree at Tarleton State University. In order to have any graduate course work count toward a master's degree, students must meet admission criteria to the College of Graduate Studies, and the degree program, at the time application is made and course work is taken. This includes standardized test requirements, if applicable.

Non-degree seeking students are not required to submit scores on the GRE or the GMAT. However, official transcript(s) which indicate the conferral of the bachelor's degree and good standing at the last college attended are required. Admission will not be granted to a student whose GPA (overall undergraduate or last 60-hours) is less than a 2.5. Students seeking certain types of certification may be asked to submit GRE scores by their academic department.

An applicant to a degree program who appears to be admissible on the basis of the credentials submitted, but who is unable to supply all of the official records prior to registration may be admitted for one semester pending receipt of official transcripts. A student who is in special status has no assurance, however, that work completed while in this classification will be applicable toward degree requirements should he or she subsequently gain admission to a degree program.

#### **Admission to an Accelerated Bachelor's-to-Master's Program**

The 5-year bachelor's-to-master's degree program allows talented undergraduates at Tarleton State University an opportunity to complete the requirements for both the bachelor's and master's degrees at an accelerated pace. Undergraduate students may double-count up to 12 credit hours of graduate courses toward a master's degree and earn a non-thesis master's degree in the same field within 12 months of completing the bachelor's degree or obtain a thesis-based master's degree in the same field within 18 months of completing the bachelor's degree. All programs will meet SACSCOC requirements for program length. Students entering the participating programs should be encouraged to place a focus on research as a part of their undergraduate/graduate plan.

#### **Accelerated Degree Guidelines**

The same department or program that awards the bachelor's degree must sponsor the master's degree. This does not preclude master's degrees in interdisciplinary graduate programs in which the sponsoring department participates, nor acceptance of the student in a closely related field, if the department granting the graduate degree recommends admission to the Graduate School.

#### **Accelerated Degree Admission Requirements**

- Students must meet academic program GPA requirements.
- No GRE or other standardized test score will be required unless the participating program or department requires it for admission to their program.
- Students must have completed a minimum of 75 and a maximum of 108 credit hours in their undergraduate programs, including credits earned from advanced placement.
- Transfer students must have completed a minimum of two semesters as a full-time student at Tarleton, a minimum of 24 hours.

#### **Students should consult with their major department to see which options are available.**

##### **Admission to a Dual Master's Program**

A Dual Degree program is designed to allow students to complete two master's degrees concurrently. Participating programs will provide specific information on their master's degree and possible combinations.

Students seeking the dual master's degree must complete a minimum of 48 to 60 graduate credit hours beyond the baccalaureate as prescribed by specific programs and as approved by the graduate faculty of supervising departments.

##### **Dual Degree Guidelines**

- A dual master's degree program allows students to work simultaneously completing studies in two (2) separate, but often related fields of study in order to earn two graduate degrees.
- Leveling courses, if required in a non-related discipline, should be built in the degree and may result in an increase in total hours to be taken.
- A general guideline for programs above 36 hours is 12 of the course work may be applied to both degrees.
- At least 18 hours must be used in each of the individual fields.

##### **Dual Master's Degree Admission Requirements**

Applicants must be accepted into both programs at the time of admission and must meet the admission requirements for both degree programs. Students must have a minimum GPA of 3.0 in at least 12 graduate semester hours from a regionally-accredited College or University if applicable.

#### **Students should consult with their major department to see which options are available.**

##### **Post-Baccalaureate Undergraduate Student**

An applicant who does not wish to pursue a graduate degree or graduate-level teacher certification program but who has earned a bachelor's degree from a regionally-accredited U.S. institution and who is in good standing at the last school attended may apply for admission as a post-baccalaureate student. These applications are received and processed in the Office of Undergraduate Admissions. Post-baccalaureate students are subject to all requirements and regulations that apply to undergraduates. They must meet the academic progress standards applicable to undergraduates and are subject to the same academic warning/suspension policies.

##### **International Admissions**

All students who are not U.S. citizens or U.S. permanent residents are considered international students and must meet the following admission requirements. Some programs may have a secondary application process so timely submission of all documents is important. An I-20 cannot be issued until all materials are received and the applicant has been admitted to the College of Graduate Studies.

1. An application for admission to the College of Graduate Studies. The online application is located at the [International Graduate Admissions page](#).
2. A \$50, non-refundable application fee.

3. Official transcripts from each college or university attended. Degrees earned at a foreign institution must be evaluated by a recognized member of NACES (National Association of Credential Evaluation Services) and must be equivalent to a 4 year degree earned from a regionally- accredited U.S institution. A course-by-course evaluation is required for all foreign degrees.
4. Proof of English proficiency can be no more than two years old and can be satisfied by one of the following:
  - A minimum TOEFL score of 80
  - A minimum IELTS score of 6
  - A minimum PTE score of 53
  - A minimum TOEFL ITP Plus for China of 543
  - A minimum iTEP score range of 3.5-3.9
  - Completion of a Bachelor's degree or higher at a U.S regionally-accredited university
5. GRE/GMAT/MAT scores if required by Major department. Please check with your department to see which exam, if any, is preferred.
6. Submission of two passport-style color photos taken within six months of application.
7. Financial documentation (for students studying on-campus in the U.S.)
  - Proof of sufficient funding to cover the cost of tuition, fees, books, insurance, living expenses, and personal expenses for one academic year
  - Signed Affidavit of Financial Support if you have a sponsor

Additionally, Tarleton State University requires that all student have medical insurance with coverage in the United States. Fees for medical insurance will be charged with tuition at the time of registration, after full admission.

The Department of Admissions performs authentication of student admissions materials and required identification and immigration documentation. A primary Restricted Party Screening (RPS) is performed by the Department of Admissions for all foreign nationals seeking admission to the university with a secondary screening by Compliance and Strategic Initiatives (CSI), as needed. CSI will seek guidance from the empowered official (EO) and/or System Research and Security Office (RSO) as needed for resolution of concerns and for decision-making regarding admission approval. Foreign persons will not be admitted to the university until they have been cleared through the export control screening process.

## Enrollment in Graduate Courses

### Graduate Advisor and Student's Advisory Committee

The graduate coordinator/advisor, designated by a department, assists students in planning their initial course work prior to granting of admission to the program of study. Before seeking enrollment in any course that might be applied toward a master's degree, students must consult their advisors.

After receiving admission to the College of Graduate Studies and enrolling for graduate courses, the student should consult with the graduate advisor concerning appointment of an advisory committee. The advisory committee is responsible for guiding and directing the student's entire academic program, which includes initiating all academic actions concerning the student, developing the degree plan, meeting required deadlines, and administering the comprehensive testing prior to conferral of the master's degree. Moreover, the advisory committee, as a group and as individual members, is responsible for counseling the student on academic matters, and in the case of academic deficiency, initiating recommendations to the Dean of the College of Graduate Studies.

### Thesis or Dissertation Committee

A thesis or dissertation committee must be graduate faculty. The committee composition may be decided by the student in consultation with their graduate advisor and generally follows as:

1. Chair (experienced graduate faculty member from the student's academic department)
2. Committee member from the student's department or closely-related discipline within the department or college
3. Committee member in a closely related discipline from a department within the college or from another college where their expertise is suitable for the research question or design
4. A fourth committee member can be allowed for additional expertise with the graduate dean's approval.

## Academic Load

### Master's Student

Semester Credit Hours	Fall/Spring	Summer
Maximum Load	16	12
Full-time	9	6*

### Doctoral Student

Semester Credit Hours	Fall/Spring	Summer
Maximum Load	12	12
Full-time	6	6*

\* Students with financial aid/scholarship(s) should refer to the Financial Aid (<http://www.tarleton.edu/finaid/summer-financial-aid.html>) website for additional information, regarding aid, during the full-time summer term.

## Graduate Student Performance

Every student enrolled in the College of Graduate Studies is required to maintain a high level of performance and comply fully with the policies of the institution. The College reserves the right to suspend any graduate student who does not maintain satisfactory academic standing or fails to conform to University regulations.

Students who have achieved admission are expected to maintain a minimum 3.0 GPA on work completed at Tarleton. If in a particular semester a student's cumulative GPA or overall GPA falls below the 3.0 GPA minimum, he/she will be given notice of unsatisfactory academic performance. The student must attain a 3.0 cumulative GPA during her or his next period of enrollment; failure to do so will result in suspension for one semester. A student must maintain at least a 3.0 grade point average every semester upon returning from the suspension. A graduate student is allowed one suspension. If poor academic performance results in a second suspension, the student will be permanently dismissed from the university. A student's cumulative GPA is calculated based on coursework attempted at Tarleton State University and a student's overall GPA is calculated based on coursework attempted at Tarleton State University plus any applicable transfer coursework. Undergraduate courses taken for leveling or as undesignated electives are used in the calculation of the semester and cumulative grade point averages and thus determine one's academic standing.

At the end of any grading period, if a student's overall GPA falls below 2.0 he/she will be automatically suspended, with no academic warning, and cannot enroll for one semester.

Students who have been admitted on Academic Warning must achieve a 3.0 GPA or greater their first semester of enrollment. If requirements are not met, admission will be rescinded, and students will be placed on Academic Suspension.

Graduate students who are on first-time suspension must reapply (including the \$50 application fee) to the College of Graduate Studies for reinstatement.

## Grading System

**Graduate degree credit is allowed only for A, B, and C grades. A grade point average of 3.0 or higher is required:**

1. For all courses included in a degree plan
2. For all courses comprising the major field
3. For courses comprising the concentration field, if one is selected

Courses taken at Tarleton may not be repeated at another institution for degree credit. If a course is repeated at Tarleton, the better grade in the course shall be counted in computing the student's grade point average.

The grading system for graduate students is:

- A - Excellent, 4 grade points per semester hour
- B - Good, 3 grade points per semester hour
- C - Fair, 2 grade points per semester hour
- D - Not Passing for graduate course work, failed course.
- F0 - Failed course, never attended class
- FX - Failed course, last date of attendance was before the last day of class
- F - Failed course, last date of attendance was the last day of class
- I - In-Progress (for thesis courses only)
- K - Incomplete
- NP - No Progress (for dissertation courses only)
- P - Pass, C or Better
- PR - In-Progress (for dissertation courses only)
- S - Satisfactory (for completion of 6 hours of thesis and 12 hours of dissertation courses only)
- W - Withdrawal from course, no grade designated
- WF - Withdrawal failing (included in GPA)
- Z - Research or practicum courses for which only grade given is for final three hours enrolled. Exclusive use for Department of Curriculum and Instruction.

The grade K shall be recorded for a student only in case of extraordinary circumstances. This entry is used only in such cases after the instructor and his/her department head have concurred that the incomplete entry is justified. A grade of K must be made up by the end of the next semester and in all cases before registering for the next sequential course. If this grade is not made up within the prescribed time limit, it automatically becomes a F.

Internships in Education not completed during the first semester of registration will receive a letter grade of K (incomplete). Registration will be permitted for the following semester, at which time a letter grade will be awarded upon satisfactory completion of the required work. If the work is not completed during the subsequent semester, the previous semester's K will become NC, and a letter grade of F will be placed on the transcript for the subsequent semester's work.

## Completion Time Limit

Course credits more than six years old at the anticipated time for degree completion may not be counted for a master's degree. Course credits more than ten years old at the anticipated time for degree completion may not be counted for a doctoral degree. Credits are considered to be earned when they are recorded on the official transcript. This time limit applies to both transfer coursework and coursework earned at Tarleton State University.

## General Requirements for the Master's Degree

### Credit for Problems Courses

Students taking Problems courses (5086) for graduate credit will be expected to complete course requirements different from those ordinarily included for undergraduates. The number of individual problems courses taken for credit toward the degree and the approved undergraduate courses is limited to a combination of no more than 12 hours.

### Graduate Transfer Credit

#### Master's Degree Programs

The University only applies a maximum of 12 hours of graduate transfer coursework from a regionally-accredited institution upon the recommendation of the advisory committee, head of the major department and the approval of the Dean of the College of Graduate Studies. This credit may have been counted toward a completed degree.

A student seeking a second master's degree at Tarleton State University may apply up to 12 hours of coursework that have been counted toward a completed graduate degree at Tarleton upon the recommendation of the advisory committee, head of the major department and the approval of the Dean of the College of Graduate Studies.

#### Doctoral Degree Programs

The University only applies a maximum of 15 hours of graduate transfer coursework from a regionally-accredited institution upon the recommendation of the advisory committee, head of the major department and the approval of the Dean of the College of Graduate Studies. This credit may have been counted toward a completed degree.

## Degree Plan

A graduate student's degree plan includes those courses listed for degree credit on the official degree plan form. All courses on the approved degree plan must be completed with a satisfactory grade to meet requirements for the degree. Changes in an approved degree plan can be made by recommendation to the Dean of the College of Graduate Studies by the student's complete advisory committee and head of his or her major department.

Courses listed for graduate credit on the approved degree plan in which the student has received a final grade may not normally be removed from the degree plan, although courses acceptable for graduate credit may be added. Exceptions to this policy must be approved by the student's advisory committee, head of his or her major department, and the Dean of the College of Graduate Studies.

## Degree Major

All degrees require a minimum of 18 semester hours to be completed in the student's major field.

## Research Requirement

All students seeking a master's degree must have credit for an approved research course.

## Thesis

Not every graduate program at Tarleton requires a thesis for completion of a master's degree. Please check with your academic department to determine which degrees provide a thesis option.

Students must have full admission to a degree program and the permission of the department head to enroll in thesis. A thesis will not be accepted unless a student has completed a minimum of six semester hours of thesis course work (5088). The Thesis Manual, which contains details regarding the preparation and submission of a thesis for approval, is available on the Graduate College website. Students who plan to pursue a thesis should obtain a copy of this manual early in their graduate program. A thesis proposal must be submitted to the Graduate Office at least one semester prior to a thesis submission.

Students who pursue a thesis may be required to enroll each semester in at least one thesis course until the thesis is completed. Those who make satisfactory progress will be given the grade of I. Once the thesis has been approved and accepted, the final six semester hours of thesis will be assigned the grade of S. The thesis grade of S is not included in the GPA calculation for the degree major or minor. Only six hours of thesis credit will count towards the degree.

## The Comprehensive Assessment

Candidates for any of the master's degrees at Tarleton must satisfactorily pass a comprehensive assessment. A graduate student must be admitted to candidacy for a degree before he/she will be allowed to take the comprehensive assessment.

The policies and procedures for the comprehensive assessment are available in the office of the department head of the student's major field of study. Early in their degree program students should review the requirements for the assessment. Some departments require both oral and written assessments, which must be scheduled early in the semester in which they are to be administered. Consult the University calendar for deadlines for submission of comprehensive assessment results to the College of Graduate Studies. If the student's advisory committee decides an oral assessment is required, a representative of the Dean of the College of Graduate Studies may be invited to participate.

Students whose performance on the comprehensive assessment is unsatisfactory may reschedule an assessment at the next regular administration, or, at the discretion of the advisory committee and head of the department involved, at an earlier date. Unless departmental requirements are more limiting, students who attempt the comprehensive assessment three times and are not successful will be dropped from the graduate program.

## Application for a Degree

Candidates for a degree must complete the online graduation application no later than the dates specified in the University Calendar. Students must have a current graduate degree plan on file in the College of Graduate Studies before applying to graduate. To be considered for degree conferral, a candidate must be in good standing with the University. All contractual and financial obligations to the University must be satisfied.

## Graduate Assistantships

Assistantships for graduate students are available in most academic departments that offer a master's or doctoral program as well as other university support areas. Most assistantships are considered as a staffing function of the department in which the applicant wishes to study.

A graduate student must meet the following requirements in order to hold a graduate assistantship:

- Admission into the College of Graduate Studies
- If teaching, may need a minimum of 18 graduate hours in the field to be taught, depending on assignment
- Maintain at least a 3.0 cumulative graduate GPA
- Be enrolled in and complete at least 6 hours of graduate credit each term (3 hours for the entire summer session)

# College of Agriculture and Natural Resources

College of Agriculture and Natural Resources  
 Box T 0180  
 Stephenville, TX 76405  
 254-968-9227  
 coaes@tarleton.edu  
 www.tarleton.edu/coaes/index.html (<http://www.tarleton.edu/coaes/>)

The College of Agriculture and Natural Resources includes the Department of Agricultural Education and Communication; the Department of Animal Science; and the Department of Wildlife and Natural Resources. Each offers the M.S. degree with both thesis and non-thesis options. The departments are interdependent and use common resources in developing and offering specialized programs appealing to a broad array of graduate student interests.

The College's graduate students are known for high performance and for contributions to their professions in all areas of agriculture. All career tracks are designed with the goal of providing graduates with the academic background to compete in the employment market or continue their graduate studies.

The Tarleton Agriculture Center is central to our opportunities for graduate instruction. Agriculture Center facilities include the Southwest Regional Dairy; the Animal and Plant Science Center with six state of the art laboratories, four greenhouses, 42,000 sq. ft. covered animal working area, and a retail merchandizing center (The Purple Tractor); the Equine Center with indoor arena, dedicated laboratory space, and stallion barn; the Meats Laboratory; a beef cattle feedlot; The Agriculture Field Machinery and Fabrication Center with laboratories dedicated to metal fabrication, structures, and small engines, a computer lab, three classrooms, a multi-purpose room, and a spacious and well-equipped kitchen; a confinement swine operation; a rabbitry; and an aquaponics/hydroponics center. Livestock includes dairy cattle, beef cattle, horses, sheep, goats, swine, rabbits, and aquatic species. All facilities and other resources at the Tarleton Agriculture Center are available for graduate student use for research opportunities.

### Academic Programs in Agriculture and Natural Resources

#### Department of Agricultural Education and Communication (p. 342)

1. Master of Science - Agricultural and Consumer Resources (thesis and non-thesis tracks)

#### Department of Animal Science

1. Master of Science - Animal Science (thesis and non-thesis tracks)

#### Department of Wildlife (p. 347) and Natural Resources

1. Master of Science - Agricultural and Natural Resource Sciences (thesis and non-thesis tracks)

## Department of Agricultural Education and Communication

Dr. J. Chris Haynes, Interim Department Head  
 Department of Agricultural Education and Communication  
 Joe W. Autry Agriculture Building, Room 105  
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## Master of Science Degree in Agricultural and Consumer Resources

This degree is specifically designed for those who have completed an undergraduate degree in Agricultural Services and Development. It may also be advantageous for those who have completed a Bachelor of Science degree in other agricultural disciplines and who desire to complete the requirements for a teaching certificate and a master's degree simultaneously. The degree offers the flexibility of taking courses in one or more disciplines that best meet the needs of the individual in order to increase the professional competence of teachers of agriculture, extension agents, and others pursuing professional agricultural careers. The degree is also for students who plan further graduate study at the PhD level. This degree is offered both on campus and online.

Full admission into the Master of Science in Agricultural and Consumer Resources requires an undergraduate GPA of 3.0 or higher in the last 60 hours of undergraduate studies. Students with a GPA of less than 3.0 but greater than 2.5 are accepted on a conditional basis. Once accepted, students must maintain a GPA of 3.0 or higher to remain in good standing.

There are two available options within the Master of Science in Agricultural and Consumer Resources: the research (thesis) track, and non-thesis track.

Thesis track students complete 30 hours of coursework and 6 hours of thesis credit. In addition, the typical curriculum for the thesis degree program involves an original research project under the direction of a graduate faculty member and the preparation of a thesis in addition to prescribed course work. Thesis track students must present their thesis findings before their supervisory graduate committee.

Non-thesis track students complete 36 hours of coursework and must complete a written comprehensive examination, followed by an oral defense of the written exam (or student teaching experience) before their graduate committee.

## Master of Science Degree in Agricultural and Consumer Resources

### Required Courses

ACRS 5385	Intro Seminar Agri & Con Res	3
ACRS 5398	Philo, Interp, Appl, of Res	3
ACRS 5396 or AGECE 5396	Analysis of Social Research Data Analysis of Social Research Data	3
Total Hours		9

### Additional Required Courses for Concentrations

#### Agribusiness

<b>Students must choose a Thesis or Non-Thesis Option:</b>		<b>6</b>
AGECE 5088	Thesis	
Non-Thesis: 6 hours of graduate AGECE coursework		
Select 9 Hours From the Following:		9
AGECE 5301	Environmental Issues and Agricultural Policy	
AGECE 5310	Advanced Farm and Ranch Management	
AGECE 5333	Management Practices of Agribusiness	
AGECE 5314	Advanced Agricultural Marketing	
Select 6 hours from the following:		6
ACRS 5302	Leadership for Agri & Consum Res	
ACRS 5311	Info Systems to ACR	
ACRS 5313	Adm & Supv of Career & Tech Ed	
ACRS 5318	Ethical/Env Iss Agri & Con Res	
ACRS 5319	Prof Dev Agri & Consum Res	
ACRS 5320	Prg& Pers Coop TX Agri Ext Ser	
ACRS 5321	Int'l Prog Ag & Cons Resour Ed	
ACRS 5330	Teaching Agriculture at the Postsecondary Level	
ACRS 5340	Methods of Tech Change	
ACRS 5360	Advanced Electronic Field Production for Agricultural Communications	
AGECE 5399	Agricultural and Consumer Resources Capstone	3
AGECE Elective		3
Total Hours		27

#### Leadership

<b>Students must choose a Thesis or Non-Thesis Option:</b>		<b>6</b>
ACRS 5088	Thesis	
Non-Thesis: 6 additional hours of graduate coursework		
ACRS 5399	Agricultural and Consumer Resources Capstone	3
Select 6 hours from the following:		6
ACRS 5302	Leadership for Agri & Consum Res	
ACRS 5311	Info Systems to ACR	
ACRS 5313	Adm & Supv of Career & Tech Ed	
ACRS 5318	Ethical/Env Iss Agri & Con Res	
ACRS 5319	Prof Dev Agri & Consum Res	
ACRS 5320	Prg& Pers Coop TX Agri Ext Ser	
ACRS 5321	Int'l Prog Ag & Cons Resour Ed	
ACRS 5330	Teaching Agriculture at the Postsecondary Level	
ACRS 5340	Methods of Tech Change	
ACRS 5360	Advanced Electronic Field Production for Agricultural Communications	



ACRS 5397	History, Philosophy, & Policy of Agricultural & Extension Education	3
Electives		9
Total Hours		27

### Educator Certification

ACRS 5306	Instruction in Agricultural Mechanics	3
ACRS 5307	Agricultural Education Programs	3
ACRS 5350	Advanced Animal Related Systems	3
ACRS 5310	Programmatic Leadership Development	3
ACRS 5316	Prog Bldg in Career/Tech Ed	3
ACRS 5399	Agricultural and Consumer Resources Capstone	3
ACRS 5397	History, Philosophy, & Policy of Agricultural & Extension Education	3
Electives		6
Total Hours		27

### Graduate Faculty

- Andrew, Chandra Dr.
- Atchley, Wayne Dr.
- Drueckhammer, David Dr.
- Ford, Ted Dr.
- Frazier, David Dr.
- Graham, Sandra Dr.
- Haynes, Chris Dr.
- Langley, Curtis Dr.
- Lovell, Ashley Dr.
- Osei, Edward Dr.
- Poe, Brant Dr.
- Tarpley, Rudy Dr.
- Yu, Mark Dr.

### Courses

#### ACRS 5086. Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).

Studies related to agricultural education, extension, service and development, international programs, and policies affecting agriculture. Prerequisite: Approval of the instructor.

#### ACRS 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).

Scheduled when student is ready to begin the thesis. No credit until thesis is accepted. Prerequisite: Approved research methodology course and consent of major professor.

#### ACRS 5302. Leadership for Agri & Consum Res. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Study and application of leadership theories and styles related to functioning in agricultural and consumer resources leadership positions.

#### ACRS 5306. Instruction in Agricultural Mechanics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Field based applications and methods of teaching agricultural mechanics. This course will emphasize the organization, management, service, and use of equipment in the instruction of agricultural mechanics. Students will also apply research methodology specific to appropriate topics.

#### ACRS 5307. Agricultural Education Programs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A study of the secondary school agricultural education program. Topics include pre-employment, work-based learning, advisory committees, supervised agricultural experience programs, student leadership through FFA, and new program development. Students will also apply research methodology specific to appropriate topics.

#### ACRS 5310. Programmatic Leadership Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Field-based experiences designed to develop leadership ability for teaching, entrepreneurship, and conducting adult and youth organizations. Includes systems of record keeping. Students will also apply research methodology specific to appropriate topics.

#### ACRS 5311. Info Systems to ACR. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Analysis of information systems used in agricultural services and development. A study of the flow of information in and among various components of the agriculture/industry/business sectors.

#### ACRS 5313. Adm & Supv of Career & Tech Ed. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Theories and procedures applicable to the organization, administration, financing, and supervision of career and vocational-technical education in public and post-secondary schools. Prerequisites: Professional experience or approval of the instructor.

#### ACRS 5316. Prog Bldg in Career/Tech Ed. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Organization of educational programs in agriculture and family and consumer sciences on local, state, national and international levels. Prerequisite: Professional experience or approval of the instructor.

#### ACRS 5318. Ethical/Env Iss Agri & Con Res. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Ethical and environmental issues affecting public policy as related to agricultural and consumer resources areas, such as agricultural education, family and consumer sciences' education, AgriLife extension education, agricultural business and industry. Credit for both ANSC 5318 and A ED 518 will not be awarded. Prerequisite: Approval of instructor.

#### ACRS 5319. Prof Dev Agri & Consum Res. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Selected programs in agricultural education, AgriLife extension, service, development, international, or family & consumer sciences programs. Also will serve as state certifying course for cooperative part-time teacher preparation as topic justifies. Prerequisite: Professional experience or approval of instructor. May be repeated for credit.

#### ACRS 5320. Prg & Pers Coop TX Agri Ext Ser. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Enabling legislation, program areas, teaching methods used, staffing patterns, funding, and program administration of the Cooperative Extension Service. Special emphasis on entry-level positions and responsibilities of each.

**ACRS 5321. Int'l Prog Ag & Cons Resour Ed. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The function of international agencies, organizations, foundations, religious groups, and education concerning the improvement of the quality of life for peoples in developing nations through improved, sustained agricultural production and consumer resources understanding and application. Prerequisite: Admission to College of Graduate Studies.

**ACRS 5330. Teaching Agriculture at the Postsecondary Level. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Methods and techniques of teaching agricultural subjects at the college/university level. Topics include course preparation, presentation, evaluation and post-secondary educational philosophy.

**ACRS 5331. Professional Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced discussion of techniques for communicating technical information to diverse audiences. Topics covered will include written and oral communication, using numerous formats. Prerequisite: Graduate standing.

**ACRS 5340. Methods of Tech Change. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Methods of planning and implementing change in agricultural and consumer resources techniques and practices. Special emphasis on the role of the agricultural and family and consumer sciences' change agents and the effects of change on society and the economy. Prerequisite: Approval of the instructor.

**ACRS 5350. Advanced Animal Related Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Specialized feeding, training, and fitting livestock for utilization in the approved agricultural education program. Topics include identifying, selection, and evaluating all aspects of the livestock and stock-show industries. Students will also apply research methodology specific to appropriate topics.

**ACRS 5360. Advanced Electronic Field Production for Agricultural Communications. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course provides advanced experience in agricultural television field production and electronic news gathering. Students will master video production skills such as script writing, storyboarding, camera operation, and video editing in an agricultural setting. Students will act as executive producers working with undergraduates enrolled in ACOM 4350.

**ACRS 5380. Agriculture and Food Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of agriculture and food policy at the state and national levels. Topics include a history of the legislative process, current agricultural issues, and the place of agriculture in the American political system. Graduate students will work in extracurricular policy and commodity groups. Prerequisite: Graduate status.

**ACRS 5385. Intro Seminar Agri & Con Res. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Group study and discussion of current developments in graduate education related to agricultural and consumer resources. Special emphasis given to development and maintenance of professional relationships and responsibilities in conducting a graduate education experience. Prerequisite: Graduate classification.

**ACRS 5390. Advanced Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected topics in agricultural education offered as needed and dependent upon departmental, faculty, and student interest. May be repeated as topics vary.

**ACRS 5396. Analysis of Social Research Data. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide instruction and application in analyzing information specific to social research in agricultural and consumer resources. The students will calculate measures utilized in descriptive, correlational, and differential statistics. Students will also format data, build syntax commands, and interpret output from SPSS programs.

**ACRS 5397. History, Philosophy, & Policy of Agricultural & Extension Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is an investigation in philosophical perspectives that shaped the current theories and practices of agricultural and extension education. Students will research and report on specific historical events, legislation, and pioneers that shaped agricultural and extension education policy.

**ACRS 5398. Philo, Interp, Appl, of Res. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies designed to acquaint students in agricultural research techniques and demonstration related to the classroom, laboratories, work experience, and extension and adult education activities in agricultural programs. Basic concepts concerning interpretation and analysis of research data.

**ACRS 5399. Agricultural and Consumer Resources Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised professional activities in agricultural and consumer resources education/clinical teaching/AgriLife extension/industry/business settings. Emphasis is placed on the student's involvement in successful practices in the area of professional interest. Experience may be on the local, state, national, or international level. May be repeated once for credit. Prerequisite: graduate standing.

## Department of Animal Science

Dr. Frank Owsley, Department Head

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2549689222

owsley@tarleton.edu

[www.tarleton.edu/degrees/masters/ms-animal-science/](http://www.tarleton.edu/degrees/masters/ms-animal-science/) (<http://www.tarleton.edu/degrees/masters/ms-animal-science/>)

### Master of Science in Animal Science

This degree is intended for those who have completed a Bachelor of Science degree in animal science, agricultural, or natural resource related fields. Those with an undergraduate degree in an unrelated field may be considered for admission with approval of a faculty mentor within the department. Undergraduate leveling courses may be required.

Acceptance into the program requires acceptance into the College of Graduate Studies, a minimum of 3.0 undergraduate GPA, and acceptance by a graduate faculty mentor within the department. Conditional acceptance may be granted for students with a GPA less than 3.0 but greater than 2.7. Once accepted, students must maintain a GPA of 3.0 or higher to remain in good standing. For assistance in identifying a faculty mentor and for a required departmental application, contact the Department of Animal Science.

There are two available options within the Master of Science in Animal Science: the research (thesis) track, and professional (non-thesis) track. Both tracks require the student to acquire a graduate faculty committee for advice and guidance through the completion of the MS degree. Both tracks require 36 graduate credit hours. Students in the thesis option will conduct original research and take 6 hours of thesis credit. Students in the professional option will design, implement and complete an independent project and take 6 hours of applied project credits. All students will take an additional 30 hours of coursework, which is flexible to allow the student to meet their individual needs within a subject area and animal species. At the completion of their graduate coursework and project (thesis or applied project), students must complete an oral comprehensive exam and a defense of their project.

### Master of Science in Animal Science

#### Required Courses

ANSC 5185	Animal Science Seminar (Three semesters required for a total of 3 SCH)	1
Total Hours		3

**Additional Required Courses for Concentrations****Animal Science - Thesis**

ANSC 5088	Thesis	6
ANSC 5301	Experimental Design in Agriculture	3
Experimental Design and Statistical Analysis (choose one of the following):		3
ACRS 5396	Analysis of Social Research Data	
BIOL 5398	Research Design and Analysis	
WSES 5360	Research Methods for Agricultural and Natural Resource Scientists	
Electives - 5000 level (must be approved by student's committee)		15
ANSC 5000 level electives (must be approved by student's committee)		6
Total Hours		33

**Animal Science - Professional**

ANSC 5048	Animal Science Applied Project	6
Experimental Design and Statistical Analysis (choose one of the following):		3
ANSC 5301	Experimental Design in Agriculture	
ACRS 5396	Analysis of Social Research Data	
BIOL 5398	Research Design and Analysis	
WSES 5360	Research Methods for Agricultural and Natural Resource Scientists	
Electives - 5000 level (must be approved by student's committee)		18
ANSC 5000 level electives (must be approved by student's committee)		6
Total Hours		33

**Graduate Faculty**

- Cassens, Drew Dr.
- Guay, Kimberly Dr.
- Jones, Trinette Dr.
- Jones, Barbara Dr.
- Kinman, Lea Dr.
- Lambert, Barry Dr.
- Owsley, Frank Dr.
- Roper, David Dr.
- Rosiere, Randall Dr.
- Runyan, Cheyenne Dr.
- Smith, Brandon Dr.
- Waddell, Jolena Dr.

**Courses****ANSC 5048. Animal Science Applied Project. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Design, implement, and complete an independent project; integrate the knowledge and skills learned in the program; advance the application of scientific principles. Written report and oral communication of the results.

**ANSC 5086. Animal Science Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Advanced studies in animal science problems and procedures. Problems assigned according to experience, interest, and needs of individual student.

**ANSC 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to complete the thesis. No credit until the thesis is completed. Prerequisite: Approved research methodology course and approval of the instructor of record.

**ANSC 5090. Special Topics in Animal Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Selected topics in Animal Sciences offered as needed and dependant upon departmental, faculty, and student interests. May be repeated as topics vary. Instructor approval required prior to registration.

**ANSC 5185. Animal Science Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Graduate seminar with content varying according to student and curricular needs. May be repeated for a total of three credit hours. Prerequisite: Graduate classification.

**ANSC 5301. Experimental Design in Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Common and anomalous designs encountered in conduct of research in the agricultural and environmental sciences. Proper analysis of these designs and common pitfalls in experimental design. Students are expected to enter with a cursory knowledge of introductory statistics.

**ANSC 5302. Forage Biology and Physiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Biology of forage growth, metabolic pathways of the plant, and physiological response to stressors that contribute to pasture management.

**ANSC 5303. Rumen Microbiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Scientific and practical evaluation of the rumen microbiome, with emphasis on functional classes and substrate preferences, and its impact on animal nutrition and performance.

**ANSC 5304. Ruminant Nutrition. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Survey of current knowledge and concepts in ruminant physiology and biochemistry, their literature and experimental basis and relation to current and future practice and investigation. Prerequisites: ANSC 4306 and graduate classification.

**ANSC 5306. Assisted Breeding Technology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theory and practice of assisted breeding technology in modern breeding programs for farm livestock and other animal species.

**ANSC 5308. Measuring Animal Behavior. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced course in the principles and methods of quantitative studies of behavior, with an emphasis on techniques of observation, recording, and analysis.

**ANSC 5309. Assessing the Welfare of Livestock and Poultry. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Basic components of animal welfare assessments, review of current industry assessment tools and animal welfare audits. Prerequisite: Graduate status.

**ANSC 5314. Food Quality Assurance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The basis behind food quality control/assurance is discussed along with its application to various food systems to control and improve the quality and safety of our food supply. Credit will not be awarded for ANSC 4341 and ANSC 5314. Lab fee: \$2.

**ANSC 5315. Animal Growth and Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the processes related to animal growth. Emphasis on cellular changes allowing for muscle, bone and adipose tissue growth as well as the role and functions of hormones related to development and age-related adaptation. Composition of muscle, bone, and adipose tissue in market animals will be discussed. Prerequisites: AGRI 1319 and approval of instructor.

**ANSC 5316. Grant Writing and Funding Acquisition. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course in terminology and processes associated with grant writing and the acquisitions of research funds.

**ANSC 5318. Ethical/Environmental Issues in Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Ethical and environmental issues affecting public policy as related to agrieducation/industry/business. Credit for both ANSC 5218 and AGCR 5318 will not be awarded. Prerequisites: Approval of instructor.

**ANSC 5319. Biotechnology in Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of modern biotechnology in agriculture today. This course will explore important advancements and tools in fields such as genetics, agronomy, and bioinformatics. It will also examine the legal constraints and ethical debates that surround these technologies. Credit will not be awarded for both ANSC 4319 and ANSC 5319.

**ANSC 5325. Equine Exercise Physiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies of the influence of training and conditioning on muscle physiology, cardiovascular physiology, the biomechanics of locomotion, and energy utilization. Fundamental rehabilitation and treatment of sports injuries. Students can not receive credit for both ANSC 3325 and ANSC 5325. Prerequisite: Instructor approval.

**ANSC 5328. Environmental Physiology of Farm Animals. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Environmental influence on biological rhythms; body temperature regulation; heat sources and conserving mechanisms; feed intake, behavior, growth and development and reproduction in farm animals. Credit given for only ANSC 5328 OR ANSC 4308. Prerequisite: Graduate classification.

**ANSC 5338. Value-Added Processed Meats. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The application of scientific principles and practices to further processed meat products. Interrelationships among tissue characteristics, ingredients, handling practices, processing technologies and storage conditions as they affect the quality, safety, and stability of muscle foods.

**ANSC 5350. Laboratory Methods in Animal Research. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Skill development in laboratory techniques and analysis related to animal science research. Application of live animal data collection. Introduction to institutional animal care and use protocols and ethical use of animals in research. Prerequisites: Graduate standing; instructor approval. Lab fee: \$2.

**ANSC 5355. Animal Metabolism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is structured to provide an overview of various regulatory mechanisms of metabolism and changes due to exercise, stress, pregnancy, nutrient imbalance, disease and toxic effects. Prerequisites: Graduate standing; 3 hours of animal or human nutrition AND 3 hours of anatomy and physiology OR department head approval.

**ANSC 5356. Non-Ruminant Nutrition. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced course in nutritional science focusing in advanced topics in integrated nutrient metabolism; advanced digestive physiology, nutritional requirements and nutritional imbalances and subsequent disease states in non-ruminant animals. Prior coursework in metabolism or biochemistry is recommended.

**ANSC 5360. Lactation Physiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Systematic overview of lactation physiology using dairy cattle as the main model. Course topics will include mammary gland anatomy, milk secretion, mammary gland development and disease impacts. Prerequisites: Graduate standing.

**ANSC 5380. Research and Writing for Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Preparation of writing samples, technical reviews, and/or professional manuscripts related to various topics in agriculture. Prerequisites: Approved research methodology course and approval of instructor of record.

**ANSC 5399. Internship. 3 Credit Hours (Lecture: 1 Hour, Lab: 8 Hours).**

Prepared and supervised work experience in an Animal Science-related position with a public or private business organization. May be repeated for a total of 6 hours credit. Prerequisite: Approval of the student's graduate committee. Field experience fee \$50.

## Department of Wildlife and Natural Resources

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### Master of Science in Agricultural & Natural Resources

This degree is intended for those who have completed a Bachelor of Science degree in agricultural or natural resource related fields. Those with an undergraduate degree in an unrelated field may be considered for admission with approval of a faculty mentor within the department; undergraduate leveling courses may be required. This degree may be attractive to certain students who desire advanced course work to further qualify for certain types of public or agency employment or to enhance advancement opportunities in their present employment. It may also offer a major advantage for students who plan further graduate study at the PhD level.

Acceptance into the program requires acceptance into the College of Graduate Studies, a minimum of 2.5 undergraduate GPA, and acceptance by a graduate faculty mentor within the department. For assistance in identifying a faculty mentor, contact the Department of Wildlife and Natural Resources. Once accepted, students must maintain a GPA of 3.0 or higher to remain in good standing.

There are two available options within the Master of Science in Agricultural and Natural Resources program: the research (thesis) track, and professional (non-thesis) track. The option chosen depends on academic and career goals of the student. Either option requires the student to acquire a graduate faculty committee for advice and guidance through the completion of the MS degree. To graduate, students must complete 36 graduate credit hours as prescribed by the committee and pass a comprehensive examination.

The research track is intended for those who may pursue a doctoral degree in the future, or are interested in a career path that prefers knowledge of the research process. This track involves conducting an original research project under the direction of a graduate faculty member and the preparation of a thesis in addition to course work. Because of the research requirement, 6 of the 36 credit hours may be taken as thesis hours. Students are required to defend their research and complete a comprehensive oral examination.

The MS professional track students are held to the same academic standards as thesis track students, but take additional coursework in lieu of an original research project. Experiential learning activities such as an internship or teaching practicum may be required. The comprehensive examination for the professional track is a written examination administered by the graduate committee and may include an oral examination as a follow-up.

## Master of Science in Agricultural and Natural Resource Sciences

### Required Courses

WSES 5302	Natural Resource Ecology	3
WSES 5380	Research Writing for Agricultural and Environmental Science	3
WSES 5360	Research Methods for Agricultural and Natural Resource Scientists	3
WSES 5085	Seminar	1-3
Total Hours		12

### Additional Required Courses for Concentrations

#### Professional

WSES 5084	Professional Practice	3
12 Hours of WSES 5XXX (excluding WSES 5087 and WSES 5088)		12
Graduate-level electives approved by the student's graduate committee		9
Total Hours		24

#### Research

WSES 5301	Principles of Research in the Natural Resource Sciences	3
WSES 5088	Thesis	6
Quantitative analysis courses approved by thesis committee (choose one):		3
BIOL 5398	Research Design and Analysis	
ANSC 5301	Experimental Design in Agriculture	
ACRS 5396	Analysis of Social Research Data	
Or other approved quantitative analysis course		
9 Hours of WSES 5XXX <sup>1</sup>		9
Graduate-level electives approved by the student's graduate committee		3
Total Hours		24

<sup>1</sup> No more than 6 hours of WSES 5087 may count toward the MS degree.

### Graduate Faculty

- Breeden, Jeff Dr.
- Cummings, Hennen Dr.
- Dottavio, F. Dominic Dr.
- Kafley, Hemanta Dr.
- Mathewson, Heather Dr.
- McGahan, Donald Dr.
- Mitchell, Adam Dr.
- Muir, James Dr.
- Murray, Darrel Dr.
- Schwertner, T. Wayne Dr.

### Courses

#### WSES 5084. Professional Practice. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).

This supervised professional practice will involve the student in practical activities in the agricultural or natural resource sciences. The experience is tailored to the student's interests, and academic and career goals. Experience may include teaching, independent research, internship, or other applied learning experience. May be repeated once for credit. Prerequisite: Graduate standing.

#### WSES 5085. Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).

A graduate seminar with content varying according to the needs and experiences of students and the instructor of record. May be repeated as content varies. Prerequisites: Graduate standing.

#### WSES 5086. Problems in Natural Resource Sciences. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).

Advanced studies in wildlife, sustainability, ecosystem sciences, and the natural resources. Problems assigned according to experience, interest, and needs of the individual student. May be repeated for credit as topics vary.

#### WSES 5087. Research. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).

Graduate students conduct original research on a variety of topics in the natural resource sciences toward a graduate thesis. Designed for students who will be conducting field research away from the Stephenville campus. Prerequisites: Graduate standing.

#### WSES 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 1-6 Hours).

Scheduled when the student is ready to begin the thesis. No credit until the thesis is completed. Prerequisites: Approved research methodology course and approval of instructor of record.

#### WSES 5090. Special Topics in the Natural Resource Sciences. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).

Selected topics in wildlife, sustainability, ecosystem science, or the natural resources as needed and dependent upon department, faculty, and student interests. May be repeated as topics vary. Prerequisite: Approval of the instructor.

#### WSES 5301. Principles of Research in the Natural Resource Sciences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course is a thorough treatment of the philosophy of science as it applies to the ecological, environmental, and natural resource sciences. Starting from the historical foundations of science, students will become familiar with the logical underpinnings of ecological research, including epistemology, the nature of theory, hypothesis testing, and the logic of study design. This course will provide students with a logical understanding of the scientific process, prior to enrollment in more quantitative treatments of study design and data analysis. Students will be required to prepare a complete research proposal in the course. Prerequisite: graduate classification.

**WSES 5302. Natural Resource Ecology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced relationships of ecological principles to natural resource, wildlife, and range conservation and management. Ecology's historical context; evolution; the niche; intraspecific and interspecific competition; vegetation succession; predator-prey dynamics; and spatial ecology. Previous course work in ecology highly recommended.

**WSES 5303. Graduate Field Studies in Ecology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students explore various facets of ecology during extended field trips to various locations in Texas and the other United States. Topics may vary depending upon location. May be repeated for credit when topics vary. This course requires an extended field trip at the student's expense (in addition to the field experience fee). Prerequisite: graduate classification, and enrollment by permit only and with approval of the instructor.

**WSES 5304. Wildlife-Habitat Relationships. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced study of habitat and wildlife-habitat interactions. This is a graduate level class for individuals with a basic understanding of ecological and wildlife management concepts. Involves review and discussion of important articles on this subject. Includes advanced discussion of concepts such as plant succession, niche, carrying capacity, habitat measurements, and habitat management. Students will learn how habitat and succession may be manipulated to best manage wildlife populations; also how browsers and grazers may affect their habitats. Prerequisites: graduate standing.

**WSES 5305. Cross-cultural Natural Resource Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Designed to expand the student's understanding of natural resource management in cross-cultural settings. Prepare students in social science, agricultural, environmental, or wildlife management for careers or assignments in and outside the USA that require multi-cultural understanding. Facilitate the student's adaptation of management skills and knowledge in diverse natural, legal and cultural settings. Content and assignments are flexible so the student can focus on the natural resource and culture of greatest interest. Prerequisites: Graduate standing.

**WSES 5306. Fire Ecology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course will address the ecological role of fire in natural systems, rangelands, including grasslands, shrublands, woodlands, and forests; adaptations of plants and animals to fire; long-term controls on wild fire; use of fire as an ecosystem management tool, with aspects of wildland firefighting; and prescribed burning, including fire behavior, fuels, weather, politics and policy. Students will gain hands-on prescribed burning experiences as circumstances and weather permit. Lab fee: \$2.

**WSES 5307. Global Natural Resource Issues. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Exploration of the environmental, political, social, and economic factors affecting the use, management, and protection of natural resources worldwide. Impacts of colonization, migration, international development, globalization, energy use, tourism, climate change, and various political systems on natural resource use and management will be analyzed and debated. On-going class discussions to integrate and contextualize research on international natural resource issues. Prerequisites: Graduate standing.

**WSES 5308. Measuring Animal Behavior. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced course in the principles and methods of quantitative studies of behavior, with an emphasis on techniques of observation, recording, and analysis.

**WSES 5309. Plant-Animal Interactions. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Plant-animal and animal-plant interactions are the basis for many ecosystem functions. This course tailors the study of those interactions to student interests from insects to ungulates, aquatic to terrestrial, managed to natural systems, and individual species to ecosystems. Prerequisite: Graduate classification.

**WSES 5310. Presentation of Scientific Findings. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to teach graduate students in the natural resource sciences and allied fields the principles and practices of presenting the results of scientific research. Course focus will be on preparing and delivering oral research presentations and research posters; and the preparation, submission, and publication of scientific journal articles, technical bulletins, and research reports. Prerequisite: Admission into the Research Track of the MS Program in Agricultural and Natural Resource Sciences and a grade of B or better in BIOL 5380, or approval of the Department Head.

**WSES 5311. Integrated Pest Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced study of the principles of integrated pest management emphasizing the ecologically sound use of chemical, biological, cultural, and physical control tactics to manage pests. Students will concentrate on one or few commodities, of their choice, and develop a detailed best management plan. Prerequisites: Graduate standing or approval of the instructor.

**WSES 5313. Vegetation Measurement, Inventory, and Monitoring. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Advanced vegetation sampling, measurement, monitoring, inventory, study design, and quantitative and statistical analysis. Assessment of range condition and forest health based on understanding ecological processes. Hands-on, field-based laboratory.

**WSES 5314. Veterinary Entomology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced studies in the classification, biology, and management of arthropods associated with livestock and wildlife systems. Emphasis will be placed on arthropod vectors of pathogens and their role in the epidemiology and management of disease. Prerequisites: Graduate classification or approval of the instructor.

**WSES 5315. Taxonomy of Veterinary Arthropods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advance study of the taxonomy and identification of arthropods affecting wildlife and domesticated animals. Students will utilize various collecting techniques and dichotomous keys to obtain and identify arthropods associated with wildlife and domesticated animals.

**WSES 5316. Grant Writing and Funding Acquisition. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course in terminology and processes associated with grant writing and the acquisitions of research funds.

**WSES 5317. Population Ecology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Advanced course in population biology, including theoretical and analytical applications focused on demographic rates, population growth, predator-prey relationships, and competition.

**WSES 5320. Advanced Topics in Ecosystem Biogeochemistry. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Multidisciplinary analysis of energy and nutrient transfers within terrestrial ecosystems. Examination of processes system interactions between the atmosphere, biosphere, lithosphere, and hydrosphere.

**WSES 5331. Professional Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced discussion of techniques for communicating technical information to diverse audiences. Topics covered will include written and oral communication, using numerous formats. Prerequisite: Graduate standing.

**WSES 5341. Southern African Ecology and Culture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Ecology of southern Africa, including climate, soils, vegetation, and wildlife. Ecological interactions with development, agriculture, and tourism. Identification and ecology of bird and large mammal species. Conservation of rare, threatened, and endangered species. Culture, politics, and history from the pre-Colonial Period through today, with emphasis a focus on their effects on wildlife and ecosystem management of natural resources. Focuses mainly on South Africa, Botswana, Zambia, and Namibia.

**WSES 5342. Study Abroad. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Conducted at various domestic and international locations for extended periods (frequently outside the United States). Hands-on activities and experiences in agriculture and natural resources. Topics will vary. Enrollment in this course requires a significant study abroad program fee.

**WSES 5350. Pedology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics selected from studies of soil-forming processes, soil-geomorphic relations, mineral weathering, new developments in soil classification, and development of pedologic theory. Topics vary from year to year. May be repeated one time for credit.

**WSES 5360. Research Methods for Agricultural and Natural Resource Scientists. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Research design, database management, application and evaluation of statistics and statistical modeling approaches, inferences, and presentation of results. Introduction to programming language for statistical computing and graphics. Applicable to students interested in research at the individual or population level, such as observational, behavioral, or experimental studies conducted in the field or laboratory. Basic understanding of statistical analyses strongly recommended.

**WSES 5380. Research Writing for Agricultural and Environmental Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Preparation of writing samples, technical reviews, and/or professional manuscripts related to various topics in agriculture or environmental sciences.

**WSES 5405. Ecological Modeling for Natural Resource Management. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An advanced course in the use of computer simulations to model and analyze ecological systems. Based on a firm foundation of system theory, the course addresses the conceptual design, building, evaluation, and testing of simulation models; and the use of models to answer ecological questions. Prerequisites: graduate classification.

**WSES 5410. Genomics. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Technological advancements in DNA sequencing are producing a much more complete picture of how diverse, ubiquitous, and important microbes are in all living systems. This course will provide students with an overview of the roles that microbes play in human health, agricultural production, and ecosystem functionality. A laboratory component will include massively parallel DNA sequencing and microbial community analysis of niche environments utilizing millions of DNA sequence tags. Prerequisite: BIOL 3407 or equivalent. Lab fee: \$2.

## Business

### Graduate Degree Programs

Graduate degree programs offered in the College of Business (COB) are the Master of Business Administration (MBA), Master of Science in Information Systems (MS IS), Master of Science in Human Resource Management (MS HRM), Master of Science in Management (MS-M), and Master of Accounting (MAcc). The MBA is available in Fort Worth and Online. The MS IS, MS HRM, and the MS-M are offered online only. The MAcc is offered in Stephenville, Waco, and Fort Worth.

### Program Administration

Policies for graduate programs in the College of Business (COB) are developed by the COB Dean, the Dean of the College of Graduate Studies, and the Graduate Council. The Dean of the College of Business is responsible for maintaining consistent policies and standards governing graduate programs in business. Direct authority for administering the programs rests with the following administrative units:

- Department of Accounting, Finance and Economics (<https://www.tarleton.edu/cob/departments/accounting-finance-economics.html>)
  - Master of Accounting (MAcc) (<https://www.tarleton.edu/degrees/masters/ma-accounting/>)
- Department of Management (<https://www.tarleton.edu/cob/departments/management.html>)
  - MBA (<https://www.tarleton.edu/degrees/masters/mba-business-administration/>)
  - MS-Human Resource Management (<https://www.tarleton.edu/degrees/masters/ms-human-resources-management/>)
  - MS-Management (<https://www.tarleton.edu/degrees/masters/ms-management/>)
- Department of Marketing and Computer Information Systems (<https://www.tarleton.edu/cob/departments/marketing-and-computer-information-systems.html>)
  - MS Information Systems (<https://www.tarleton.edu/degrees/masters/ms-information-systems/>)

All questions of policies, appeals, and petitions regarding the operation of graduate programs in business should be directed to the Dean of the College of Business and submitted through the appropriate COB department head.

### Admission Requirements

To be granted admission, the applicant must have a bachelor's degree from a regionally accredited US institution or the equivalent from a foreign institution with a grade point average of at least 2.5 on the last 60 hours of credit completed. The applicant must also have submitted GMAT or GRE scores, if required, and have satisfied applicable program prerequisites. The applicant will be notified of program prerequisites (leveling requirements), if any, soon after he/she is admitted to the College of Graduate Studies.

### Accelerated Program

The MS-IS includes an accelerated option, allowing undergraduate students to begin their graduate studies early and shortening their time to graduation. Students that meet the following requirements to pursue this option:

- Students must apply and be conditionally accepted by the College of Graduate Studies and be accepted into the MS-IS program
- Must be within 12 hours of obtaining their Tarleton State University degree in BAAS-IT, BBA-MIS, or BS-CIS
- Must have a GPA of 3.0 or higher overall or during the last 60 hours

In their final semester, students will take BCIS 5311 plus an additional BCIS graduate elective, to serve as undergraduate electives. Students are encouraged to consider this option early in their programs and to work closely with COB Academic Advisers and the COB Graduate Manager to take advantage of this option.

### Transfer Credit

Upon recommendation of the academic advisor and department head and with approval of the Dean of the College of Graduate Studies, a student may transfer up to 12 hours of graduate work completed at another regionally accredited institution. For programs that require a comprehensive examination, students should complete core courses at Tarleton.

Course work in which no formal grade is given (for example, CR, P, S, U, etc.) is not accepted for transfer credit. Credit for course work submitted for transfer from any college or university must be shown in semester credit hours or equated to semester credit hours. No academic work completed by correspondence may be applied to graduate degree programs.

### GPA Requirements

Graduate students are expected to maintain a minimum GPA of 3.0 at all times. Should a student earn a grade below C in a graduate course or fall below an overall GPA of 3.0, that student may be placed in a conditional enrollment status and may be advised to repeat a course, reduce course load, or take other corrective action to remove the deficiency. For more information, see the section on Graduate Student Performance in the general information provided by the College of Graduate Studies.

### Research Requirement

The MS IS degree is a 36-hour non-thesis program. The MBA, MS HRM, and MAcc degrees are 30-hour non-thesis programs. The MS-M program ranges from 30-36 hours depending on the concentration. Research is required as a part of graduate course work, but a separate thesis is not a degree requirement. The MS-IS, MBA, and MS-HRM do include a thesis option. Students interested in pursuing a doctorate should consider this option and consult with the COB Graduate Adviser for more information.

## Department of Accounting, Finance, and Economics

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 Business Building, Room 125  
 Box T-0920  
 Stephenville, Texas 76402  
 (254) 968-9331  
 (254) 968-9665  
 dwatson@tarleton.edu  
 www.tarleton.edu/afe (<http://www.tarleton.edu/afe/>)

Although all departments in the College of Business collaborate on the Masters of Business Administration (MBA) degree, the Department of Accounting, Finance, and Economics also offers the Master of Accounting (MAcc) degree. For those students preparing to become certified public accountants, the Public Accountancy Act of 1991 requires that applicants must have completed at least a baccalaureate degree and not fewer than 150 semester credit hours of recognized courses. Courses included in the BBA program in Accounting are accepted toward this requirement. The BBA in Accounting will count 120 of the 150 hours required to sit for the exam. For the remainder of the 150 semester hours, students may complete the MAcc or MBA degree as described in the graduate section of the catalog. Students with a baccalaureate degree in Accounting will be able to complete the MAcc with the remaining 30 semester credit hours.

- MAcc (<https://www.tarleton.edu/degrees/masters/ma-accounting/>)

### Mission:

Designed to prepare students for professional careers in the public, private, or governmental sector. As part of this objective the program is designed to provide the educational background to become a Certified Public Accountant or to attain other professional certifications such as Certified Management Accountant, Chartered Global Management Accountant, and Certified Fraud Examiner.

### Location(s)/Modality Offered:

The MAcc program is offered in Stephenville, Waco, and the Southwest Metroplex (Fort Worth) campus. See the Academic Advising Guides for further details. See the Academic Advising Guides for further details.

- Academic Advising Guides ([http://catalog.tarleton.edu/advising\\_guides/](http://catalog.tarleton.edu/advising_guides/))

### Requirements:

To pursue this degree, students are required to hold a baccalaureate degree and obtain acceptance to the College of Graduate Studies at Tarleton. Students will need reliable internet access, basic computer skills, ample time to dedicate to completing the required course content, and the desire to complete an advanced degree that can provide opportunities for career advancement.

After an MAcc applicant is admitted to the College of Graduate Studies, his/her transcript, application, essay, and test scores (if applicable) will be evaluated by the COB Graduate Manager. The advisor evaluates the student's educational background to determine what leveling requirements or program prerequisites may be needed. Leveling requirements will be determined on a case-by-case basis and may be satisfied by taking graduate leveling courses or through other appropriate means.

A student whose undergraduate degree was not in accounting may be required to take up to nine hours of graduate leveling courses (which are not counted toward the 30 hours required for the degree) to be prepared for successful graduate study in business. All required leveling courses must be completed within the first 12 hours of course work and before any other courses in that discipline.

Before a student completes 12 hours of graduate credit in the MAcc program, the student should contact the COB Graduate Manager and request that an official degree plan be prepared. The student may petition for changes in this degree plan at a later date, but these changes must be approved by the COB Graduate Manager and the Dean of the College of Graduate Studies.

See the MAcc Graduate Handbook ([https://www.tarleton.edu/degrees/masters/ma-accounting/Documents/TarletonMAcc\\_Handbook\\_20190108.pdf](https://www.tarleton.edu/degrees/masters/ma-accounting/Documents/TarletonMAcc_Handbook_20190108.pdf)) for further details.

## Master of Accounting in Accounting

### Required Courses

ACCT 5304	Advanced Financial Accounting	3
ACCT 5306	Federal Income Tax II	3
ACCT 5307	Governmental and Not-for-Profit Accounting	3
ACCT 5323	Business & Professional Ethics for Accountants	3
ACCT 5324	Auditing and Professional Responsibility	3
ACCT 5335	Analysis of Financial Statement Information	3
or FINC 5335	Analysis of Financial Statements	
ACCT 5357	Accounting Theory	3
BUSI 5397	Evidence Based Decision Making	3
or ECON 5311	Econometrics and Forecasting	
Choose 6 hours from the following COBA subjects (must be 5000 level courses): ACCT, BCIS, BLAW, BUSI, COBA, ECON, FINC, MGMT, MKTG		6
Total Hours		30

### Professors

- Jafri, Dr. Hussain
- Sankar, Dr. Sundarajan
- Thomas, Dr. Charles (Chuck)

### Associate professors

- Bauer, Dr. Keldon
- Blythe, Dr. Stephen
- Esqueda, Dr. Omar
- Goodpasture, Dr. James
- Leach, Mr. Judd
- Post, Mr. Kyle



- Rogers, Dr. Nina
- Schieck, Ms. Ashley
- Watson, Dr. Derrill
- Young, Dr. Arthur

### Assistant professors

- Atchley, Dr. Curtis W.
- Gordey, Ms. Laura
- Katuwal, Dr. Hari
- Pradhan, Dr. Debjeet
- Tanter, Mr. Alex
- Varnell, Ms. Karen

### Instructor

- Adams, Mr. Mark
- Puhl, Mr. Daniel

### Professor Emeritus

- Collier, Dr. Boyd

### Accounting Courses

#### ACCT 5086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).

This course offers students the opportunity to become acquainted with current research being conducted within the student's area of interest; directed reading of a number of sources selected in concert by the student's professor. Prerequisite: Approval of department head.

#### ACCT 5300. Foundations of Financial Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

An interdisciplinary course that examines principles of accounting, economics and finance as applied to the contemporary business organization operating in a global market place. Focuses on integration of theory and practice to develop framework for measuring, analyzing, and improving financial performance.

#### ACCT 5301. Financial Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A study of financial statement analysis and accounting topics related to financial statement presentation and disclosure. Prerequisite: Mastery of intermediate financial accounting or department head approval.

#### ACCT 5302. Cost Analysis & Control. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A study of management control systems, profit performance, standard and direct costing, investment Control, and long-range planning. Students who have successfully completed ACCT 3302 cannot receive credit for this course. Prerequisite: ACCT 5101.

#### ACCT 5303. Accounting Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A study of accounting as related to problems of making business and economic decisions. Includes both financial and managerial accounting. Readings, problems, and cases requiring use of accounting data. Prerequisite: COBA 5101, or equivalent, or department head approval.

#### ACCT 5304. Advanced Financial Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

An intensive study of theory and practices related to advanced financial accounting topics pertaining to partnerships, joint ventures, consignments, installment sales, insolvent concerns, and business combinations. Students who have successfully completed ACCT 4303 cannot receive credit for this course. Prerequisite: ACCT 5101, Intermediate (Financial) Accounting courses, or Department Head approval.

#### ACCT 5305. Federal Tax Accounting I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

General concepts of federal income taxation applicable to individuals and business entities. Students who have successfully completed ACCT 4305 cannot receive credit for this course. Prerequisite: COBA 5101 or equivalent.

#### ACCT 5306. Federal Income Tax II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Survey of federal income tax laws applicable to corporations, partnerships and S-corporations, and fiduciary relationships. Students who have successfully completed ACCT 4306 cannot receive credit for this course.

#### ACCT 5307. Governmental and Not-for-Profit Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A course specialized in financial accounting related to state and local governments and governmental agencies, and not-for-profit organizations. Students who have successfully completed ACCT 3305 cannot receive credit for this course. Credit for both ACCT 3305 and ACCT 5307 will not be permitted by the College of Business Administration (the topics covered in these two courses are equivalent from a Texas State Board of Public Accounting standpoint). Leveling coursework may be required prior to enrollment into this course. Prerequisite: COBA 5101 or equivalent or department head approval.

#### ACCT 5309. International Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Examination of international accounting within the context of managing multinational enterprises (MNEs). The course will address different countries' accounting issues and International Accounting Standards by IFRIS. Prerequisites: COBA 5101 and Intermediate (Financial) Accounting courses or approval by the department head.

#### ACCT 5310. Information Systems in Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

An in-depth study of the application of information systems knowledge to the accounting environment. Emphasis is on developing an understanding the processing of accounting data in a computer environment and the controls necessary to assure accuracy and reliability of the data being processed. Students who have successfully completed ACCT 3310 cannot receive credit for this course. Prerequisite: Mastery of intermediate financial accounting or department head approval.

#### ACCT 5311. Managing Information Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Studies the management and use of information and technology as a resource to create competitive businesses, manage global operations, provide useful products and quality services to customers, whether public or private. Examines information systems management, intellectual property, privacy, organizational and societal impact, legal issues, ethics, security issues, decision making, strategic information systems, and management and organizational support systems. Prerequisites: BCIS 5301 or approval of department head.

#### ACCT 5315. Estate and Gift Tax. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course is intended to provide students with a general understanding of the fundamental principles of the United States estate and gift tax system. Students will (i) learn basic principles and concepts of estate planning, (ii) learn the theoretical basis of the U.S. approach to estate and gift taxation and (iii) gain detailed knowledge of estate and gift tax issues. In addition, the course will prepare students to anticipate, recognize, and manage various issues that arise in the transfer tax system.

#### ACCT 5323. Business & Professional Ethics for Accountants. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Examination of moral and ethical issues within the accounting profession and the broader business environment. Along with a general study of ethical behavior and decision making, various professional codes of conduct within the accounting profession will be examined with emphasis on accountants' integrity, independence and objectivity, and legal liability. Students who have successfully completed ACCT 4323 cannot receive credit for this course. Credit for both ACCT 4323 and ACCT 5323 will not be awarded. Prerequisite: Mastery of intermediate financial accounting or department head approval.

**ACCT 5324. Auditing and Professional Responsibility. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of financial auditing standards and procedures. Theory and practice are combined to enable the student to better understand how audits are conducted and to prepare students for the CPA examination. Students who have successfully completed ACCT 4324 cannot receive credit for this course. Credit for both ACCT 4324 and ACCT 5324 will not be permitted by the College of Business Administration (the topics covered in these two courses are equivalent from a Texas State Board of Public Accounting standpoint). Leveling coursework may be required prior to enrollment into this course. Prerequisite: Mastery of intermediate financial accounting or department head approval.

**ACCT 5325. Forensic Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will cover: types of fraud schemes; how fraud is detected and investigated; legal aspects of fraud; and how to prevent fraud in the workplace. Prerequisite: ACCT 5324.

**ACCT 5330. Advanced Managerial Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced course in managerial accounting: planning, analysis, and control. Develops the role of accountants as financial managers and members of firms' strategic management teams. Topics include developing cost estimates for managers' decision-making, measuring and reporting performance, capital budgeting, and management control systems in complex organizations. Prerequisite: Cost Accounting (ACCT 5302) or approval of department head.

**ACCT 5335. Analysis of Financial Statement Information. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of financial statement analysis and accounting topics related to financial statement presentation and disclosure. Prerequisite: Mastery of intermediate financial accounting or department head approval.

**ACCT 5357. Accounting Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A systematic study of generally accepted accounting principles and rules that govern the practical application of accounting methods. Prerequisites: Mastery of intermediate financial accounting or department head approval, ACCT 5302 or equivalent, and ACCT 5323 or equivalent. ACCT 5302 and/or ACCT 5323 may be completed concurrently with this course.

**ACCT 5384. Accounting Internship. 3 Credit Hours (Lecture: 0 Hours, Lab: 20 Hours).**

Directed real-world learning experience under the supervision of a practicing professional accountant. The internship assignment must be approved by an accounting internship advisor prior to enrollment. The internship must be related to the student's field of study and requires at least 320 hours of supervised work in total, including at least 160 during the semester term. Student maintains a diary of work experience gained and, at semester-end, prepares a written paper reflecting on the work experience. Student also provides to accounting internship advisor the employer's evaluation of performance and maintains records of all the listed documentation. No credit will be given for previous experience or activities. Prerequisite: Must have completed at least 15 graduate credit hours with at least a 3.0 GPA for all attempted course work toward the master's degree.

**ACCT 5385. Accounting Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected accounting topics of current importance to business management. May be repeated once for credit when topics vary.

**ACCT 5390. Selected Topics in Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of different financial, managerial, governmental, and not-for-profit topics in Accounting. The course may be repeated for credit as the topic changes. Prerequisite: Mastery of intermediate financial accounting or department head approval.

**Economics Courses****ECON 5086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 2-6 Hours).**

This course offers students the opportunity to become acquainted with current research being conducted within the student's area of interest; directed reading of a number of sources selected in concert by the student's professor. Prerequisite: Approval of department head.

**ECON 5308. Managerial Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Applies economic theory and methodology to business and administrative decision-making. The tools of economic analysis are demonstrated and their use in formulating business policies is explained. Topics include concepts of profits, production and cost functions, demand theory, competitive pricing policies, and business criteria for investment output and marketing decisions. Prerequisite: Approval of MBA Director.

**ECON 5311. Econometrics and Forecasting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Econometrics is the science of using statistics to estimate economic relationships, test economic theories, and evaluate the impacts of government and business policies. Econometrics is also used to forecast or predict how macroeconomics variables, stock prices and other time-varying economic indicators behave. It is used not only in economics, but in fields as diverse as finance marketing, political science, sociology, biology, and even comparative literature. Prerequisites: COBA 5103 and COBA 5104, or equivalent undergraduate preparation.

**ECON 5320. Health Care Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Health Care Economics offers an analysis and evaluation of classical and modern economic theory, principles and procedures applicable to the health care delivery system and their implications for public policy. Prerequisites: None - Some background in accounting, economics and finance is helpful.

**ECON 5359. Economic Applications and Issues. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Seminar examination of the application of economic theory in the firm (micro) and in the overall economy (macro); in-depth research and analysis of current economic issues through critical examination of the professional literature and the current environment of business government. Prerequisite: ECON 4365 Intermediate Economics or Micro and Macroeconomics.

**ECON 5364. Seminar On Global Commerce. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on global competitive challenges facing business management teams. Students will evaluate how companies have strategically entered and developed international markets and managed global diversification. Students will learn to analyze international market potential, assess business risks and become familiar with institutions and national policies directing international trade. Prerequisite: ECON 4365 Intermediate Economics or Micro and Macroeconomics.

**Finance Courses****FINC 5086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

This course offers students the opportunity to become acquainted with current research being conducted within the student's area of interest; directed reading of a number of sources selected in concert by the student's professor. Prerequisite: Approval of department head.

**FINC 5301. International Finance and Business Strategy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course examines the major international issues pertaining to finance, including choosing and implementing an appropriate corporate strategy, the determination of exchange rates, international risk management, transfer pricing, and evaluating and financing international investment opportunities. There will be readings and case analysis and students will be required to report on research findings. Credit for both FINC 5301 and BUSI 5301 will not be awarded.

**FINC 5305. Case Studies in Corporate Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course designed to use case studies and financial analysis to further the graduate student's knowledge and ability to make financial management decisions. Selected cases will be assigned for outside the classroom analysis, and preparation of proposed solutions. The classroom will be used to discuss the cases, the student's proposal for solutions, and desired courses of action. The cases will be such that students will be required to use prior knowledge, current research, and a good deal of analytical ability in preparing their proposals. Prerequisite: Graduate standing.

**FINC 5306. Financial Markets and Institutions. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is intended to give the student a broad coverage of the operation, mechanics, and structure of the financial system within the United States, emphasizing its institutions, markets, and instruments. Monetary policy of the Federal Reserve and its impact upon financial institutions are treated.

**FINC 5307. Financial Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Course focuses on financial decision making in the modern corporation. Basic issues include capital budgeting, capital structure, corporate sources of funding, dividend policy, financial risk management, standard theories of risk and return, and valuation of assets. Prerequisite: COBA 5102, or equivalent, or department head approval.

**FINC 5320. Health Care Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Health Care Finance offers an introduction to decision making in health care settings using accounting and finance theories, principles, concepts and techniques most important to managers. Credit for both FINC 5320 and ACCT 5320 will not be awarded.

**FINC 5335. Analysis of Financial Statements. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of financial statement analysis and accounting topics related to financial statement presentation and disclosure. Prerequisites: A background in both accounting and finance (at least leveling courses in both accounting and finance).

**FINC 5385. Seminar on Consumer and Business Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will cover selected consumer and business finance topics. Examples include debt management, initial public offering of a new business, Internet based finance and regulatory aspects, and management of compensation. Students will be expected to research assigned topics and submit reports.

**FINC 5390. Selected Topics in Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of different topics in finance from areas such as investments, corporate financial management, and financial markets and institutions. This course may be repeated for credit as the topic changes. Prerequisites: Graduate standing and FINC 3301 or FINC 5307 or approval of instructor.

## Management

Dr. Triss Ashton, Department Head  
 Department of Management  
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 Box T-0330  
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### Master of Business Administration

The MBA program at Tarleton is a broad, business-based professional degree with relevant coursework that's directly applicable to current concepts and practices of key business areas. You'll explore topics in accounting, finance, information systems, marketing, business strategy, and more. Unlike career-specific advanced degrees like a teaching credential or a medical degree, the knowledge and skills you gain while earning your MBA can transfer easily across industries. An MBA opens the door to a wide array of careers in business management and positions you for success both now and well into the future.

The MBA is a 30 hour program that seeks to develop students' leadership, decision-making, and critical-thinking abilities in the functional areas of business, such as Management, Marketing, Finance, Accounting, Information Systems, and Business Strategy.

- Traditional MBA (<https://www.tarleton.edu/degrees/masters/mba-business-masters/>)
- Fast-Track MBA (<https://www.tarleton.edu/degrees/masters/mba-business-administration/mba-accelerated.html>)

#### Mission:

The mission of the Master of Business Administration degree program is to provide a relevant, high-quality, broad-based education that develops students' critical thinking and decision making skills thereby preparing them for successful business careers and enhanced life-long learning.

#### Location(s)/Modality Offered:

The MBA program is offered primarily as an online degree; however, select courses are offered in Fort Worth campus. International students and others requiring in-classroom instruction are encouraged to complete these Fort Worth classes. Some courses are only offered during particular semesters or locations. See the Academic Advising Guides page for further details on the Department of Managements Graduate course rotations.

- Academic Advising Guides ([http://catalog.tarleton.edu/advising\\_guides/](http://catalog.tarleton.edu/advising_guides/))

#### Requirements:

To pursue this degree, students within 12 hours of obtaining their undergraduate degree with a 3.0 GPA or higher on their last 60 hours of coursework can request Provisional enrollment. Students must work with the COB Graduate Manager, completing the Graduate Student Provisional Form, enabling them to register for graduate classes early. Students will need reliable Internet access, basic computer skills, ample time to dedicate to completing the required course content, and the desire to complete an advanced degree that can provide opportunities for career advancement.

After an MBA applicant is admitted to the College of Graduate Studies, his/her transcript, application, essay, and test scores (if applicable) will be evaluated by the COB Graduate Manager. The COB Graduate Manager. evaluates the student's educational background to determine what leveling requirements or program prerequisites may be needed. Leveling requirements will be determined on a case-by-case basis and may be satisfied by taking graduate leveling courses or through other appropriate means.

A student whose undergraduate degree was not in business may be required to take up to nine hours of graduate leveling courses (which are not counted toward the 30 hours required for the degree) to be prepared for successful graduate study in business. All required leveling courses must be completed within the first 12 hours of course work and before any other courses in that discipline.

Before a student completes 12 hours of graduate credit in the MBA program, the student should contact the COB Graduate Manager. and request that an official degree plan be prepared. The student may petition for changes in this degree plan at a later date, but these changes must be approved by the COB Graduate Manager and the Dean of the College of Graduate Studies.

### Master of Business Administration

#### Required Courses

#### Required courses: <sup>2</sup>

ACCT 5303	Accounting Management	3
BUSI 5397	Evidence Based Decision Making	3
FINC 5307	Financial Management	3
MGMT 5301	Organizational Behavior	3
MKTG 5308	Marketing Management	3
BUSI 5388	Seminar in Business Strategy	3
ECON 5308	Managerial Economics	3

BCIS 5311	Managing Information Systems	3
Two Business Graduate-Level Electives <sup>1</sup>		6
Total Hours		30

Show ScribeStart

- 1 Leveling courses (COBA 5100, COBA 5101, COBA 5102, COBA 5103, COBA 5104, COBA 5105, COBA 5301, and COBA 5302) whether required or not, will NOT count towards the 30-hour degree requirement.
- 2 The MBA degree program requires completion of a minimum of 30 (up to 39 with leveling) hours of graduate-level course work and a minimum 3.0 GPA with no grade below a C.

NOTE: It is recommended that students interested in the MBA take the following courses (or their equivalents) as part of undergraduate program:

- Any Business MGMT Course
- Any Business MKTG Course
- ACCT 2301: Financial Accounting
- BUSI 2311: Business Statistics
- FINC 3301: Principles of Finance
- ECON 2301: Macro Economics

#### Comprehensive Examination:

Students in the MBA program are required to pass a comprehensive examination before receiving their degrees. Students will be required to demonstrate knowledge and understanding in all areas of Business Administration. Students must have completed their core courses and have a GPA of at least 3.0 to be eligible to take the comprehensive exam.

### Master of Science in Human Resource Management

People are the most important part of any business. Businesses which are leaders in their industry strive to put human resources as their top priority in developing strategy, marketing, or operational excellence. It takes talent, dedication, and an educated Human Resource staff to keep these businesses at the top of their game. Changing demographics, laws and regulations and the continuing need to keep our existing workforce challenged and motivated establishes paramount for educated Human Resource professionals.

The Master of Science degree in Human Resource Management is a 30 hour program that provides the student opportunities to develop critical skills in areas such as research and job analysis, recruitment and selection, training and development, compensation and benefits, labor relations and organizational effectiveness. Students gain knowledge and skills that are applicable in business and not-for-profit entities including state and local governments and military organizations.

- MS-HRM (<https://www.tarleton.edu/degrees/masters/ms-human-resources-management/>)

#### Mission:

The mission of the Master of Science degree in Human Resource Management program is to provide a relevant, high-quality, specialized education in Human Resources that develops students' critical thinking and decision making skills and connects them with business leaders thereby preparing them for successful business careers in a global business environment and enhances life-long learning.

#### Location(s)/Modality Offered:

The MS-HRM program is offered as a totally online degree. Some courses are only offered during particular semesters or locations. See the Academic Advising Guides page for further details on the Department of Managements Graduate course rotations.

- Academic Advising Guides ([http://catalog.tarleton.edu/advising\\_guides/](http://catalog.tarleton.edu/advising_guides/))

The Human Resources Masters program is recognized by the Society for Human Resource Management (SHRM) for having curricula aligned with their Human Resource guidelines.

#### Requirements:

To pursue this degree, students within 12 hours of obtaining their undergraduate degree with a 3.0 GPA or higher on their last 60 hours of coursework can request Provisional enrollment. Students must work with the COB Graduate Manager, completing the Graduate Student Provisional Form, enabling them to register for graduate classes early. Otherwise, students are required to hold a baccalaureate degree and obtain acceptance to the College of Graduate Studies at Tarleton. Students will need reliable Internet access, basic computer skills, ample time to dedicate to completing the required course content, and the desire to complete an advanced degree that can provide opportunities for career advancement.

After an MS-HRM applicant is admitted to the College of Graduate Studies, his/her transcript, application, essay, and test scores (if applicable) will be evaluated by a COB Graduate Manager. The advisor evaluates the student's educational background and work experience to determine what leveling requirements or program prerequisites may be needed. Leveling requirements will be determined on a case-by-case basis and may be satisfied by taking graduate leveling courses or through other appropriate means.

A student whose undergraduate degree was not in business could be required to take up to nine hours of graduate leveling courses (which cannot be counted toward the 30 hours required for the degree) to be prepared for successful graduate study in business. All required leveling courses must be completed within the first 12 hours of course work and before any other courses in that discipline.

### Master of Science in Human Resource Management

#### Required Courses

HRMT 5301	Law and Regulation in Human Resources	3
HRMT 5303	Training & Development	3
HRMT 5314	Workforce Planning & Talent Management	3
HRMT 5316	Compensation Management	3
HRMT 5324	Employee & Labor Relations	3
MGMT 5301	Organizational Behavior	3
MGMT 5368	Organizational Development and Change	3
BUSI 5397	Evidence Based Decision Making	3
HRMT 5380	Strategic Human Resources <sup>2</sup>	3
MGMT 5354	International Management	3
Total Hours		30

## 356 Management

- 1 Students should complete this course within the first 12 hours of the program.  
2 Course may only be taken in the student's last semester.

NOTE: It is recommended that students interested in the MS-HRM, take the following courses (or their equivalents) as part of undergraduate program:

- Any Business MGMT Course
- Any Business MKTG Course
- ACCT 2301: Financial Accounting
- BUSI 2311: Business Statistics
- FINC 3301: Principles of Finance
- ECON 2301: Macro Economics

### Comprehensive Examination

Students in the MS degrees in Human Resource Management programs are required to pass a comprehensive examination before receiving their degrees. Students will be required to demonstrate knowledge and understanding in the area Human Resource Management. Students must have completed their core courses and have a GPA of at least 3.0 to be eligible to take the comprehensive exam.

### Master of Science in Management

Designed for graduate students with diverse needs who want to advance their business management careers, our online Master of Management degree program is flexible, affordable and customizable. Classes are 100% online, and no leveling classes are required for enrollment. Depending on your concentration, you may be able to complete our online Master of Management degree in as quickly as a year.

The Master of Science degree in Management is a 30-36 hour program that provides the student opportunities to develop critical skills in areas such as business analytics, executive communication, recreation and sports, management and leadership, social media strategy, or self-design to meet the unique requirements of your desired career path.

- MS-M (<https://www.tarleton.edu/degrees/masters/ms-management/>)

#### Mission:

The mission of the Master of Science in Management program is to provide a relevant, high-quality, specialized education in various aspects of business management that develops students' critical thinking and decision making skills. Each concentration of the program develops the emerging executive with knowledge and skills intended to prepare them for a chosen business career paths plus enhances the student readiness to be an independent life-long learner.

#### Location(s)/Modality Offered:

The MS-M program is offered as a totally online degree. Some courses are only offered during particular semesters or locations. See the Academic Advising Guides page for further details on the Department of Managements Graduate course rotations.

- Academic Advising Guides ([http://catalog.tarleton.edu/advising\\_guides/](http://catalog.tarleton.edu/advising_guides/))

#### Requirements:

To pursue this degree, students within 12 hours of obtaining their undergraduate degree with a 3.0 GPA or higher on their last 60 hours of coursework can request Provisional enrollment. Students must work with the COB Graduate Manager, completing the Graduate Student Provisional Form, enabling them to register for graduate classes early. Otherwise, students are required to hold a baccalaureate degree and obtain acceptance to the College of Graduate Studies at Tarleton. Students will need reliable internet access, basic computer skills, ample time to dedicate to completing the required course content, and the desire to complete an advanced degree that can provide opportunities for career advancement.

The MS-M program does not require leveling.

### Master of Science in Management

#### Required Courses

MGMT 5301	Organizational Behavior	3
MGMT 5312	Project Management	3
BUSI 5397	Evidence Based Decision Making <sup>1</sup>	3
or BANA 5391	Business Analytics Research	
MGMT 5310	Leadership Development	3
or MGMT 5311	Managing Operations and Services	
BUSI 5365	Managerial Statistics <sup>1</sup>	3
or BANA 5301	Business Analytical Statistics	
MGMT 5378	Strategic Business Planning & Policy	3
Total Hours		18

#### Additional Required Courses for Concentrations

##### Business Analytics

BCIS 5311	Managing Information Systems	3
BCIS 5316	Applied Database Management	3
BCIS 5392	Business Intelligence Systems	3
ECON 5311	Econometrics and Forecasting	3
BANA 5310	Business Applied Data Mining	3
BANA 5320	Prescriptive Analytics	3
Total Hours		18

##### Management and Leadership - NonThesis

MGMT 5313	Small Business Leadership	3
ENGL 5327	Executive Writing	3
MGMT 5000 Elective		3

MGMT 5000 Elective		3
Total Hours		12
<b>Management and Leadership - Thesis</b>		
MGMT 5313	Small Business Leadership	3
ENGL 5327	Executive Writing	3
MGMT 5000 Level Elective		3
MGMT 5000 Level Elective		3
MGMT 5388	Thesis	3
MGMT 5388	Thesis	3
Total Hours		18
<b>Self-Design - NonThesis</b>		
ACCT/BANA/BCIS/BLAW/BUSI/ECON/FINC/HRMT/MGMT/MKTG Electives <sup>2</sup>		12
Total Hours		12
<b>Self-Design - Thesis</b>		
ACCT/BANA/BCIS/BLAW/BUSI/ECON/FINC/HRMT/MGMT/MKTG Electives <sup>1</sup>		12
MGMT 5388	Thesis	3
MGMT 5388	Thesis	3
Total Hours		18
<b>Social Media Strategy</b>		
COMM 5352	Communication Theory	3
COMM 5311	Social Media Campaigns	3
COMM 5310	New Communication Technology	3
COMM 5313	Social Media Analytics	3
Total Hours		12
<b>Executive Communication</b>		
ENGL 5327	Executive Writing	3
ENGL 5337	Intercultural Technical and Professional Writing	3
ENGL 5338	Technical Editing: Practice and Theory	3
ENGL 5320	Studies in the English Language	3
Choose two of the following:		6
ENGL 5331	History of Rhetoric I	
ENGL 5332	History of Rhetoric II	
ENGL 5333	Rhetorical Criticism	
ENGL 5334	Introduction to Visual Rhetoric	
ENGL 5335	Seminar in Professional Writing	
ENGL 5336	Grant and Proposal Writing	
ENGL 5328	Ethics in Technical and Professional Writing	
Total Hours		18
<b>Recreation and Sports</b>		
KINE 5305	Administration of Athletics	3
KINE 5317	Leadership and Professional Development	3
KINE 5326	Facilities in Kinesiology, Athletics, and Recreation	3
KINE 5343	Law for Sport and Recreation	3
KINE 5385	Seminar	3
Choose one of the following:		3
KINE 5304	Principles of Sport Organization	
KINE 5312	Contemporary Issues in Sports Medicine	
KINE 5313	Administrative Practices in Sports Medicine	
KINE 5399	Internship	
Total Hours		18
<b>Human Resources</b>		
HRMT 5301	Law and Regulation in Human Resources	3
HRMT 5302	Human Resource Management	3
HRMT 5303	Training & Development	3
HRMT 5000 Level Elective		3
Total Hours		12

<sup>1</sup> Students pursuing a concentration in Business Analytics will take the BANA course options.

<sup>2</sup> All concentration courses must be selected from COBA classes or have program/graduate director approval.

## Professors

- Deviney, Dr. David
- Freed, Dr. Rusty
- Heller, Dr. Nathan
- McCamey, Dr. Randy
- Notgrass, Dr. David

## Associate professors

- Ashton, Dr. Triss
- Baeza, Dr. Miguel
- Hall, Dr. Reggie
- Heller, Dr. Jake
- Joiner, Dr. Sue
- Krueger, Dr. Dianna
- Martinson, Dr. Brian
- Mullens, Dr. Drake
- Shaw, Dr. Joanna
- Richardson, Dr. Rick

## Assistant professors

- Brown, Dr. Bryn
- Dinulescu, Dr. Catalin
- Foster, Ms. Christi
- Dittfurth, Dr. Ed
- LeCounte, Dr. John

## Human Resource Management Courses

### **HRMT 5086. Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

This course offers students the opportunity to study human resource management topics and perform research within the student's area of interest as directed by the responsible professor. Prerequisite: approval of the department head.

### **HRMT 5090. Select Topics in Human Resource Management. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

An examination of current topics in human resource management. Readings required from current HRM publications and other related periodicals. May be repeated for credit when topics vary.

### **HRMT 5301. Law and Regulation in Human Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines legal issues and regulatory processes related to employment relationships, equal employment opportunity and affirmative action, privacy, employment testing and staffing, copyrights and patents, compensation and benefits, employee/labor relations, and occupational health and safety.

### **HRMT 5302. Human Resource Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Presents the fundamental principles and techniques of personnel management and examines the management of human resources from the point of view of the personnel officer, the operational manager and the employee. Examines the responsibilities of organizational leadership for incorporating human resource issues in strategic planning and initiatives. Emphasis is placed on current legal considerations, issues and research. Credit for both MGMT 5302 and HRMT 5302 will not be awarded.

### **HRMT 5303. Training & Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on elements of employee training and development within organizations and the management of the human resource development process. Examines management issues, identifying and responding to training needs, cost/benefit analysis, four-phase training evaluation, and the selection and development of training staff. Overall Course Objective As a result of this course, students will be able to successfully plan, design, and develop a business training program that effectively addresses a business problem.

### **HRMT 5310. The Adult Learning Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines learning patterns, interests and participation among adults, with implications for training and development programs. Particular attention is given to the joint responsibility for learning between trainer and adult participants.

### **HRMT 5314. Workforce Planning & Talent Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on the legal, ethical and organizational considerations related to recruitment, assessment, selection, placement and appraisal of employees and managers within various types of organizations including aspects of the role of the EEOC, INS, DOL and other enforcement agencies in this critical human resource function. Career development and record-keeping will also be addressed as will utilization of human resources within organizations including the use of pre and post-employment tests and other techniques in human resource management. Prerequisite: Admission to the COBA Graduate Program.

### **HRMT 5315. Employee Benefits and Services. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines legal, social and technical issues and research surrounding current trends in employee benefit programs. Group health, disability and life insurance, retirement planning, time-off (leave) and wellness programs are addressed. Emphasis is placed on program administration, implementation and evaluation. Prerequisite: HRMT 5301 or approval of the instructor.

### **HRMT 5316. Compensation Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analyzes the theories, concepts, operational practices and research related to managing comprehensive compensation programs. Various types of compensation plans, including job evaluation levels and wage structures are investigated. Emphasis is placed on the development of sound compensation programs which consider current trends, legal implications and social requirements. Quantitative applications are required to analyze various case studies and problems.

### **HRMT 5324. Employee & Labor Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Exploration of the labor union movement and the process of collective bargaining, the formation of a union, labor agreement negotiation, labor agreement administration, grievance processes, and arbitration and mediation. Labor law and legal issues in labor relations are explored extensively to include the National Labor Relations Act and the functions of the NLRB. Negotiation skills are developed via mock labor contract negotiations. Prerequisite: Admission to the COBA Graduate Program.

### **HRMT 5354. International Human Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Coverage of the special Human Resource issues corporations face when doing business internationally. Topics include the impact of culture, managing expatriates, global labor markets, recruiting globally, managing diverse teams, global employee benefits, repatriation, global security and terrorism. Credit for both HRMT 5354 and HRMT 5389 will not be awarded. Prerequisite: Admission to the College of Business Administration Graduate Program.

**HRMT 5355. Internship in Human Resource Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Provides work experience in the human resource field under the supervision of a faculty-approved management sponsor. Emphasis is placed on the application of human resource management skills to real world, practical problems and situations. A minimum of 20 work hours per week is expected, with a total of 200-300 on-the-job hours required during the semester. Prerequisite: Completion of 12 graduate semester hours in Human Resource Management, preregistration coordination and approval of the course instructor. Field experiences fee \$50.

**HRMT 5380. Strategic Human Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Coverage of the special Human Resource issues related to strategy formulation, competitive advantage, and the linkage between HR strategy and the mission, vision, and goals of corporations that lead to organizational effectiveness. An integrated view of the HR disciplines addressed in the MS HRM core curriculum and the interplay among the various disciplines. Course should be taken in the last semester of the student's program. Prerequisites: Admission to the College of Business Administration Graduate Program and approval of instructor. Co-requisites: The remaining MS HRM core courses.

**HRMT 5388. Thesis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thesis. No credit until the thesis is completed. Prerequisite: Approved research methodology course and approval of instructor of record.

**HRMT 5389. Global Human Resource Management Practices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of basic international business concepts, cultural literacy, and discipline specific content are applied to practical experiences and activities in the foreign country visited. Graduate students will be required to complete an extensive research project in addition to other course requirements. A study abroad at the student's expense is required. Credit for both HRMT 5354 and HRMT 5389 will not be awarded. Prerequisites: Admission into a COBA graduate program and permission of the instructor.

**HRMT 5391. Human Resource Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected topics of current importance to human resource management. May be repeated for credit when topics vary.

## Management Courses

**MGMT 5086. Problems. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

This course offers students the opportunity to study management topics and perform research within the student's area of interest as directed by the responsible professor. Prerequisite: Approval of the department head.

**MGMT 5090. Special Topics in Management. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

An examination of current topics in management. Readings required from current management publications and other related periodicals. May be repeated for credit when topics vary.

**MGMT 5301. Organizational Behavior. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Behavioral theory in organizational context. A study of individual and group dynamics in the business environments. Specific emphasis is given to leadership, motivation, communication, employee supervision, and morale in all organizational settings.

**MGMT 5303. Managerial Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an overview of foundations for professional success in business and professional communication. The course will focus on applying communication and management theories to practices in business organizations, implementing optimal business and professional communication strategies, and focus on effective oral and written communication skills for business leaders.

**MGMT 5306. Influencing Organizational Productivity through Interpersonal Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A practical and theoretical course dealing with interpersonal behavior and its influence on organizational productivity. Emphasis will be on identifying and classifying behavior in order to better understand behavior and to develop strategies for creating productive relationships with others. Particular emphasis is directed toward the impact of interpersonal behavior in business organizations and the potential effect on productivity. Materials fee required.

**MGMT 5307. Responsibilities and Ethics of Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of an organization's social and environmental responsibilities to its employees, customers, and the general public. Practical emphasis is given to the case study method for evaluating the performance of various organizations. Establishes a theoretical framework for understanding ethics, principles and values of leadership as they affect the organization, the organizational environment and society.

**MGMT 5310. Leadership Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Leadership is explored through the process of developing oneself as a leader while developing followers. Emphasis is placed upon learning the skills necessary to lead through the ethical use of influence in order to achieve organizational strategic goals.

**MGMT 5311. Managing Operations and Services. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of concepts, models and methods used to effectively manage the manufacturing and/or service operations of for-profit and not-for-profit organizations. Emphasis will be placed on the design and use of cross-functional operations planning, control, and support systems. Topics of contemporary relevance will be examined to include supply chain management, enterprise resource planning, time-based competition, and quality improvement.

**MGMT 5312. Project Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Project Management is a growing field in many disciplines from manufacturing to marketing and from technology to training. Students will plan, document, and execute a simulated or real project while learning the principles and practices of project management.

**MGMT 5313. Small Business Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Provide students with an overview of entrepreneurial best practices for leading through influence while incorporating self-reflection, strategic management, and high-performance team leadership validated practices for successful ventures. Explore the implications for comprehensive leadership abilities in the small business context and integrate fundamental insights from the entrepreneurship, leadership, and strategic management disciplines. Identify strategies and techniques for effectively leading small and medium-sized enterprise start-ups, and existing firms.

**MGMT 5354. International Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Coverage of the management issues corporations face when doing business internationally. Topics include the impact of culture, role of international relations, ethical decision-making, international strategic management, organizational behavior and human resource management.

**MGMT 5368. Organizational Development and Change. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study, research and analysis of pro-active strategies for organizational change using the theories and techniques of applied behavioral science. Examines the phases of consulting, strategies, intervention decisions and actions, multiple roles, skills and phases of internal and external consultants, ethical dilemmas and guidelines and the implementation of action research. A complete, step-by-step, intervention strategy is developed during this course.

**MGMT 5378. Strategic Business Planning & Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course provides students with an opportunity to integrate various topics related to strategic execution. The perspective of the organization as a total system, which encompasses internal, specialized sub-systems, interacting with an external, dynamic environment serves as the foundation of study. The emphasis will be on the development, implementation, and analysis of organization strategies and policies that impact a firm's survival and success in a progressively competitive global marketplace. Models for strategic formulation, implementation, and control are analyzed for the facilitation of an integrated understanding of the courses that comprise the MSM curriculum. Readings and lectures illustrate strategic management theories and frameworks while case discussions, experiential exercises, and team projects provide opportunities for application.

**MGMT 5388. Thesis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thesis. No credit until the thesis is completed. Prerequisite: Approved research methodology course and approval of instructor of record.



**MGMT 5389. Global Management Practices. 3 Credit Hours (Lecture: 4.5 Hours, Lab: 0 Hours).**

A study of basic international business concepts, cultural literacy, and discipline specific content are then applied to practical experiences and activities in the foreign country visited. A study abroad at the student's expense is required. Student may complete a maximum of six hours of COBA sponsored study abroad toward degree completion. Prerequisites: Admission into a COBA graduate program and permission of the instructor.

**MGMT 5391. Management Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected topics of current importance to management. May be repeated for credit when topics vary.

**MGMT 5395. Internship. 3 Credit Hours (Lecture: 1 Hour, Lab: 8 Hours).**

Prepared and supervised work experience in a management-related position with a public or private business organization. May be repeated for a total of 6 hours credit. Prerequisite: Approval of MBA Director. Field experiences fee \$50.

## Marketing and Computer Information Systems

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The first fully online information systems master's program in Texas, our MS IS degree was also ranked the No. 4 Best Online Master's in Information Systems Degree Programs by Intelligent.com. Nationally recognized for value and affordability, we offer a broad, rigorous program that enhances your current skill set to prepare you for a career change or advancement within your existing field. Through online course work, you'll explore all areas related to management information systems and gain a range of technical knowledge and skills to prepare you for making decisions related to information systems, information technology resources, business operations and personnel.

The MS in Information Systems is designed for working professionals to complete 36 hours of graduate credit, 100% online. The program is flexible and allows students to complete classes remotely while balancing work and life demands. For those interested in pursuing their doctorate, students are encouraged to pursue a thesis option to satisfy electives within their program.

**Mission:**

The mission of the Master of Science in Information Systems (MS-IS) degree program is to provide a relevant, high-quality education that develops students' decision making skills in the productive and profitable utilization of computer information systems, preparing them for success in their careers and life-long learning.

- MS-IS (<https://www.tarleton.edu/degrees/masters/ms-information-systems/>)

**Requirements;**

To pursue this degree, students are required to hold a baccalaureate degree and obtain acceptance to the College of Graduate Studies at Tarleton. Students will need reliable Internet access, basic computer skills, ample time to dedicate to completing the required course content, and the desire to complete an advanced degree that can provide opportunities for career advancement.

After an MS-IS applicant is admitted to the College of Graduate Studies, his/her transcript, application, essay, and test scores (if applicable) will be evaluated by a COB Graduate Manager.

Before a student completes 12 hours of graduate credit in the MS-IS program, the student should contact the COB Graduate Manager and request that an official degree plan be prepared. The student may petition for changes in this degree plan at a later date, but these changes must be approved by the COB Graduate Manager and the Dean of the College of Graduate Studies.

For more details:

- MS-Information Systems Handbook (<https://www.tarleton.edu/degrees/masters/ms-information-systems/documents/MS-IS-Program-Handbook.pdf>)
- Academic Advising Guides ([http://catalog.tarleton.edu/advising\\_guides/](http://catalog.tarleton.edu/advising_guides/))

### Accelerated Program

The MS-Information Systems includes an accelerated option, allowing undergraduate students to begin their graduate studies early and shortening their time to graduation. Interested undergraduate students should identify their interest in pursuing this option early in their program and work with their Academic Adviser (<https://www.tarleton.edu/advising/advisor/outreach-advisors.html>) to select the appropriate degree plan options:

- BS-CIS: Accelerated CIS/MS Information Systems
- BAAS-IT: Accelerated IT/MS Information Technology
- BBA-MIS: Accelerated MIS/MS Information Systems

Students in their final undergraduate semester, should work with the COB Graduate Manager to complete the Graduate Student Provisional Form, enabling them to register for their graduate classes. Students who choose the accelerated option will, in their final semester, take BCIS 5311 plus an additional BCIS graduate elective, to serve as undergraduate electives and also begin work towards their graduate studies. Students should also complete their application to the College of Graduate Studies during their final semester in preparation for admittance into the graduate program.

### Master of Science in Information Systems

**Required Courses**

BCIS 5304	Telecommunications for Managers	3
BCIS 5307	Systems Analysis for Managers	3
BCIS 5311	Managing Information Systems	3
BCIS 5316	Applied Database Management	3
BCIS 5351	IT Project Management	3
BCIS 5392	Business Intelligence Systems	3
BCIS 5398	Research Methods in Information Systems	3
BCIS Electives		15
Total Hours		36

## Professors

- Jones, Dr. Dennis
- Schuessler, Dr. Joseph H.
- Schultz, Dr. Leah
- Shao, Dr. Chris
- Sharp, Jason Dr.

## Associate professors

- Hsu, Dr. Chun-Kai "Tommy"
- Kilic, Dr. Ceyhan
- Pellegrino, Dr. Bob
- Wu, Dr. Yi-Chia

## Assistant professor

- Chen, Dr. Aray

## Business Computer Information Systems Courses

### **BCIS 5086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

This course offers students the opportunity to study CIS topics and perform research within the student's area of interest as directed by the responsible professor. May be repeated as topics vary for a maximum of 6 semester hours. Prerequisite: Approval of the department head.

### **BCIS 5090. Selected Topics in BCIS. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

An examination of various topics in the Computer Information Systems area with focus on current and recent developments. May be repeated as topics vary. Prerequisite: Approval of department head.

### **BCIS 5304. Telecommunications for Managers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines the management and utilization of data communication technologies including technical components, configurations, applications, protocols, legal issues, software and management issues, Local Area Network (LAN) technologies, and security issues. Prerequisite: BCIS 5311 or Approval of Department Head.

### **BCIS 5307. Systems Analysis for Managers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Investigates and compares various analysis approaches for application automation while highlighting management considerations for planning and developing automated systems. Systems life cycle models and case studies are used. Prerequisite: BCIS 5311 or Approval of Department Head.

### **BCIS 5311. Managing Information Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies the management and use of information and technology as a resource to create competitive businesses, manage global operations, provide useful products and quality services to customers, whether public or private. Examines information systems management, intellectual property, privacy, organizational and societal impact, legal issues, ethics, security issues, decision making, strategic information systems, and management and organizational support systems.

### **BCIS 5316. Applied Database Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines the objectives and methodologies of database management. Topics include data models, database design, data dictionaries, fourth generation programming languages, data integrity, security, and privacy. Students use a commercial database. Prerequisite: BCIS 5311 or Approval of Department Head.

### **BCIS 5317. Special Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of various issues, products, and technology current to computer information systems. May be repeated once for credit as topics vary. Prerequisite: Varies with topic.

### **BCIS 5318. Quantitative Concepts in Computing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of measurements related to software projects and applying measurement techniques to information technology related problems. Analyses of programs and selected algorithms are performed. A statistical program will be used to analyze data.

### **BCIS 5319. Decision Support Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies the use of decision support systems within organizations to support operational decisions. Explores the various systems used to collect, store, and analyze data, as well as systems to support collaborative decision making. Examines current topics within the field of decision support including: managerial decision models, collaborative decision environments, and knowledge management.

### **BCIS 5320. Seminar on Computer Based Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will vary according to timeliness and special needs. May be repeated once for credit as topics vary.

### **BCIS 5349. Topics in Programming. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Develops programming proficiency in a modern programming language. Students complete many programming assignments to achieve necessary knowledge and skills. May be repeated once for credit as topics vary. Prerequisite: Approval of instructor.

### **BCIS 5351. IT Project Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies the genesis of project management and its importance to improving the success of information technology projects. Project management concepts and techniques are emphasized, and students are required to apply these concepts by working on a group project as a project manager or active team member. Prerequisite: BCIS 5311 or Approval of Department Head.

### **BCIS 5360. Multimedia Application Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theory and application of the multimedia application development process. A review of the principles of user interface, design, graphic design, and interactivity including the appropriate application of these principles to multimedia will be conducted. Students will explore computer-based multimedia development tools and their use in the creation of various types of multimedia applications. The planning, design, production, and evaluation of interactive multimedia projects for delivery through a variety of media will culminate the course of study.

### **BCIS 5365. Multimedia: Web Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theory and application of the multimedia application development process of the creation of web-based authoring and scripting tools and their use in the creation of various types of web-based projects. The planning, design, projection, and evaluation of interactive web-based projects for delivery through a variety of media will culminate the course of study.

### **BCIS 5366. Human Computer Interaction. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the principles of human computer interaction including planning, design, and testing of effective application interfaces. Review of current literature in the field and its application to improving the interaction between people and computers.

### **BCIS 5368. Topics in Multimedia. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of issues, theory, and application of current technology specific to multimedia development.

**BCIS 5379. The Technology of E-Business. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the technical and business considerations for creating and operating an electronically based business. Students will study the environment from an operational and legal perspective, analyze the technologies available and implement an e-commerce project integrating database, web pages, and script languages.

**BCIS 5380. E-Business Application Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines issues related to supporting a business that uses the Internet and other on-line implementations. The course operates in a team environment simulating a business organization and requires the team develop and implement database and Internet technologies.

**BCIS 5388. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thesis. No credit until the thesis is accepted. Prerequisite: BCIS 5351, consent of major advisor or approval of department head.

**BCIS 5392. Business Intelligence Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Develops research skills related to the reactive and proactive use of data to analyze business decisions. Business environmental and internal data sets will be designed using data warehousing techniques. Students will use datamining, text mining, OLAP, or analytics used to improve decision making. Prerequisites: BCIS 5311 and BCIS 5316 or Approval of Department Head.

**BCIS 5395. Research Project with Laboratory. 3 Credit Hours (Lecture: 1 Hour, Lab: 5 Hours).**

Independent study course in specific areas of Information Systems. May be repeated for credit once when topics change. Prerequisites: Approval of department head. Lab fee \$15.

**BCIS 5398. Research Methods in Information Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines timely topics related to computer-based systems. The course develops research skills, problem-solving skills, applies the scientific method, refines presentation skills, and promotes team involvement. The course operates in a distributed team environment using the Internet as its communication vehicle. Prerequisites: BCIS 5304, BCIS 5307, BCIS 5311, BCIS 5316, BCIS 5351, and BCIS 5392 or Approval of Department Head. Students can be concurrently enrolled in BCIS 5392 while taking BCIS 5398.

**BCIS 5399. Internship. 3 Credit Hours (Lecture: 1 Hour, Lab: 8 Hours).**

Supervised work experience in an information technology-related position with a public or private organization. May be repeated for a total of 6 hours credit. Prerequisite: 6 semester hours of prefix BCIS courses or equivalent and approval of internship coordinator or department head. Field experiences fee \$50.

## Marketing Courses

**MKTG 5086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

This course offers students the opportunity to become acquainted with current research being conducted within the student's area of interest; directed reading of a number of sources selected in concert with the student's professor. Prerequisite: Approval of department head.

**MKTG 5303. NonProfit & Public Sector Marketing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine the role and application of marketing in public and nonprofit settings. The course focuses on a conceptual understanding of the marketing discipline and marketing processes and shows how basic concepts and principles of marketing are applicable to public and nonprofit organizations.

**MKTG 5308. Marketing Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of the planning and coordination of marketing functions specifically related to product, pricing, promotion, and distribution strategies. Includes case analysis and presentation of results. Prerequisite: MGMT 5300 or approval of department head.

**MKTG 5309. Marketing Strategy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Develops the role of product, pricing, promotion, and channel and physical distribution in the development of a firm's integrated marketing program. Cases are used to evaluate and compose alternative courses of action.

**MKTG 5354. International Marketing. 3 Credit Hours (Lecture: 4.5 Hours, Lab: 0 Hours).**

A global approach to the study of comparative marketing systems, including economic, social, technological, governmental, and political environments as they affect international marketing operations. Graduate students will be required to complete an extensive research project in addition to other course requirements.

**MKTG 5389. Global Marketing Practices. 3 Credit Hours (Lecture: 4.5 Hours, Lab: 0 Hours).**

A study of basic international business concepts, cultural literacy, and discipline specific content are then applied to practical experiences and activities in the foreign country visited. A study abroad at the student's expense is required. Graduate students will be required to complete an extensive research project in addition to other course requirements. Student may complete a maximum of six hours of COBA sponsored study abroad toward degree completion. Prerequisites: Admission into a COBA graduate program and permission of the instructor.

**MKTG 5391. Marketing Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected topics of current importance to marketing. May be repeated for credit when topics vary.

## College of Education and Human Development

Dr. Kim Rynearson, Dean  
College of Education and Human Development  
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Box T-0210  
Stephenville, Texas 76402  
(254) 968-9916  
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www.tarleton.edu/coe (<http://www.tarleton.edu/coe/>)

The College of Education and Human Development includes the Department of Curriculum and Instruction, the Department of Educational Leadership and Technology, the Department of Psychological Sciences, and the School of Kinesiology, which houses the Department of Health and Human Performance and the Department of Sport Science. The mission of the College of Education and Human Development is to provide students in kinesiology, professional education, and the behavioral sciences with a quality education through academic, cultural, and leadership experiences, and to provide leadership through scholarship and service to the community and professions. Programs in the College of Education and Human Development prepare students for challenging, gratifying, and socially significant careers.

Degree programs offered include the Bachelor of Applied Arts and Sciences in Kinesiology, Bachelor of Applied Arts and Sciences in Child and Family Studies, Bachelor of Science in Child and Family Studies, Bachelor of Science in Kinesiology, Bachelor of Science in Interdisciplinary Studies, Bachelor of Science in Psychology, Master of Education degree with majors in Curriculum and Instruction and Educational Administration; Master of Science in Kinesiology, Master of Science in Athletic Training, Master of Science in Applied Psychology, and a Doctorate of Education in Educational Leadership. Several teaching supplemental and professional certificates are also offered in conjunction with different academic departments.

In addition to its teaching function, the college has a strong service commitment to public schools, human service agencies, and the surrounding communities.

\* The following graduate degree programs are being phased-out by the University, and no new admissions will be allowed: Master of Science with a major in Counseling Psychology, Master of Education in Professional School Counseling, and Master of Education in Kinesiology.

## Department of Curriculum and Instruction

Dr. Amber Lynn Diaz, Department Head  
 Department of Curriculum and Instruction  
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 Stephenville, Texas 76402  
 12549680730  
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### Master of Education Degree in Curriculum and Instruction

The Department of Curriculum and Instruction offers the Master of Education in Curriculum and Instruction (C&I M.Ed.). Concentration areas within the degree develop expertise needed to assume leadership roles in curriculum development, implementation and assessment.

The 30-33 hour traditional C&I M.Ed. program offers concentration areas in Educational Diagnostician, Instructional Specialist, Curriculum Specialist, Curriculum and Instructional Specialist, Certified Reading Specialist, English as a Second Language Specialist, Special Education, Instructional Design and Technology, Technology Applications, Technology Director, and Child and Family Studies.

The 36-hour TMATE (Tarleton Model for Accelerated Teacher Education) C&I M.Ed. program applies credits earned through TMATE's teaching certification to the C&I M.Ed., M.S. in Biology, M.A. in History, and M.S. Kinesiology.

The C&I M.Ed. program prepares students who aspire to positions such as curriculum coordinator, academic department head, reading specialist, educational diagnostician, technology director, mentor teacher, high school dual enrollment or advanced placement teachers, as well as community college faculty, higher education adjunct faculty, and instructional designers in industry and government.

Course requirements for the C&I M.Ed., including additional information for each concentration area, may be viewed at [www.tarleton.edu/cimasters](http://www.tarleton.edu/cimasters) (<http://www.tarleton.edu/cimasters/>).

### Application and Admission Procedures

**Admission to the College of Graduate Studies.** Application for admission should be made to the College of Graduate Studies at least one month prior to the beginning of the semester in which one intends to enroll. The application form may be obtained from [www.tarleton.edu/graduate](http://www.tarleton.edu/graduate) (<http://www.tarleton.edu/graduate/>) or by calling the College of Graduate Studies at 254-968-9104.

An application fee is required, and applicants must submit official transcripts of previous college work, and an essay addressing professional and career goals. A screening process is required for all certification programs. Advisors for certification programs provide this screening. Refer to the College of Graduate Studies section of the catalog for a more complete description of application and admission procedures.

**Admission to the Degree Program in Curriculum and Instruction.** After gaining admission to the College of Graduate Studies, new students are contacted by the general advisor in the Department of Curriculum and Instruction for guidance regarding initial advisement. The following advisors are available for consultation:

- Traditional M.Ed.: Dr. Elizabeth Garcia, [degarcia@tarleton.edu](mailto:degarcia@tarleton.edu) ([degarcia@Tarleton.edu](mailto:degarcia@Tarleton.edu))
- TMATE: Dr. Laura Estes, [estes@tarleton.edu](mailto:estes@tarleton.edu)

Applicants for the C&I M.Ed. are initially granted Conditional Admission, pending the completion of EDUC 5398 and grade point requirements of a 3.25 GPA. Once the conditions are met, applicants develop a 3-faculty member committee (chair and 2 members) who file a degree plan and direct completion of the student's capstone project. At this point, applicants will be recommended for Full Admission to the C&I M.Ed.

The student's concentration area advisor assumes responsibility for advisement to satisfy specific concentration area requirements and completion of the culminating graduate experience.

**Maintaining Good Standing.** To remain in good standing, students must maintain a 3.0 GPA on all courses required for the degree. Only courses listed on the degree plan will count in the calculation of grade point average for the purpose of determining "good standing". Failure to meet the standard for good standing will result in actions as described in the section, "Graduate Student Performance" in the College of Graduate Studies portion of the catalog (<http://catalog.tarleton.edu/grad/>).

**Transfer Credits.** Transfer credits will be considered only after a student has obtained Full Admission to the degree program. Credits transferred from an approved institution must meet the guidelines outlined in Limitations on Transfer and Correspondence Courses in General Requirements for the Master's Degree (<http://catalog.tarleton.edu/grad/>).

**Time Limitations.** Degree requirements must be completed within a six year span of time.

#### CAPSTONE AND COMPREHENSIVE EXAMINATION

Students admitted to the program after Spring of 2013 develop a Capstone Project and complete a traditional Comprehensive Examination. In both Capstone Project and Comprehensive exam students apply knowledge and concepts acquired throughout their course of study and demonstrate the proficiencies established within the degree.

#### THESIS OPTION

Students may elect to pursue the Thesis Option for the C&I M.Ed. The thesis option might be of value to persons considering advanced academic study leading to a doctoral degree. Committee chairs provide specific requirements for the thesis option to interested students.

### Master of Education Degree in Curriculum and Instruction

#### Required Courses

EDUC 5303	Foundations of Curriculum	3
EDUC 5338	Curriculum Design and Implementation	3
EDUC 5398	Techniques of Research	3
Core Capstone Requirement (specific to concentration):		3
EDUC 5385	Education Seminar	
READ 5197 & READ 5299	Literacy Practicum I and Literacy Practicum II	
Core Options (select two of the following):		6
EDUC 5302	Cultural Diversity in Schools and Communities	
READ 5379	Advanced Psycholinguistics	

EDSP 5305	Introduction to Exceptional Learners	
EDSP 5315	Advanced Study of Development Disabilities	
EDTC 5307	Adult Learners	
EDTC 5356	Social Media Use in Education	
EDUC 5390	Selected Topics in Education for TMATE	
Total Hours		18

**Additional Required Courses for Concentrations****Content Area Specialist**

18 hours of approved Graduate coursework in one academic content area		18
Total Hours		18

**Educational Diagnostician (see footnote 1)**

EDSP 5399	Practicum for Educational Diagnosticians	3
EDSP 5310	Special Education Law	3
EDSP 5311	Behavior Management in Special Education Environments	3
EDSP 5325	Appraisal of Exceptional Learners <sup>4</sup>	3
EDSP 5328	Case Management for Educational Diagnosticians <sup>4</sup>	3
EDSP 5329	Assessing Cognitive Abilities of Exceptional Learners <sup>4</sup>	3
Total Hours		18

**Reading Specialist (see footnotes 2 and 3)**

READ 5375	Reading Assessment and Intervention	3
READ 5376	Organization and Administration of Reading Programs	3
READ 5373	Foundations of Reading <sup>2</sup>	3
READ 5374	Reading Resources and Materials	3
READ 5377	Digital Literacy <sup>3</sup>	3
READ 5378	Adult Literacy <sup>3</sup>	3
Total Hours		18

**Special Education**

EDSP 5310	Special Education Law	3
EDSP 5311	Behavior Management in Special Education Environments	3
EDSP 5313	Advanced Study of Learning Disabilities	3
EDSP 5320	Assessing Students with Exceptionalities	3
Total Hours		12

**Instructional Design and Technology**

EDTC 5338	Principles of Instructional Design	3
EDTC 5349	Educational Media and Technology	3
EDTC 5353	Designing Online Learning Environments	3
EDTC 5354	Facilitating Online Learning Environment	3
EDTC 5370	Intern/Service Learning Capstone	3
3 hours from any approved EDTC or BCIS 5000-level course		3
Total Hours		18

**Child and Family Studies**

CHFS 5313	Advanced Human Development	3
CHFS 5321	Family Theories and Research	3
CHFS 5339	Language and Cognitive Development in Childhood	3
CHFS 5347	Child and Family Advocacy	3
MGMT 5301	Organizational Behavior	3
Total Hours		15

**Generalist**

Select 18 hours from the following:		18
6-12 hours approved EDUC, EDTC, EDSP, or content area curriculum 5000-level coursework		
6-12 hours approved EDUC, EDTC, or EDSP instructional 5000-level coursework		
Total Hours		18

**English as a Second Language (ESL) Specialist**

PSYC 5379	Advanced Psycholinguistics	3
EDUC 5340	Teaching English as a Second Language	3
EDUC 5341	Language and Literacy Development in Young Learners	3
EDUC 5342	English as a Second Language Content Area Instruction	3

EDUC 5343	Assessments and Accommodations for English Language Learners	3
Total Hours		15

### STEM Education

EDUC 5370	Foundations of STEM Education	3
EDUC 5371	Problem-Based Research in STEM Education	3
EDUC 5372	Integrative STEM Pedagogy & Instructional Design for the Classroom	3
EDUC 5373	Design Thinking for STEM Teaching & Learning	3
EDUC 5374	STEM Education Practitioner Inquiry Capstone	3
Total Hours		15

- 1 Other requirements for Educational Diagnostician Professional Certificate include a Master's degree, successful completion of the state examination, valid classroom teaching certificate and two creditable years of teaching experience.
- 2 Other requirements for Reading Specialist Professional Certificate include a Master's degree, successful completion of the state examination, valid classroom teaching certificate, and two creditable years of teaching experience.
- 3 Six hours of graduate-level electives are required for the Reading Specialist Concentration Area. READ 5377 and READ 5378 may be taken, or six other graduate hours may be taken with adviser approval.
- 4 EDSP 5325, 5328 and 5329 must be taken sequentially.

### CERTIFICATION-ONLY OPTIONS

Two certification programs available for graduate students who do not wish to complete a Master's degree include the Educational Diagnostician Certificate and Reading Specialist Certificate.

- **Educational Diagnostician Certificate<sup>1</sup>**

Designed for educator's who already hold a Master's degree, the Educational Diagnostician Certificate requires a minimum of 2 years of public school teaching experience, completion of 24 hours of graduate coursework, and a passing score on the Texas certification test. More information about the Educational Diagnostician certification program can be found on the Curriculum and Instruction graduate website ([www.tarleton.edu/cimasters/](http://www.tarleton.edu/cimasters/)).

#### Educational Diagnostician Certification Only - Non-Degree Requirements

EDSP 5305	Introduction to Exceptional Learners	3
EDSP 5311	Behavior Management in Special Education Environments	3
EDSP 5315	Advanced Study of Development Disabilities	3
EDSP 5329	Assessing Cognitive Abilities of Exceptional Learners	3
EDSP 5325	Appraisal of Exceptional Learners	3
READ 5375	Reading Assessment and Intervention	3
EDSP 5328	Case Management for Educational Diagnosticians	3
EDSP 5399	Practicum for Educational Diagnosticians	3
PSYC 5381	Assessment and Evaluation Fundamentals	3
Total Hours		27

- 1 Other requirements for Educational Diagnostician Certificate include a Master's degree, successful completion of the state examination, valid classroom teaching certificate and two credible years of teaching experience.

- **Reading Specialist Certificate**

Information regarding this certification is available from the Reading Specialist concentration advisor listed at ([www.tarleton.edu/cimasters/](http://www.tarleton.edu/cimasters/)).

#### Reading Specialist Certification Only - Non-Degree Requirements<sup>2</sup>

READ 5373	Foundations of Reading	3
READ 5374	Reading Resources and Materials	3
READ 5375	Reading Assessment and Intervention	3
READ 5376	Organization and Administration of Reading Programs	3
READ 5197	Literacy Practicum I	1
READ 5299	Literacy Practicum II	2
READ 5379	Advanced Psycholinguistics	3
Total Hours		18

- 2 Other requirements for Reading Specialist Professional Certificate include a Master's degree, successful completion of the state examination, valid classroom teaching certificate, and two creditable years of teaching experience.

### Education Courses

#### EDUC 5085. Education Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).

Presentation of project proposal, implementation, and conclusions. Must be repeated a minimum of 3 times for 1 hour credit each semester to complete masters project. Student must be continuously enrolled until the graduate project is completed.

#### EDUC 5086. Special Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).

Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor. Prerequisite: Graduate major in Education.

#### EDUC 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).

Scheduled when the student is ready to begin the thesis. No credit until the thesis is completed. Prerequisites: EDUC 5398, 5357, and consent of major professor.

#### EDUC 5301. Readings in Professional Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

An examination of current issues in the professional development of educators. Topics include models of professional development, impact of professional development on public school student achievement, effective evaluation of professional development, and identification of best practice in writing and evaluating research with an emphasis on literature reviews.

**EDUC 5302. Cultural Diversity in Schools and Communities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of various dimensions of culture related to teaching, learning, and support services in the community. Topics of study will include ethnicity, socio-economic status, language, gender, religion, age, and exceptionality.

**EDUC 5303. Foundations of Curriculum. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the philosophical, historical, psychological and social foundations of curriculum. Analysis and interpretation of theoretical research is required. Students must complete this course within the first twelve semester hours of graduate study. TMATE students will enroll in this course immediately following completion of certification requirements.

**EDUC 5304. Human Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Increasing the understanding of human behavior with emphasis on the child, adolescent, and adult learner. An examination of the social and cultural forces in the formation of personality, the self, and roles in group membership.

**EDUC 5307. Adult Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the theory and research pertaining to adult learners. Topics for study include the characteristics of adult learners, human performance improvement, instructional and assessment strategies that are effective with adults, technology applications for instructional delivery, and program assessment. Students may not count both EDUC 5307 and EDTC 5307 for credit toward a degree.

**EDUC 5310. Foundations of Elementary and Middle School Curriculum. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the elementary and middle school curricula, including English language arts and reading; mathematics; life, earth and physical science; social sciences; fine arts; health and physical education. Additional topics include the state adopted curriculum, local school instructional programs and national/state assessment programs. Field experience is required. Prerequisites: admission to the College of Graduate Studies; pending admission to the alternative teacher certification program at Tarleton.

**EDUC 5311. Methods of Effective Teaching. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the research on effective teaching practices with an emphasis on direct instruction. Additional topics of study include mastery learning, assessment of learning and use of assessment to guide instruction. Students will apply technology and effective teaching practices to the design and delivery of instruction. Prerequisite: admission to the alternative teacher certification program at Tarleton.

**EDUC 5312. Seminar in Teaching Language Arts and Social Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An integrated approach to teaching Social Studies through the application of the writing process, reading/writing connections, and children's literature. Prerequisite: 18 hours of professional education course work.

**EDUC 5314. Creating and Managing the Learning Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the research on creating and maintaining a positive learning environment. Additional topics for study include: cultural dimensions of classroom management; motivating student achievement; fostering cooperation among students; and reinforcing appropriate behavior. Prerequisite: admission to the alternative teacher certification program at Tarleton.

**EDUC 5315. Content Methodology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to examine specific content methodology derived from research-based instructional practice using the Texas Educator Standards. All TMATE certification content areas will be available in this online course. Prerequisites: EDUC 5311 and EDUC 5314.

**EDUC 5320. Issues in the Education of Children. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The examination of issues related to the education of young children. Course content includes: applying stage development and learning theories to develop instructional strategies and classroom management practices; cultural and individual differences; teaching English language learners and learners with special needs. Prerequisite: admission to the alternative teacher certification program at Tarleton.

**EDUC 5321. Issues in the Education of Adolescents. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The examination of issues related to the education of adolescents. Course content includes: applying stage development and learning theories to develop instructional strategies and classroom management practices; cultural and individual differences; the adolescent subculture and factors that place adolescents at risk; teaching English language learners and learners with special needs. Prerequisite: admission to the alternative teacher certification program at Tarleton.

**EDUC 5322. Teaching Math and Science in the Elementary School. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced study of methods and materials for the teaching of math and science. Emphasis will be on helping teachers become more effective in teaching math and science by developing questions, investigations, speculations, and explorations that reflect not only the content of each area of study, but the process involved in learning.

**EDUC 5334. Curriculum for Early Childhood Programs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced study will be made of early childhood education curriculum and practices. An examination will be made of current trends in early childhood curriculum with an emphasis on the modifications needed to ensure the success of all young children. Prerequisite: 18 hours of professional educational course work.

**EDUC 5338. Curriculum Design and Implementation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The curriculum selection, design, implementation, and evaluation processes within the classroom and school district settings are examined. Factors that influence the curriculum decision-making process and a review of theories of curriculum development will be researched. Curriculum alignment and curriculum auditing will be major emphases of this course.

**EDUC 5340. Teaching English as a Second Language. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of theory, research, and practice as it relates to English language learners. This course will provide an overview of the various methods and philosophies of English language instruction. The course will focus on the best practices for developing listening, speaking, reading, and writing skills with English language learners.

**EDUC 5341. Language and Literacy Development in Young Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the interrelatedness between language acquisition and literacy development. This course will review the multiple perspectives on developing English language literacy with English language learners that come from bilingual and multilingual homes. The course will focus on best practices for assessing and developing literacy in English Language Learners.

**EDUC 5342. English as a Second Language Content Area Instruction. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of best practices for integrating English language instruction with content-based ESL instruction in science, mathematics and social sciences for non-English speaking students. This course will focus on content specific strategies and sheltered English instruction.

**EDUC 5343. Assessments and Accommodations for English Language Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of assessments to determine English Language Learners' linguistic levels, language proficiency, and growth content area learning.

**EDUC 5345. Advanced Instructional Strategies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The derivation of appropriate methods and techniques from basic principles of learning. The development of working skills needed in cooperative planning, selecting, and organizing teaching materials, utilization of the environment, individual and group guidance, and evaluation activities.

**EDUC 5350. Assessment Issues for Educational Leaders. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The examination of assessment as a process with emphasis on assessment of student achievement and on data interpretation for the purpose of improving instruction.

**EDUC 5355. Effective Instructional Programming. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of research-based best instructional and curricular practices and the evaluation and enhancement of instructional and curricular programs related to identified best practices.

**EDUC 5360. The Gifted Learner. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in-depth study of the characteristics and needs of gifted and talented students as they relate to both school and family settings. Different models and programs for gifted education will be studied. Formal and informal identification procedures will be examined in line with federal and state guidelines.

**EDUC 5362. Creativity in the Classroom. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the theories and models of creativity. Emphasis will be given to identifying the creative potential of students in all classrooms. Instructional processes which accommodate the needs of creative learners will be examined and developed. Prerequisite: EDUC 5360.

**EDUC 5364. Curriculum and Materials Development for the Gifted Learner. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A comparison of regular and gifted curricula with a focus on developing an interdisciplinary curriculum for gifted learners. Students will examine and evaluate existing materials and equipment which support instruction for the gifted in both regular and special programs. One focus will be on developing and evaluating teacher constructed materials. Prerequisite: EDUC 5360.

**EDUC 5366. Instructional and Evaluation Methods for the Gifted Learner. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Methods of determining specific learning styles and talents will be learned, with emphasis placed on implementing appropriate instruction for programs. Methods and tools of informal and formal evaluation and assessment will be examined. Prerequisites: EDUC 5360 and 5364.

**EDUC 5369. Practicum in Gifted Education. 3 Credit Hours (Lecture: 1 Hour, Lab: 7 Hours).**

Supervises professional activities in gifted and talented programs. Students will be required to demonstrate competence in the process of delivering a synergistic gifted and talented program. Prerequisites: Successful completion of EDUC 5360, 5362, 5364, and 5366. Field experience fee \$50.

**EDUC 5370. Foundations of STEM Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will explore the history of STEM education and the concepts and application of STEM in society; examine, analyze, and apply the role that STEM disciplinary language plays in STEM instruction; examine factors influencing STEM comprehension; examine sociocultural and cognitive factors influencing STEM education across EC-12 levels; application of STEM principles to instructional settings. Prerequisites: Admitted into the Curriculum & Instruction graduate program, STEM emphasis certificate program, or previously obtained a graduate degree.

**EDUC 5371. Problem-Based Research in STEM Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will introduce scientific research associated with STEM education; examine problems associated with STEM implementation in EC-12 curriculum and instruction settings; evaluate and create effective solutions for STEM curricular and implementation problems in school-based settings. Prerequisites: Admitted into the Curriculum & Instruction graduate program, STEM emphasis certificate program, or previously obtained a graduate degree.

**EDUC 5372. Integrative STEM Pedagogy & Instructional Design for the Classroom. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is grounded in research and new theories regarding educational practices and outcomes in STEM education; examine integrated and multidisciplinary practice-based pedagogies; building of interdisciplinary STEM connections among content areas; development, implementation, and evaluation of integrative STEM project-based learning. Prerequisites: Admitted into the Curriculum & Instruction graduate program, STEM emphasis certificate program, or previously obtained a graduate degree.

**EDUC 5373. Design Thinking for STEM Teaching & Learning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will explore integrated approaches for teaching science and mathematics concepts using design thinking principles and technology in EC-12 education; students will deliver contextualized and integrated STEM instruction that promotes students engagement, motivation, and interest using the design thinking process. Prerequisites: Admitted into the Curriculum & Instruction graduate program, STEM emphasis certificate program, or previously obtained a graduate degree.

**EDUC 5374. STEM Education Practitioner Inquiry Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Knowledge and skills acquired in STEM education courses will be used to identify and research solutions to a practical, real-world obstacle in STEM education curriculum or implementation. Students will review scholarly literature, problem-solve using best practices in STEM education, implement their solution, evaluate the results, and formally report the outcome. Prerequisite: EDUC 5370, EDUC 5371, EDUC 5372, or concurrent enrollment.

**EDUC 5390. Selected Topics in Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of different topics each semester with a focus on such subjects as the gifted student, the education of culturally disadvantaged, teacher evaluation, or other selected topics concerning the teaching/learning process. This semester may be repeated for credit as topic changes. Prerequisite: Permission of instructor.

**EDUC 5398. Techniques of Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Fundamental concepts and tools of research applied to psychological and educational problems. Rationale of research, analysis of problems, library skills, sampling, appraisal instruments, statistical description and inference, writing the research report, and representative research designs.

**EDUC 5399. Internship in Teaching. 3 Credit Hours (Lecture: 1 Hour, Lab: 7 Hours).**

Supervised field-based experience in classroom teaching. Interns must demonstrate proficiency in applying effective teaching practices and classroom management strategies in a school classroom. Prerequisite: Admission to a teacher certification program at Tarleton; satisfactory performance in the professional development courses preceding the internship. May be repeated for credit. Field experience fee: \$75.

**EDUC 5695. Practicum in Clinical Teaching. 6 Credit Hours (Lecture: 1 Hour, Lab: 18 Hours).**

Supervised practicum in clinical teaching in the public schools at the appropriate level. Students are required to demonstrate proficiency in the application of effective instructional practices and classroom management strategies. Prerequisite: Admission to the TMATE Practicum in Clinical Teaching.

## Reading Courses

**READ 5086. Reading Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Directed study of selected problems in reading. Prerequisite: Approval of department head.

**READ 5197. Literacy Practicum I. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course provides students with opportunities to apply content and use materials and strategies from READ 5375 Reading Assessment and Intervention in their own school setting. Concurrent enrollment in READ 5375 Reading Assessment and Intervention is required. Prerequisite: READ 5373 or 9 hours of undergraduate reading courses or approval of department head. Concurrent enrollment in READ 5375 Reading Assessment and Intervention is required.

**READ 5299. Literacy Practicum II. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course provides students with opportunities to apply content and use materials and strategies from READ 5376 Organization and Administration of Reading Programs in their own school setting. Concurrent enrollment in READ 5376 Organization and Administration of Reading Programs is required. Prerequisite: READ 5373 or 9 hours of undergraduate reading courses or approval of department head. Concurrent enrollment in READ 5376 Organization and Administration of Reading Programs is required.

**READ 5370. Literacy Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Models of the reading and writing processes. Includes characteristics of emergent, early, transitional and fluent literacy; instructional strategies in reading and writing; phonics instruction and strategies for teaching English language learners; the essential knowledge and skills in the language arts curriculum. Prerequisite: admission to the alternative teacher certification program at Tarleton.

**READ 5372. Language Arts for Today's Learner. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines research and strategies for implementing the reading/writing process in classrooms. Examines integrated curriculum, use of children's literature, classroom management and organization, evaluation, working with diverse learners, and developing support networks. Prerequisites: READ 5373 or 9 hours of undergraduate reading courses or approval of department head.



**READ 5373. Foundations of Reading. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines theoretical models of reading processes, historical perspectives on reading instruction, and their relationship to instructional practices. This course also focuses on instructional strategies and relationships between the components of reading: oral language, phonological and phonemic awareness, concepts of print, alphabetic principle, word identification, comprehension, vocabulary, and written language. Prerequisite: Elementary, secondary, or all-level certification or approval of department head.

**READ 5374. Reading Resources and Materials. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course researches, identifies, and evaluates a variety of print and non-print materials, including content area textbooks, trade books, and computer software. This course also focuses on development of comprehension through a variety of reading and writing strategies. Prerequisite: READ 5373 or 9 hours of undergraduate reading courses or approval of department head.

**READ 5375. Reading Assessment and Intervention. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines methods and techniques related to reading assessment and intervention for the components of reading. This course explores informal and formal reading assessment procedures, including the documentation and analysis of assessment data; using data analysis to design interventions for students with reading difficulties, dyslexia, and reading disabilities; and monitoring and evaluating the effectiveness of interventions. Concurrent enrollment in Literacy Practicum I is required. Prerequisites: READ 5373 or 9 hours of undergraduate reading courses or approval of department head. Concurrent enrollment in READ 5197 Literacy Practicum I is required.

**READ 5376. Organization and Administration of Reading Programs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course surveys state and federal requirements, standards, trends, and issues related to the administration of reading programs. Students will examine instructional issues and reading programs for Pre-K through adult learners. Additional course topics include literacy instruction for English Language Learners, use of assessment results to plan instruction, flexible grouping strategies, textbook/test adoption procedures, roles and responsibilities of personnel in the reading programs, staff professional development, and facilitation of positive change strategies. Concurrent enrollment in Literacy Practicum II is required. Prerequisites: READ 5373 or 9 hours of undergraduate reading courses or approval of department head. Concurrent enrollment in READ 5299 Literacy Practicum II is required.

**READ 5377. Digital Literacy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Surveys digital technology, communication tools, and multiple forms of media to locate, evaluate, use, and create information in the 21st century reading classroom. Examines the appropriate use of technology paired with best practices to scaffold reading instruction for diverse populations. Prerequisites: READ 5373 or 9 hours of undergraduate reading courses or approval of department head.

**READ 5378. Adult Literacy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An analysis of theoretical and practical applications of adult literacy development. Topics will include a current and historical understanding of literacy, English Language Learners, adult technology literacy needs and skills, and future directions for adult education and literacy. Implications for program development and implementation of successful adult literacy programs will also be discussed. Prerequisite: READ 5373 or 9 hours of undergraduate reading or approval of department head.

**READ 5379. Advanced Psycholinguistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course emphasizes linguistic principles, the perception of language, the mental lexicon, sentence and discourse comprehension, the production of speech and language, conversational interaction, first and second language acquisition, biological foundations of language, and related topics, such as reading, linguistic diversity, and cultural influences. Credit for both READ 5379 and PSYC 5379 will not be awarded.

**READ 5380. Critical Literacy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course offers an introduction to the critical and analytical study of literature and its application to the modern classroom. Taking a critical perspective, students will examine the underlying messages in literature and explore topics of gender, race, power, and other complex social issues through multiple genres and texts. These topics will be situated in the context of literacy education.

**READ 5399. Reading Specialist Practicum. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of READ 5399 is to provide supervised professional activities in the areas of literacy resources, literacy instruction, literacy assessment, research, and professional leadership. The university field supervisor will support reading specialist candidates' development and demonstration of competencies of professional knowledge, skills, and responsibilities according to state standards and the Science of Teaching Reading. As the culminating experience in the Reading Specialist Program, students must complete an action research project. Note: Reading Specialist candidates will also need to pass the state reading specialist certification assessment in order to apply for the Reading Specialist Standard Certification. Additionally, practicum students must be employed in an educational setting during the entirety of the course. Prerequisites: Admission to the Reading Specialist Program, completion of 18 hours of READ specialist coursework, and concurrent enrollment in READ 5376 (or department head approval).

## Special Education Courses

**EDSP 5086. Special Education Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Open to graduate students who are capable of developing a problem independently. Problems are chosen by the student and approved in advance by the instructor and department head. Prerequisite: Full admission to the College of Graduate Studies and a graduate degree or certification program.

**EDSP 5305. Introduction to Exceptional Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of learner characteristics and an examination of instructional techniques that promote academic, personal, and social growth in exceptional learners and an examination of the process and procedures relating to the placement of exceptional learners. Prerequisite: 18 hours of professional education or certification.

**EDSP 5310. Special Education Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to interpret and apply current special education policy and law to practice, and develop the skills to be professional and ethical educational leaders and advocates for students with disabilities. In addition, an exposure to how issues of diversity have shaped federal statutes and regulations concerning assessment and evaluation procedures, due process and mediation, discipline, individual education plans (IEPs), free appropriate education (FAPE), and least restrictive environment (LRE).

**EDSP 5311. Behavior Management in Special Education Environments. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Characteristics of students with emotional disabilities, including the application of behavioral management strategies appropriate for students with emotional and behavioral disabilities. Course content includes: functional assessment of behavior; development of behavior intervention plans; strategies for teaching appropriate behavior; crisis management strategies; integrating behavior management with instructional programs in school, community and home settings. Prerequisite: admission to the alternative teacher certification program at Tarleton.

**EDSP 5313. Advanced Study of Learning Disabilities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of research-based instructional methods appropriate for students with high incidence disabilities, including causation, diagnosis and educational programming. Course content includes methods for teaching students with learning disabilities, mild intellectual disabilities, speech and language impairments, behavior disorders and other high incidence disabilities. Emphasis placed on adaptation, accommodation, and modification strategies as well as collaboration with parents, paraprofessionals, general education teachers, and other educational professionals.

**EDSP 5315. Advanced Study of Development Disabilities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of research-based instructional methods appropriate for students with learning and developmental disabilities, including causation, diagnosis and educational programming. Course content includes methods for teaching students with learning and developmental disabilities; adapting general education classrooms to accommodate the inclusion of students with learning and developmental disabilities; collaboration with parents, paraprofessionals, and general education teachers. Prerequisite: EDSP 5305 or approval of department head.

**EDSP 5320. Assessing Students with Exceptionalities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides knowledge and skills related to various forms of assessment which are designed to identify and support students with exceptional learning and behavioral needs. Students will become familiar with general concepts related to tests and measurement, and gain experience using various forms of formal and informal assessment. Assessment data will be analyzed and used to help formulate various elements of student instructional plans/interventions. Prerequisite: EDSP 5305.

**EDSP 5325. Appraisal of Exceptional Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Standardized assessment of the academic achievement of students referred for or currently receiving special education services including test administration, analysis, and reporting of scores, and program planning. Prerequisite: Admission into Educational Diagnostician program; EDSP 5305 or concurrent enrollment; or approval of department head. Lab fee: \$30.

**EDSP 5327. Teaching Students with Severe to Profound Disabilities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Definitions, characteristics, and instructional techniques for students with severe and profound disabilities, including functional assessment, applied behavioral analysis, Individualized Education Program (IEP) goals and objectives, transition and placement issues. Prerequisite: EDSP 5305 or approval of department head.

**EDSP 5328. Case Management for Educational Diagnosticians. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course addresses state and federal laws that affect the diagnosis, placements, and programs for students with disabilities and the diagnostician's role and responsibilities as compliance officers. Enrollment limited to students admitted to the Diagnostician Certification Program or permission of department head. Prerequisites: Admission to the Educational Diagnostician Certification Program, EDSP 5305, EDSP 5325 and EDSP 5329.

**EDSP 5329. Assessing Cognitive Abilities of Exceptional Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Standardized assessment of the cognitive and adaptive behavior abilities of exceptional students. Includes test administration, scoring, analysis, and program planning. Prerequisites: Acceptance into Educational Diagnostician program, EDSP 5305, and EDSP 5325. Lab fee: \$2.

**EDSP 5397. Internship in Special Education Teaching. 3 Credit Hours (Lecture: 1 Hour, Lab: 7 Hours).**

A supervised, field-based experience in a special education classroom. Interns must demonstrate proficiency in applying effective teaching practices and classroom management strategies in a school classroom. Prerequisite: Admission to a teacher certification program at Tarleton; satisfactory performance in the professional development courses preceding the internship. May be repeated for credit. Field experience fee: \$75.

**EDSP 5399. Practicum for Educational Diagnosticians. 3 Credit Hours (Lecture: 1 Hour, Lab: 7 Hours).**

Supervised professional activities for students preparing for certification as an educational diagnostician. Professional activities will include test administration, scoring, analysis, diagnosis, report writing, and program planning. Students will be required to demonstrate competence in the performance of professional duties as an educational diagnostician. This project addresses a practical, real world challenge using the skills and knowledge students have gained throughout their program of study. The completed project will demonstrate critical thinking, research-based best practices, review of scholarly literature, and formal reporting consistent with APA style. A minimum of 300 hours of documented related professional activities will be required. A field experience fee of \$50.00 is required for this course. Prerequisites: EDSP 5305, 5325, and 5329 or approval of department head.

## Child Development and Family Studies

Dr. Amber Lynn Diaz, Department Head  
Department of Curriculum and Instruction  
E.J. Howell Building, Room 320  
Box T-0290  
Stephenville, Texas 76402  
12549680730  
adiaz@tarleton.edu

### Master of Science in Child Development and Family Studies

#### Required Courses

CHFS 5313	Advanced Human Development	3
CHFS 5320	Social and Emotional Development	3
CHFS 5321	Family Theories and Research	3
CHFS 5330	Interpersonal Relationships	3
CHFS 5339	Language and Cognitive Development in Childhood	3
CHFS 5347	Child and Family Advocacy	3
CHFS 5360	Research Methods in Human Sciences	3
EDUC 5398	Techniques of Research	3
Total Hours		24

#### Additional Required Courses for Concentrations

##### Professional

EDSP 5305	Introduction to Exceptional Learners	3
EDUC 5385	Education Seminar	3
Total Hours		6

##### Thesis

CHFS 5088	Thesis	6
Total Hours		6

#### Associate professor

- Deborah Banker

#### Assistant professors

- Kristina Higgins
- Lisa Taylor-Cook

#### Courses

**CHFS 5086. Special Problems. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor and department head. Prerequisite: Graduate major in College of Education. Prerequisite: Graduate major in College of Education.

**CHFS 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thesis. No credit until the thesis is completed. Prerequisites: Completion of all course work required by the degree and consent of the major professor.

**CHFS 5313. Advanced Human Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of theories that relate to human development and contemporary research findings in areas of the field of human development. Developmental domains and children's relationships within family and society will be emphasized.

**CHFS 5320. Social and Emotional Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Contemporary theory and research related to social and emotional development from infancy through young adulthood. Discussion of the impact of social and emotional development on behavior and interpersonal relationships.

**CHFS 5321. Family Theories and Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of family theories and research which employ the contextual framework of the family as a system and which explain family of origin, family functioning, family structure, and family process. Application of theory and research will include an understanding of the various levels of family functioning as a model for developing family support and intervention plans.

**CHFS 5330. Interpersonal Relationships. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A functional approach to the understanding of the interpersonal dynamics and choices in primary and secondary relationships such as those with friends, dating partners, and potential mates. The study will include a brief historical and cross-cultural perspective with emphasis on the roots of modern American customs and the rituals of dating and mate selection.

**CHFS 5339. Language and Cognitive Development in Childhood. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analysis of current research in preschool language and cognitive development; methods for continuing language and cognitive growth based on the demonstrated processes of brain development.

**CHFS 5340. Advanced Child Life. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A review of the historical and theoretical perspectives on the development of the child life field and information on fundamental skills required to help children and families cope with the stress of the health care experience. This course is required for the Child Life Specialist Certification.

**CHFS 5347. Child and Family Advocacy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the knowledge, skills, and strategies necessary to understand the impact of social policies and institutional practices on the well being of children and families.

**CHFS 5350. Advanced Methods of Family Life Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An understanding of the philosophies and principles of family life education, including knowledge of the family life certification process and content areas. This course will include a survey and critique of various existing family life education programs as well as the development, implementation, and evaluation of new evidence-based programs.

**CHFS 5360. Research Methods in Human Sciences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Course will provide an in-depth review of study design and data analysis methods. Both qualitative and quantitative approaches will be covered, and the publication and peer-review process will be discussed.

## TMATE Certification

Dr. Laura Estes, TMATE Director  
 Tarleton State University  
 10850 Texan Rider Drive  
 Box T-0008  
 Fort Worth, Texas 76036  
 817-717-3690  
 estes@tarleton.edu  
 www.tarleton.edu/tmate (<http://www.tarleton.edu/tmate/>)

## Alternative Certification

The Tarleton Model for Accelerated Teacher Education (TMATE) program is an exemplary accelerated teacher certification program in Texas with a mission to encourage, engage, and empower our interns. We partner with school districts to develop Texas teachers that:

- build relationships with students, parents, community and teammates;
- provide instruction and classroom environments conducive to learning; and
- collaborate using student data to ensure all students learn.

TMATE is a year-long graduate program for highly motivated people with a bachelor's degree, who want to become certified Texas teachers. TMATE's reputation as an exemplary teacher certification program makes TMATE participants very attractive candidates for school districts seeking to hire beginning teachers.

Certification is earned through a combination of intensive course work coupled with a paid, year-long internship in a teaching position within a Texas Education Agency accredited school. There is also a clinical teaching option available for one semester with no pay or benefits. The internship/clinical teaching is jointly sponsored and supervised by Tarleton State University and the participating school district.

Through TMATE, teaching certificates may be earned in the following areas: Core EC– 6; Grades 4 – 8 Core and Content Areas; and Grades 7 – 12 Content Areas. All-level certifications are available in Physical Education, Art, and Music. A complete list can be found on the TMATE website.

## Program Admission

Applicants must submit a complete TMATE application packet by the deadline. Please use a legal name on all TMATE documents. Applicants will be screened for the TMATE program using an interview, writing sample (or equivalent) and the required application components. A rubric will be used to determine if a candidate meets the admissions criteria. Tarleton's Educator Preparation Council (EPC) will determine official program acceptance. Potential students must be accepted into the College of Graduate Studies prior to admission in TMATE as TMATE courses can be applied to a master's degree.

If applicable, a program transfer form must be submitted with the TMATE application packet. The potential intern may need to contact the Texas Education Agency to ensure PACT eligibility.

Applicants can be given contingent admission pending degree conferral if they are in the last semester of their undergraduate degree.

See the current TMATE Handbook for more information. It is available at [www.tarleton.edu/tmate](http://www.tarleton.edu/tmate).

## TMATE Entry Requirements

TMATE applicants must present a bachelor's degree from a regionally accredited institution along with the following:

- Overall GPA or the GPA for last 60 hours must be at least 2.75.

- The content area must match one of the certification areas TMATE offers. There are no exceptions.

- Register as a PACT (Pre-Admission Content Test) candidate to secure a TEA identification number needed to take the TExES PACT exam (unless content TExES has been passed). Passing PACT scores or content area TExES scores must be included in the TMATE application packet.

See the current TMATE Handbook for more information. It is available at [www.tarleton.edu/tmate](http://www.tarleton.edu/tmate).

### Steps to Apply to the TMATE Program

1. Apply to the College of Graduate Studies and pay the \$50 non-refundable processing fee.

- Online Graduate Application at the following link: [https://tarletonstate.force.com/grad/TX\\_SiteLogin?startURL=%2Fgrad%2FTargetX\\_Portal\\_\\_PB](https://tarletonstate.force.com/grad/TX_SiteLogin?startURL=%2Fgrad%2FTargetX_Portal__PB) ([https://tarletonstate.force.com/grad/TX\\_SiteLogin/?startURL=%2Fgrad%2FTargetX\\_Portal\\_\\_PB](https://tarletonstate.force.com/grad/TX_SiteLogin/?startURL=%2Fgrad%2FTargetX_Portal__PB))

- Provide official transcripts to the College of Graduate Studies from all institutions previously attended (excluding Tarleton).

- Provide proof of residency (if requested).

- Submit an essay no more than 600 words addressing professional and career goals.

- Apply for Financial Aid (if needed).

2. Complete and submit the TMATE application packet to the TMATE Office (email and fax scans are accepted).

3. Interview with TMATE program staff and provide a writing sample or other approved writing proficiency example.

See the current TMATE Handbook for more information. It is available at [www.tarleton.edu/tmate](http://www.tarleton.edu/tmate).

### Application Deadlines

Fall - June 15 (Priority Deadline) August 1 (Final Deadline)

Spring - October 15 (Priority Deadline) December 1 (Final Deadline)

Summer - February 15 (Priority Deadline) April 1 (Final Deadline)

### Required Courses for Traditional TMATE Certification

EDUC 5311	Methods of Effective Teaching	3
EDUC 5314	Creating and Managing the Learning Environment	3
EDUC 5315	Content Methodology	3
EDUC 5390	Selected Topics in Education <sup>1</sup>	3
EDUC 5390	Selected Topics in Education <sup>1</sup>	3
READ 5370	Literacy Development	3
Total Hours		18

<sup>1</sup> Student must enroll for two semesters.

### TMATE Degree Options

Students are eligible to apply their TMATE coursework toward a Master of Education in Curriculum and Instruction, a Master of Arts in English, and a Master of Science in Biology.

#### Master of Education in Curriculum and Instruction with TMATE Certification

##### Required Courses

<b>TMATE Courses</b>		<b>18</b>
EDUC 5303	Foundations of Curriculum	3
EDUC 5338	Curriculum Design and Implementation	3
EDUC 5398	Techniques of Research	3
Elective		3
Total Hours		30

#### Master of Arts in English with TMATE Certification

##### Field of Study Courses

Choose 1 of the following: 3

Rhetoric and Composition:

ENGL 5330	Studies in Rhetoric	
ENGL 5331	History of Rhetoric I	
ENGL 5332	History of Rhetoric II	
ENGL 5333	Rhetorical Criticism	
ENGL 5334	Introduction to Visual Rhetoric	
ENGL 5335	Seminar in Professional Writing	
ENGL 5336	Grant and Proposal Writing	
ENGL 5337	Intercultural Technical and Professional Writing	

Choose 1 of the following: 3

British Literature:

ENGL 5340	Studies in British Literature	
ENGL 5350	Studies in Literature Before 1500	
ENGL 5360	Modern American and British Poetry	

Choose 1 of the following: 3

American Literature:

ENGL 5310	Studies in American Literature	
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ENGL 5340	Studies in British Literature	
ENGL 5360	Modern American and British Poetry	
Choose 1 of the following:		3
Other:		
ENGL 5320	Studies in the English Language	
ENGL 5370	Studies in Comparative Literature	
Choose an additional 3 hours from the options above		3
<b>Other Required Courses</b>		
<b>TMATE Courses</b>		<b>18</b>
ENGL 5398	Methods of Bibliography and Research Analysis	3
or ENGL 5396	Digital Humanities	
ENGL 5380	Studies in the Teaching of Composition	3
Total Hours		39

**\*NOTE:** If the student takes ENGL 5380 Studies in the Teaching of Composition or ENGL 5398 Methods of Bibliography and Research Analysis during TMATE, the course can replace EDUC 5315 Content Methodology. Work closely with Dr. Estes, TMATE Director, if you are planning to pursue this degree option. \*

## Master of Science in Biology with TMATE Certification

<b>Required Courses</b>		
<b>TMATE Courses</b>		<b>18</b>
Additional BIOL Coursework:		21
BIOL 5302	Ecological Plant Physiology	
BIOL 5320	Environmental and Restoration Biology	
BIOL 5330	Development of Modern Biological Concepts	
BIOL 5331	Conservation Biology	
BIOL 5361	Evolutionary Biology	
BIOL 5398	Research Design and Analysis	
BIOL 5185	Seminar	
BIOL 5185	Seminar	
BIOL 5086	Biological Problems	
Total Hours		39

## Contact Information

A full description of the TMATE program is provided on the website, [www.tarleton.edu/tmate](http://www.tarleton.edu/tmate) (<https://tarleton.edu/tmate/>).

Applicants may also contact the TMATE office:  
 Fort Worth  
 Dr. Laura Estes, TMATE Director  
 10850 Texan Rider Drive, Fort Worth, TX 76036  
 817-717-3690  
[estes@tarleton.edu](mailto:estes@tarleton.edu)

## Department of Educational Leadership and Technology

Dr. Julie Howell, Interim Department Head  
 Department of Educational Leadership and Technology  
 Howell Building, Room 320E  
 Box T-0815  
 Stephenville, Texas 76402  
 254-968-1947  
[jhowell@tarleton.edu](mailto:jhowell@tarleton.edu)  
[www.tarleton.edu/edlt](http://www.tarleton.edu/edlt) (<http://www.tarleton.edu/edlt/>)

## Master of Education Degree in Educational Administration

The Department of Educational Leadership and Technology offers the Master of Education degree in Educational Administration. This degree is designed to help students improve their competencies in the field by developing new skills and in-depth knowledge, which are requisites for assuming roles of increased responsibility and leadership.

### General Procedures

Graduate faculty are designated as advisors to assist students with developing a course of study in accordance with each students' area of concentration. Faculty advisors work with students throughout their program to help them prepare for meeting program requirements, such as a comprehensive exam and practicum.

To receive full admission to any degree program offered in the Department of Educational Leadership and Technology, an applicant must meet all standards established by the College of Graduate Studies and all departmental program requirements.

To remain in good standing, students who have full admission status are expected to maintain a 3.0 GPA. Students whose GPA does not meet the minimum may not enroll for additional work without special permission from the department head.

Consideration for accepting transfer credits will be given only after a student has full admission to graduate study. Credits transferred from an approved institution must meet the guidelines outlined in Limitations on Transfer and Correspondence Courses in General Requirements for the Master's Degree.

## Comprehensive Examination

The following comprehensive examination procedures apply to the concentrations offered in the Department of Educational Leadership and Technology. There are three concentration of which students select one: EC-12 Leadership, Principal Certification; or Higher Education Leadership; or Educational Technology Leadership.

## Administration and Application Dates

Examinations will be administered according to guidelines established by the requirements of each concentration area. Examinees must have filed a degree plan and completed course requirements to be eligible to take the comprehensive examination.

## Examination Schedule

Examination schedules vary by area of concentration. A faculty advisor notifies students of examination opportunities and may include days, times, locations, and requirements as they progress toward earning the master's degree in educational administration.

## Procedures

Students are provided information specific to the comprehensive examination in their concentration area. Information also included guidelines for completing and submitting the examination.

Students are expected to have a passing score in order to be eligible for graduation. Passing scores are established according to concentration criteria and explained to students during their program of study.

## Educational Administration Degree and Certification Requirements

The Educational Administration programs at Tarleton State University are designed to prepare effective educational leaders. Students may pursue a concentration in EC-12 Leadership, Principal Certification; Higher Education Leadership; or Educational Technology Leadership; or Post-Master's Principal Certification or Post-Master's Superintendent Certification. Semester credit hour requirements are as follows: EC-12 Leadership, Principal Certification (33 semester hours); Higher Education Leadership (30 semester hours); Educational Technology Leadership (30 semester hours); Post-Master's Principal Certification (24 semester hours); Superintendent Certificate (15 semester hours).

Tarleton's Master of Education degree in Educational Administration and the accompanying certification programs are designed to prepare administrators for a variety of roles and responsibilities. The Principal's Certificate qualifies one to hold campus-level administrative positions. The Superintendent's Certificate qualifies one to become a district superintendent. Higher Education Leadership and Educational Technology Leadership graduates are prepared to hold a variety of leadership positions in higher education and ECE-12. The programs are designed to support the continuing professional development of career-oriented individuals and to help them be knowledgeable decision-makers, capable of providing leadership to districts, campuses, other educational organizations, and communities.

## Typical Curriculum for M.Ed. in Educational Administration

Following is the typical curriculum for the Master of Education (M.Ed.) Degree in Educational Administration. A student who wishes to complete this degree and qualify for the principal's certificate should ask his/her academic advisor for information about additional requirements for the principal's certificate. Students specializing in higher education will complete 12 hours of the leadership core, and 18 hours of higher education courses for a total of 30 semester credit hours.

### Master of Education Degree in Educational Administration

#### Required Courses

EDAD 5301	Research in Educational Leadership	3
EDAD 5355	Leadership of Diverse Learning Communities	3
Total Hours		6

#### Additional Required Courses for Concentrations

##### Higher Education

ELHE 5300	Higher Education History	3
ELHE 5301	Higher Education Student Services	3
ELHE 5302	Higher Education Finance	3
ELHE 5303	The Comprehensive Community College	3
ELHE 5304	Higher Education Leadership	3
ELHE 5305	Higher Education Politics and Policy	3
EDTC 5339	Leading Technology Innovation in Education	3
ELHE 5399	Practicum in Higher Education Leadership	3
Total Hours		24

##### Principal Certification\*

EDAD 5300	Foundations in Educational Leadership	3
EDAD 5307	Leadership of Programs and Procedures in Supervision	3
EDAD 5309	Legal Issues in School Leadership	3
EDAD 5316	Instructional Leadership	3
EDAD 5339	Processes of Educational Leadership	3
EDAD 5342	Leaderships of Campus Resources	3
EDAD 5345	Leadership of Curriculum Systems	3
EDAD 5398	Principal Practicum I	3
EDAD 5399	Principal Practicum II	3
Total Hours		27

##### Educational Technology Leadership

EDTC 5307	Adult Learners	3
EDTC 5338	Principles of Instructional Design	3

EDTC 5339	Leading Technology Innovation in Education	3
EDTC 5349	Educational Media and Technology	3
EDTC 5353	Designing Online Learning Environments	3
EDTC 5354	Facilitating Online Learning Environment	3
EDTC 5356	Social Media Use in Education	3
EDTC 5370	Intern/Service Learning Capstone	3
Total Hours		24

## Admission to Educational Leadership Programs

Admission procedures for the Master of Education Degree in Educational Administration include the following steps:

1. Admission to the College of Graduate Studies:  
Students must complete all requirements for admission to the College of Graduate Studies listed in the current University catalog.
2. Admission to the MEd in Educational Administration program or Post-Master's Principal Certification:  
Students will submit a program application prior to receiving advising or registering for course work that will include all teacher service records and copies of teaching certificates. Program applications will be due by Nov 1 for projected spring enrollment, April 1 for summer enrollment, and July 1 for fall enrollment.
3. *Recommendation for Certification:*  
Recommendation for certification by Tarleton State University will be forwarded to the State Board for Educator Certification only after the student has successfully completed the designated course of study, two years of creditable teaching experience as a classroom teacher (see TAC § 241.25), and has earned a passing score on the Texas State Principal Certification Examination, and has submitted a Request for Certification Recommendation form. Students will be allowed to register for the certification examination when program requirements have been met and approval for testing has been given by a department representative. Students who fail to register and take the principal certification examination within 24 months after the date of completing the requirements listed in this paragraph must request permission from the department head prior to registering for the certification examination. The department head may require additional study to ensure that the student is current in the knowledge and skills in the learner-centered proficiencies. The additional study may include, but is not limited to, additional course work.
4. Students who fail to complete the certification examination, satisfactorily, must receive permission from the department head prior to registering for a subsequent attempt. The department head may require additional study to ensure that the student is current in the knowledge and skills in the learner-centered proficiencies. The additional study may include, but is not limited to, additional course work.  
Students should regularly visit with advisors and the Educator Preparation Services Office for updates and changes in the certification process.

## Post-Master's Principal's Certificate

A master's degree is a prerequisite for this certificate. Students seeking post-master's principal certification must take 15 semester hours of prescribed coursework and 6 semester hours of designated EDAD coursework in the practicum. A practicum is required for the certificate.

### Post-Master's Principal's Certificate

#### Required Courses

#### Required EDAD Courses

EDAD 5300	Foundations in Educational Leadership	3
EDAD 5309	Legal Issues in School Leadership	3
EDAD 5316	Instructional Leadership	3
EDAD 5339	Processes of Educational Leadership	3
EDAD 5399	Principal Practicum I (due to the nature of the new exam the practicum is being moved to a two-semester course)	6
EDAD 5398	Principal Practicum II	3
EDAD 5307	Leadership of Programs and Procedures in Supervision	3
EDAD 5342	Leaderships of Campus Resources	3
EDAD 5345	Leadership of Curriculum Systems	3
Total Hours		30

## Admission to the Principal Practicum as Post-Master's Certification

Students pursuing the Principal's Certificate normally complete their master's degree requirements before completing the practicum.

1. The student must enroll each semester until the practicum is satisfactorily completed.
2. Application for admission to the principal practicum must be submitted to the Coordinator of M.Ed./Principal Certification Programs no later than June 15 preceding the fall of enrollment for the internship and October 15 preceding the spring internship. (See Forms for Application)
3. Students must complete the educational administration core or be enrolled in the last of five core courses prior to enrolling in the internship.

The principal practicum courses typically are a one-semester course each; however, the courses may be repeated so that the student can satisfactorily complete practicum requirements. No more than 6 semester hours of practicum course work can be used to satisfy certification plan requirements.

## Admission to the Superintendent's Certificate Program

For admission to the Superintendent's Certificate Program, students must have earned the principal certificate;

1. have been admitted to the College of Graduate Studies according the requirements of the current University catalog
2. submit copies of official teacher and administration certificates
3. formally apply with the Coordinator of the Superintendent Certification Program for admission to the Superintendent's Certificate Program

Admission to the program does not guarantee recommendation for certification. To be recommended for certification, students must meet all program requirements and, satisfy the requirements for recommendation for certification.

### Superintendent's Certificate Program

#### Required Courses

EDAD 6380	Superintendent Leadership and Communication	3
EDAD 6381	Superintendent Leadership and Human Resources	3
EDAD 6382	Superintendent Leadership and Resource Allocation	3

EDAD 6383	Superintendent Leadership and Accountability	3
EDAD 6384	Superintendent Leadership Practicum	3
Total Hours		15

## Doctor of Education in Educational Leadership

Designed to prepare high quality scholar-practitioners for public school and higher education leadership, the Doctor of Education (Ed.D.) in educational leadership offers a rich theoretical knowledge base as the foundation for the development of visionary leaders for EC-12 and higher education environments. The Ed.D. consists of 54 semester hours of coursework and a 9 semester hour dissertation requirement combining an individualized program of study with specialized course work and research. Including the dissertation, the program is designed for students to complete the Ed.D. in three years.

The program operates as a cohort model. Students are admitted annually and then matriculate through the doctoral course work as a class, beginning in the summer semester. At the beginning of the program, the course work is similar for all students in the cohort, but as students progress through the program, their program of study becomes more individualized and focuses on a specific area of study.

### Admission

The admission process is a three-stage process. Stage 1 is the screening process, which includes submission of all appropriate documents by the advertised deadline. The required documentation includes:

- Application to the College of Graduate Studies;
- Applicants must provide official transcripts for all higher education coursework, including the transcript for your Master's Degree from an accredited institution. You must have completed a minimum of 18 hours of coursework in administration, management, or leadership or have equivalent experiences;
- You must provide four reference forms using either the printable PDF or electronic reference (<https://www.tarleton.edu/edlt/doctoral-application.html>). All references must be from individuals outside of the Department of Educational Leadership and Technology. At least two of the letters must be written by individuals who hold doctoral degrees.
- As a single PDF file, email your cover letter and resume/curriculum vitae to [grad-docs@tarleton.edu](mailto:grad-docs@tarleton.edu). Your cover letter should be no more than 1 page in length and should include information, such as:
  - Goals for being in and completing the doctoral program
  - Professional experience, including leadership experience
  - Details of current work position
  - Any personal details you would like to share

Stage 2 is the evaluation stage, which consists of a review of all information submitted in the screening process, review of a writing sample, and personal interviews. Information about how and when to complete a writing sample will be provided as the admission process continues.

Stage 3 is the selection stage of the admission process. During stage 3, the admissions committee determines which applicants are appropriate for admission to the doctoral program. Admissions are considered twice yearly;

1. an early admission period in November (deadline: November 1) and
2. the normal admission period in April (deadline: April 1).

Application information and instructions can be found at <https://www.tarleton.edu/graduate/index.html> (<https://www.tarleton.edu/graduate/>).

### Course Work

The doctoral program curriculum consists of 63 semester hours in educational leadership foundations, research tools as inquiry, concentration area in EC-12 Leadership or Higher Education Leadership, and dissertation. Students may choose to pursue principal or superintendent certification as their area of concentration. Thirty-nine semester hours consist of foundation and inquiry courses; fifteen semester hours consist of an area of concentration; and nine semester hours consist of dissertation work. Students pursuing a certification as their area of concentration must be admitted to those programs separate from admission to the EdD in Educational Leadership.

Students should work closely with their advisors so that an appropriate workload is established. Up to 15 semester credit hours of coursework from subsequent graduate coursework not applied to a graduate degree could potentially be applied to the doctoral degree pending advisor approval. Coursework taken more than 10 years previous to the date of graduation will not apply toward the degree.

## Doctor of Education in Educational Leadership

### Required Courses

<b>Foundation Courses</b> <sup>1</sup>		<b>24</b>
EDAD 6310	Scholar-Practitioner Leader	
EDAD 6324	Models and Theories of Educational Leadership	
EDAD 6323	Organizational Theory and Change in Education	
EDAD 6330	Educational Policy and Governance	
EDAD 6320	State and Federal Administrative Law	
EDAD 6317	Educational Equity and Identity	
EDAD 6314	Philosophy and Ethics in Educational Leadership	
EDTC 6359	Leading Technology Innovation in Education	
<b>Inquiry Courses</b> <sup>2</sup>		<b>15</b>
EDAD 6311	Scholarly Process in Educational Leadership	
EDAD 6312	Research Design and Critical Analysis	
EDAD 6316	Investigating Problems of Practice in Educational Leadership	
EDAD 6325	Data Analysis	
EDAD 6331	Advanced Data Analysis	
<b>Dissertation</b>		<b>9</b>
EDAD 7088	Dissertation	
EDAD 7088	Dissertation	
EDAD 7088	Dissertation	

Total Hours		48
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**Additional Required Courses for Concentrations****EC-12 Education Leadership**

EDAD 6351	Accountability in Education	3
EDAD 6353	Constituent Relations In Education	3
EDAD 6352	Human Resource Administration for Educational Leaders	3
EDAD 6354	Finance for School Leaders	3
EDTC 6360	Facilitating Instructional Innovation in Education	3
Total Hours		15

**Higher Education Leadership**

EDAD 6340	Foundations of Higher Education	3
EDAD 6347	Trends and Issues in Higher Education	3
EDTC 6360	Facilitating Instructional Innovation in Education	3
EDAD 6342	Fin and Resource Management in Higher Education	3
EDAD 6343	Teaching and Assessment in Higher Education	3
Total Hours		15

**Educational Technology Leadership**

EDTC 6360	Facilitating Instructional Innovation in Education	3
EDTC 6361	Visionary Planning to Transform Learning with Technology	3
EDTC 6362	Implementing Technology Strategy and Systems	3
EDTC 6363	Promoting Continuous Professional Learning	3
EDTC 6364	Empowering Technology Innovation and Change	3
Total Hours		15

<sup>1</sup> Enrollment in all courses in the educational leadership foundation require doctoral standing. Students will be required to take these courses with the cohort group. The foundation core consists of 24 semester credit hours.

<sup>2</sup> Enrollment in the fifteen semester hours of inquiry under the EDAD prefix require doctoral standing. Students will be required to take those courses with the cohort.

**Concentration**

In the concentration area, students will work with his/her doctoral advisor to establish a program supportive of professional goals and doctoral objectives.

**Progress Checkpoint**

As students near the end of their first year of study, they must submit documentation of progress toward becoming a scholar-practitioner and advancing a dissertation topic. Course work and information sessions during the first year of study provide guidelines in order for students to complete requirements needed to continue in the program.

**Dissertation**

The dissertation consists of nine semester credits and is embedded in the course sequencing to be taken in three separate semesters. In the event students do not complete the dissertation within three years, they may continue in the program. However, students must be continually enrolled in dissertation credits each semester. Students must also make satisfactory progress toward completing their degree. Student may be removed from the program for non-continuous enrollment and/or not making satisfactory progress on their dissertation.

**Continuous Enrollment**

Students are required to maintain continuous enrollment toward the doctoral degree for the duration of their program. This consists of enrolling in courses and/or dissertation work each semester, Fall, Spring, and Summer. Students who take a break from progress must submit a Leave-of-Absence request with their advisor and have approval from the head of the department.

**Transfer Course Work**

With the approval and written request from the doctoral advisor, and at the discretion of the Dean of the College of Graduate Studies, students may transfer up to 15 semester credit hours toward the doctoral degree from another regionally-accredited university. Transfer course work may not be used to satisfy the educational leadership core requirements and must have been completed within the 10 years prior to the student's graduation date. Because of limitations on transfer for advanced standing, advisors should be consulted prior to making the request.

**Education Administration Courses****EDAD 5086. Special Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Open to graduate students who are capable of developing a problem independently. Problems are chosen by the student and approved in advance by the instructor.

**EDAD 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thesis. No credit until the thesis is completed. Prerequisites: completion of all other coursework required for the degree and consent of the major professor or approval of the department head.

**EDAD 5300. Foundations in Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).**

The purpose of EDAD 5300 Foundations of Educational Leadership is to introduce students to: campus-based educational administration and the context in which it currently operates; an initial description of the scope of the process of educational administration; and a review of the fundamental theories related to management, administration, and leadership. Other concepts to be explored in the course include: creating a shared mission and vision, exploring the Texas Principal Standards, identifying frameworks of educational organizations, examining educational policies at the local, state, and national levels, and developing a context for ethical leadership. Prerequisites: Admission to the Educational Administration program and the principal certification program.

**EDAD 5301. Research in Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the fundamentals of research emphasizes research terminology, principal research designs, data collection methodology, psychometric qualities of measurement, research ethics, program evaluation, and distinguishing features of quantitative and qualitative research paradigms. The course focuses on the development and use of the research and evaluation skills necessary to become critical consumers and producers of research.

**EDAD 5307. Leadership of Programs and Procedures in Supervision. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of programs and procedures in supervision emphasizes the application of appropriate supervisory practices in hiring, selection, and retention of teachers, as well as, the development and appraisal of teachers. Educational leaders develop an understanding of clinical and developmental supervision, teacher evaluation/appraisal, observation and feedback, and the evolving concepts of supervisory practice. Prerequisites: Admission to the principal certification program; Completion of EDAD 5300, 5316, and 5309 or approval of department head.

**EDAD 5309. Legal Issues in School Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of legal issues emphasizes the relevant legal principles that affect the operation, organization, and administration of public schools. This course focuses on the ethical application of constitutional, statutory, administrative, and case law. Prerequisites: Completion of EDAD 5300 and EDAD 5316 or approval of the department head.

**EDAD 5310. Special Education Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Legal framework for special education in the United States; consideration of federal constitutional provisions, federal and state statutes, federal and state judicial decisions and rules and regulations for the various federal and state agencies which affect special education.

**EDAD 5316. Instructional Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

EDAD 5316: Instructional Leadership The purpose of EDAD 5316 Instructional Leadership is to help aspiring school administrators develop an understanding of the instructional leadership, coaching, and team building skills necessary to become effective campus principals. The course will require students to develop knowledge and skills of facilitating high-quality instructional practices, creating a school mission, vision, and culture to support teacher growth and student achievement, utilizing data-driven decision making, and implementing instructional coaching to support staff development and teacher growth. Prerequisites: Admission to Educational Leadership and Principal Certification Program prerequisite is completion of EDAD 5300 or approval of the department head.

**EDAD 5317. Public School Fin Fiscal Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The principles of school finance, budgeting, and accounting procedures. Prerequisite: Mid-Management Certification or approval of department head.

**EDAD 5318. Adm Law and Personnel Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A comprehensive study of public school law as it relates to contractual and at-will personnel. Emphasis is placed on advertising, interviewing, selecting, and evaluating personnel. Special attention is given to Equal Employment Opportunity guidelines, Federal Right to Privacy Act, employee contracts, and records. Additional attention is given to employee induction and student records. Prerequisite: Mid-Management Certification or approval of department head.

**EDAD 5319. The School Superintendency. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A detailed study of the multiple roles and responsibilities of the chief school administration, including the leadership role with the community, school board, professional staff, and students. Some observations and activities in the public schools and community will be required. Prerequisite: Mid-Management Certification or approval of department head.

**EDAD 5335. Edu Plan and Facility Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of present and future building and equipment needs of public school systems, including operations, maintenance, and planning for new facilities. Field work will be included in this course relating to various phases of planning and designing educational facilities. Prerequisite: Mid-Management Certification or approval of department head.

**EDAD 5336. Instructional Development and School Improvement. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of research and state policy affecting instructional improvement on public school campuses. Special emphasis on results-based accountability systems, including curriculum planning and evaluation, professional development, student assessment, and analyzing student performance data at the campus level.

**EDAD 5339. Processes of Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of EDAD 5339 Processes of Educational Leadership is to assist academic leaders in developing the utilization of communication skills, school culture development and professional learning communities to address campus improvement planning and create collaborative teams that result in long-term academic and social strategic performance improvement. The course will require students to (1) develop a general knowledge and understanding of multiple perspectives (2) create and frame professional learning communities (3) examine data driven instruction and observation feedback tools (4) develop and implement an effective professional development plan, (5) examine the components of a positive student and staff campus culture aligned with the school vision and (6) identify and evaluate integrated planning and decision-making. Prerequisites: Admission to Educational Leadership and Principal Certification Program prerequisite is completion of EDAD 5300 and EDAD 5316 or approval of the department head.

**EDAD 5340. School-Community Relationships. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Systems of interpretation of schools to community publics. Promotion of effective school-community relations through media of communication.

**EDAD 5342. Leaderships of Campus Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of EDAD 5342 Leadership of Campus Resources is to develop the aspiring campus administrator's knowledge and skills in resource management, policy implementation, personal management, and school operations. Topics will include management of the fiscal resources, physical plant, campus budget, federal programs, and human capital (hiring, selection, and retention) within the framework of strategic planning. Prerequisites: Admission to Educational Leadership and Principal Certification Program and completion of EDAD 5300, EDAD 5316, EDAD 5309, and EDAD 5307 or approval of the department head.

**EDAD 5345. Leadership of Curriculum Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of EDAD 5345 Leadership of Curriculum Systems is to introduce the aspiring campus administrator to the processes supporting curriculum development, implementation, and evaluation. Emphasis will be placed high-quality instruction, curriculum alignment, teacher effectiveness, quality professional development, coaching, and ongoing supervision. Topics include: content area best practices, curriculum alignment, curriculum evaluation, assessment, instructional support, resource allocation, staff development, and personnel management. Prerequisites: Admission to Educational Leadership and Principal Certification Program and completion of EDAD 5300, EDAD 5316, EDAD 5309, and EDAD 5307 or approval of the department head.

**EDAD 5355. Leadership of Diverse Learning Communities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of EDAD 5355 is to assist aspiring administrators in developing a campus culture that promotes awareness and appreciation of diversity, and advocates for all children by promoting continuous and appropriate development of all learners in the campus community. The course focuses on developing administrators who demonstrate ethical leadership by ensuring student access to effective educators, programs and services and by addressing barriers to ensure achievement of campus initiatives and goals. Prerequisites: Admission to Educational Leadership and Principal Certification Program and completion of EDAD 5300 and EDAD 5316 or approval of the department head.

**EDAD 5386. Special Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Open to graduate students who are capable of developing a problem independently. Problems are chosen by the student and approved in advance by the instructor. Prerequisite: Full admission into the College of Graduate Studies and a graduate degree or certification program.

**EDAD 5389. Comparative Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A supervised course of comparative education through study abroad. During this course, students will travel internationally to compare educational policies, practices and outcomes in other countries. Upon completion of this course, students will be able to apply their comparative experience to a variety of areas of education including Educational Leadership, Educational Technology, and Curriculum & Instruction. Students will document pre-conceived ideas, a review of related literature for their comparative investigation, and a presentation of their findings.

**EDAD 5390. Selected Topics in Educational Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of different topics each semester with a focus on contemporary issues in Educational Administration and leadership. This course may be repeated for credit as the topic changes.

**EDAD 5397. Internship for the Superintendent. 3 Credit Hours (Lecture: 1 Hour, Lab: 7 Hours).**

Supervised professional activities in the area of the public school superintendency. Intern will be required to demonstrate competencies in the performance of appropriate professional duties as culminating experiences in the Superintendency Program. Prerequisite: Completion of the professional courses in the Superintendency Preparation program or approval of department head. Field experience fee \$50.

**EDAD 5398. Principal Practicum I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of EDAD 5398 Principal Practicum is to provide supervised professional activities in the area of educational administration, including the role of elementary and secondary principal and central office administration. The university field supervisor will support principal candidates' development and demonstration of competencies of professional responsibilities according to state standards. As the culminating experience in the Principal Certification Program, students must take Principal Practicum II in the last semester in the program. Prior to enrollment students must have successfully completed Principal Practicum I. Prior to enrolling in Principal Practicum I, all students must submit the Request to Enroll in EDAD 5399 Principal Practicum form, which can be found on the Educational Leadership & Technology (EDLT) web page or requested from the EDLT office. Note: Principal candidates will also need to pass the state principal certification assessment in order to apply for the Principal Standard Certification. Additionally, practicum students must be employed in an educational setting during the entirety of the course. Lastly, the site supervisor who will be mentoring the principal candidate is required to hold current Texas principal certification. This is a two semester course: Principal Practicum I and Principal Practicum II; it must be taken in the fall and spring semesters consecutively. Prerequisites: Admission to Educational Leadership and Principal Certification Program and Completion of Application for Practicum I and completion of EDAD 5300, EDAD 5316, EDAD 5307, EDAD 5309 and EDAD 5399 or approval of the department head.

**EDAD 5399. Principal Practicum II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of EDAD 5399 Principal Practicum II is to provide supervised professional activities in the area of educational administration, including the role of elementary and secondary principal and central office administration. The university field supervisor will support principal candidates' development and demonstration of competencies of professional responsibilities according to state standards. As the culminating experience in the Principal Certification Program, students must take Principal Practicum I in the last two semesters in the program. Prior to enrollment all students must submit the Request to Enroll in EDAD 5399 Principal Practicum form, which can be found on the Educational Leadership & Technology (EDLT) web page or requested from the EDLT office. Note: Principal candidates will also need to pass the state principal certification assessment in order to apply for the Principal Standard Certification. Additionally, practicum students must be employed in an educational setting during the entirety of the course. Lastly, the site supervisor who will be mentoring the principal candidate is required to hold current Texas principal certification. This is a two semester course: Principal Practicum I and Principal Practicum II; it must be taken in the fall and spring semesters consecutively. Prerequisites: Admission to Educational Leadership Program and Principal Certification Program and Completion of Practicum Application and completion of EDAD 5300, EDAD 5316, EDAD 5307, EDAD 5309 or approval of the department head.

**EDAD 6111. Critical issues in Educational Leadership. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course is to provide an opportunity to study a current and identified administrative problem in a specific school district or combination of districts. Topics include, but are not limited to, future studies, brain-based learning, and strategic visioning and planning. With departmental approval this course may be repeated when the problems or topics differ. Must be taken three times concurrently with residency. Prerequisites: Doctoral Standing.

**EDAD 6310. Scholar-Practitioner Leader. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This foundation course explores the role of an educational leader as a scholar-practitioner. Scholar-practitioners use empirical evidence and practitioner expertise to inform effective strategies to improve academic environments within broader educational contexts. Prerequisite: Doctoral Standing.

**EDAD 6311. Scholarly Process in Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The Scholarly Process in Educational Leadership course is designed to help prepare students to critically examine scholarly articles and other written works in the field of educational leadership and write effective papers for publication or presentation. Students address issues of academic and professional style. Topics may include effective writing techniques and strategies, writing to specific audiences, editing, proofreading, APA style, plagiarism, and academic honesty. Prerequisites: Doctoral Standing.

**EDAD 6312. Research Design and Critical Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course explores mixed methods research designs. Topics include evaluating the quality of empirical research, research design, sampling, data collection, ethical issues, and Institutional Review Board developments. Prerequisites: Doctoral Standing.

**EDAD 6313. Statistical Methods in Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to descriptive statistics with an emphasis on inferential statistics. Includes correlation, one way and two way analysis of variance, and experimental design. Requires the use of a hand held calculator, computer, the Statistical Package for the Social Sciences (SPSS), and other statistical software. Prerequisite: EDAD 6312 C or better.

**EDAD 6314. Philosophy and Ethics in Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course applies the concepts of ethics and philosophy to personal and professional decision-making relative to educational organizations, operations, and leadership. Prerequisites: Doctoral Standing.

**EDAD 6316. Investigating Problems of Practice in Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students identify and systematically investigate problems of practice in educational contexts. Prerequisites: Doctoral Standing.

**EDAD 6317. Educational Equity and Identity. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course identifies equity, diversity, social justice, and oppression issues embedded in complex educational problems of practice. Students evaluate models and theories of change to address issues of equity, diversity, social justice, and oppression in educational environments. Prerequisites: Doctoral standing.

**EDAD 6320. State and Federal Administrative Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the legal and practical foundations of the modern administrative legal oversight in education. Topics include rationales for delegating laws to administrative agencies; the legal framework that governs agency decision-making; the proper role of agencies in interpreting statutory and regulatory law; and judicial review of agency action as applied to educational environments. Prerequisites: Doctoral Standing.

**EDAD 6321. Education Law and Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A thorough investigation of policy making processes and the interrelationship between legal and policy making processes at the national, state, and local levels. An in-depth examination of legal principles and laws affecting the administration and management of educational organizations. Prerequisite: Doctoral Standing.

**EDAD 6322. Data Analysis and School Improvement. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Emphasis on the fundamentals of inferential data analysis with computer applications, which will enhance abilities in the classroom and in administrative responsibilities. This course will provide information, guidance, and models that will enable professional educators to develop effective evaluation and appraisal systems appropriate to their needs. Interpretation and application of assessment procedures and statistical concepts are emphasized in order for educators to facilitate decision-making and disseminate test results and educational evaluations to the community. Prerequisite: Doctoral Standing.

**EDAD 6323. Organizational Theory and Change in Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the identification and application of organizational theories and behavior to the problems of practice in a variety of educational settings. Prerequisites: Doctoral Standing.

**EDAD 6324. Models and Theories of Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide an exploration of key models and theories of educational leadership and examine the impact of each in diverse educational settings. Prerequisites: Doctoral Standing.

**EDAD 6325. Data Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students develop knowledge and skills in mixed methods data analysis techniques. Students select and apply appropriate data analysis techniques to address a variety of research questions. Prerequisites: Doctoral Standing and Successful Completion of EDAD 6311, EDAD 6312, and EDAD 6316.

**EDAD 6330. Educational Policy and Governance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course explores the legislative policy-making process and how it influences educational governance. It also examines the role of agencies and their relationships to educational administration. Prerequisites: Doctoral Standing.

**EDAD 6331. Advanced Data Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Techniques address the approach to data analyses required to examine the problem of practice. Various types of approaches to analyses applicable to the student's selected research topic will be practiced. Prerequisites: Doctoral Standing Successful Completion of: EDAD 6311: Scholarly Process EDAD 6312: Research Design and Critical Analysis EDAD 6316: Investigating Problems of Practice in Educational Leadership EDAD 6325: Data Analysis.

**EDAD 6335. Qualitative Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to qualitative research designs and their philosophical assumptions, and how these influence the research questions, data collection, data analysis, verification, and use of theory and literature. Students will be introduced to five approaches within the qualitative framework: narrative, case study, ethnography, grounded theory, and phenomenology. The course will also address ethical issues in qualitative research and strategies for reporting qualitative data. Prerequisite: Admission to the ELPS Doctoral Program.

**EDAD 6340. Foundations of Higher Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of Foundations of Higher Education emphasizes the origins and specialized purposes of colleges and universities. The organizational structure, governance and administrative functions of higher education are reviewed, compared, and critiqued. With its roots embedded in religion and, more recently in the European university model, American higher education institutions will be studied from an historical perspective. The course will also cover selected contemporary issues facing today's universities, both public and private, with a link to historical, sociological and theoretical underpinnings.

**EDAD 6341. Administrative Leadership in Higher Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of Administrative Leadership in Higher Education emphasizes a thorough investigation of higher education administration theory applied to the practice of performing academic duties combined with an in-depth examination of organizational influences that form the academic, political, legal, governmental, financial, and local framework involved in the administration and management of educational organizations.

**EDAD 6342. Fin and Resource Management in Higher Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of Finance and Resource Management in Higher Education emphasizes higher education's resource acquisition, allocation and management practices. A comprehensive examination is made of the financing of higher education with significant attention given to resource acquisition, allocation, budgeting processes, and reporting standards. Business management functions in higher education such as audits, salary administration, risk management, campus security, informational resources, and human resources are discussed and analyzed.

**EDAD 6343. Teaching and Assessment in Higher Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of Teaching and Assessment in Higher Education emphasizes the exploration of basic organization, structure, development and delivery of college curriculums. The process of teaching and learning through the development and evaluation of student learning and instructional outcomes is investigated. The relationship between the curriculum and basic model of teaching, research and service are introduced with a culminating review of the academic accreditation and institutional benchmarking process and procedures.

**EDAD 6344. Student Service in Higher Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of Student Services in Higher Education emphasizes the exploration of basic organization, structure, and delivery of campus support services for students in higher education. Student populations in colleges and universities will be explored. Student campus life will be studied including but not limited to such topics as housing, student rights, student governance, student health services, food services, campus safety and security, student organizations, and student programming.

**EDAD 6345. Comparative Higher Education Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of Comparative Higher Education Systems emphasizes post-secondary educational systems, structures, and organizational issues in tertiary educational systems outside the United States. The course will address topics such as internal and external governance of post-secondary institutions, access to higher education, student affairs, academic personnel, curriculum, instruction, and educational reform in higher education systems in selected countries. Prerequisite: Doctoral standing or approval of department head.

**EDAD 6347. Trends and Issues in Higher Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of Trends & Issues in Higher Education emphasizes the critical examination of emerging and timely topics and trends that are important to the operation and development of higher education. Using a variety of survey research methods and literature reviews, new and current environmental challenges encountered by institutions of higher education are investigated. Strategies of how to identify and monitor trends and issues are studied. The impact and interaction of external and internal trends and issues on higher education are examined.

**EDAD 6351. Accountability in Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides students an opportunity to make personal and professional decisions relative to academic and fiscal accountability systems. These decisions impact school organization, operation, and leadership in an academic, fiscal, and cultural sense.

**EDAD 6352. Human Resource Administration for Educational Leaders. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on essential human resource skills and knowledge that educational leaders use to implement strategies and policies related to staff management. Prerequisites: Doctoral Standing.

**EDAD 6353. Constituent Relations In Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to examine strategic public relations planning, research, and evaluation techniques for educational leaders. The course connects theory to practical applications in the context of planning, implementation, and evaluation of effective communication with community constituents.

**EDAD 6354. Finance for School Leaders. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Public educational funding is examined as a requirement of school leaders in compliance with federal, state, and local school laws and policies. Educational finance is examined according to various finance theories and models, such as political, legal, economic, and social issues. Prerequisites: Doctoral standing.

**EDAD 6380. Superintendent Leadership and Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to give students a comprehensive view of communication while leading a learning organization at the district level. Emphasis will be placed on the scope and importance of effective communication in education, and the role of communication in establishing favorable workplace outcomes. This course offers an opportunity to learn and apply practical principles of interpersonal communication. The course will examine basic communication concepts, theories, and practices relevant to transferring meaning between two or more people. A field experience will be required as part of the course. Prerequisite: Principal or Mid-management certification or approval of department head.

**EDAD 6381. Superintendent Leadership and Human Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to assist with the recruitment, hiring, dismissal, and supervision of Texas public school employees. State laws regarding hiring and dismissal will be covered. A comprehensive study of public school law as well as performance management and interpersonal conflict of employees as it relates to contractual and at-will personnel. Emphasis is placed on advertising, interviewing, selecting, and evaluating personnel. Special attention is given to Equal Employment Opportunity guidelines, Federal Right to Privacy Act, employee contracts, and records. Additional attention is given to employee induction and student record. A field experience will be required as part of the course. Prerequisite: Principal or Mid-management certification or approval of department head.

**EDAD 6382. Superintendent Leadership and Resource Allocation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course requires participants to describe and synthesize federal, state, and local revenues as they relate to school district budgeting and finance through empirically based research and direct resources based upon needs assessment from the district improvement plan (DIP) to support goals and objectives identified from the DIP. A detailed study of the multiple roles and responsibilities of the chief school administration, including the leadership role with the community, school board, professional staff, and students. Some observations and activities in the public schools and community will be required. A field experience will be required as part of the course. Prerequisite: Principal or Mid-management certification or approval of department head.

**EDAD 6383. Superintendent Leadership and Accountability. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to assist educational leaders in developing and applying leadership accountability skills in public school organizations. The focus of this course is on the appropriate use of leadership accountability skills within the framework of theory and research to enhance the organizational effectiveness and improve organizational culture. Emphasis is placed on the identification and use of accountability skills supported by the Texas Education Agency as an integral part of Texas superintendent certification preparation program. Accountability leadership is one of the essential administrative functions for the operation of effective learning organizations. In this course, students will have the opportunity to view the accountability process as it pertains to improving student performance. A study of research and state policy affecting instructional improvement in public school systems. Special emphasis on result-based accountability systems, including curriculum planning and evaluation, professional development, and student assessment processes. A field experience will be required as part of the course.

**EDAD 6384. Superintendent Leadership Practicum. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course involves superintendent certification program students participating in supervised professional activities in the area of district-level public school superintendent and central office administrator practices. The practicum is required to demonstrate competence in the performance of appropriate professional duties while in a district-level leadership position. No more than 3 semester hours of internship course work can be used to satisfy certification plan requirements.

**EDAD 6385. Advanced Seminar in Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Design of research and inquiry in various areas of educational administration; application of models and research procedures from the social and managerial sciences to policy issues in educational organizations. Prerequisite: EDAD 6331 C or better.

**EDAD 6386. Problems in Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Open to doctoral students who wish to collaboratively develop a problem with a doctoral faculty member. Culminating project will be disseminated as a presentation, publication, or in another appropriate scholarly venue/format as determined by the doctoral faculty member. Prerequisite: Full admission into the doctoral program and approval of advisor.

**EDAD 6389. Comparative Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A supervised course of comparative education through study abroad. During this course, students will travel internationally to compare educational policies, practices and outcomes in other countries.

**EDAD 6390. Selected Topics in Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of different topics each semester with a focus on contemporary issues in educational leadership. This course may be repeated for credit as the topic changes. Prerequisite Course(s): Admission to the doctoral program in Educational Leadership.

**EDAD 6399. Extended Internship in Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised activities in a governmental, organizational, or higher education setting. During the extended internship, the student will be required to demonstrate competencies appropriate to the professional setting of the internship. Prerequisite: Doctoral Standing. Field experience fee \$50.

**EDAD 7088. Dissertation. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thorough and scholarly investigation of a topic acceptable to the dissertation committee. To be acceptable, the dissertation must give evidence that the candidate has pursued a program of research, the results of which reveal superior academic competence and a significant contribution to the field. Graded on a satisfactory (S) or unsatisfactory (U) basis. Prerequisite: Doctoral Standing and successful completion of the doctoral qualifying examination.

**Educational Leadership in Higher Education Courses****ELHE 5300. Higher Education History. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview of the global history of higher education, and of the development of the higher education system in the United States.

**ELHE 5301. Higher Education Student Services. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Identifies best practices in student service areas and student development theory and application.

**ELHE 5302. Higher Education Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Prepares educational leaders to understand and prepare a system-wide budget plan that allocates resources aligned with the system's needs.

**ELHE 5303. The Comprehensive Community College. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Provides an overview of community and technical college education.

**ELHE 5304. Higher Education Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies leadership on university campuses, both from a theoretical perspective and in the actual practice of leadership.

**ELHE 5305. Higher Education Politics and Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines policies within higher education institutions, as well as state and federal policies related to higher education, the elements of the policy-making process, and the strategies for research and policy analysis in higher education.

**ELHE 5399. Practicum in Higher Education Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised activities in higher education setting or field directly related to higher education, such as a post-secondary coordinating board, legislative body related to post-secondary education, or professional higher education association. During the practicum, the student is expected to demonstrate developed/improved competencies appropriate to the professional setting. This course should be completed in the last semester of the course work. It may be taken with up to two other courses identified as prerequisites upon approval of department head. Prerequisites: EDAD 5301, EDAD 5355, ELHE 5300, ELHE 5301, ELHE 5302, ELHE 5303, ELHE 5304, ELHE 5305, EDTC 5349.

**Educational Technology Courses****EDTC 5086. Educational Technology Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Open to graduate students who are capable of developing a problem independently. Problems must be chosen by the student and approved in advance by the instructor and department head. Prerequisite: Full admission to the College of Graduate Studies and a graduate degree or certification program.

**EDTC 5307. Adult Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the theory and research pertaining to adult learners. Topics for study include the characteristics of adult learners, human performance improvement, instructional and assessment strategies that are effective with adults, technology applications for instructional delivery, and program assessment. Students may not count both EDUC 5307 and EDTC 5307 for credit toward a degree.

**EDTC 5338. Principles of Instructional Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an introduction to several models for instructional systems design and thoroughly examines the process of designing effective instruction. In addition to an in-depth study of instructional design theory, the course features an application of the instructional design process in a phased-based project.

**EDTC 5339. Leading Technology Innovation in Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In this course, the tenets of leadership that are necessary to effectively facilitate technology innovation and change within education will be examined. Students will develop and apply appropriate strategies for their own contexts with regard to providing visionary leadership, fostering a culture of innovation in teaching and learning, promoting and guiding professional development programs, and evaluating and refining initiatives for systemic improvement.

**EDTC 5349. Educational Media and Technology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This foundational course provides an examination of the role of technology in school settings and an exploration of available technologies and the applications for instruction. Focus is on web-based applications for communication and collaboration that expand and extend learning environments.

**EDTC 5353. Designing Online Learning Environments. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide an overview of designing and organizing effective online learning environments. Instructional design principles will serve as a guide as students study multiple Learning Management Systems and software used for developing online learning objects, learning modules, and interactive activities. Students will use their knowledge to develop an online course or module with consideration for the planning, implementation, evaluation and revision cycle needed for continuous updating of an online course.

**EDTC 5354. Facilitating Online Learning Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will prepare students to use effective teaching strategies in an online learning environment with an emphasis on communication, interaction, and organization skills necessary to facilitate and lead online learning. Students will develop and apply appropriate strategies for promoting active and collaborative learning, managing workload and administrative issues related to online teaching, and articulating effective pedagogy for online students.

**EDTC 5356. Social Media Use in Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of this course is to familiarize students with the use of social media in education. During the course, students will explore applications of social media use to enhance learning environments, discuss best practices for teaching and learning with social media, and develop a leadership vision for the integration of social media in teaching and learning.

**EDTC 5359. Leading and Learning with Technology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

The course focuses on using technology to study K-12 student learning outcomes, assessment, data analysis, and instructional decision making. Mentoring skills necessary for leadership and peer technology support are also explored. An analysis of Statewide TAKS data will be completed and applied to research of current educational problems. Prerequisite: Permission of the instructor. Lab fee \$20.

**EDTC 5370. Intern/Service Learning Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A supervised internship in which the student applies knowledge from the course of study related to instructional design, online course development, online course teaching, or instructional technology leadership for a public or private organization. This project addresses a practical, real-world challenge using the skills and knowledge students have gained throughout their program of study. The completed project will demonstrate critical thinking, research-based best practices, review of scholarly literature, and formal reporting consistent with APA style.

**EDTC 6348. Facilitating Instructional Innovation in Higher Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the tenets of facilitating instructional innovation in higher education settings. Students examine models and strategies for the leadership of instructional innovation, including strategies for co-creating a shared vision for teaching, learning, and assessment at the university, providing meaningful and relevant training and professional development options for students and faculty, and providing critical teaching and learning support for faculty and students. Prerequisite: Doctoral standing.

**EDTC 6358. Facilitating Instructional Innovation in EC-12 Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on facilitating instructional innovation in EC-12 education settings. Students examine models and strategies for the creation of a digital-age learning culture. This includes strategies for co-creating and maintaining a shared vision for teaching, learning, and assessment. It also provides meaningful and relevant professional development opportunities for students, teachers, and parents as well as teaching and learning support for students, teachers, and parents. Prerequisites: Doctoral standing.

**EDTC 6359. Leading Technology Innovation in Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the tenets of leadership necessary to facilitate technology innovation and change within education. Students develop and apply strategies to provide leadership, foster a culture of innovation in teaching and learning, promote and guide professional development programs, and evaluate and refine initiatives for systemic improvement. Prerequisites: Doctoral standing.

**EDTC 6360. Facilitating Instructional Innovation in Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the tenets of facilitating instructional innovation in higher education and Pk-12 settings. Students examine models and strategies for the leadership of instructional innovation, including strategies for co-creating a shared vision for teaching, learning, and assessment at the university, providing meaningful and relevant training and professional development options for students and faculty, and providing critical teaching and learning support for faculty and students. Prerequisite: Admission to the EdD program.

**EDTC 6361. Visionary Planning to Transform Learning with Technology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will focus on the tenets of leadership that are necessary to cast a vision for effective technology innovation and change within education. Students will develop and apply appropriate strategies for their own contexts with regard to engaging stakeholders in developing and adopting a shared vision for using technology to improve student access that is informed by learning science; building upon the shared vision by collaboratively creating a strategic plan that articulates how technology will be used to enhance learning; evaluate progress on the strategic plan, make course corrections, measure impact, and scale effective approaches for using technology to transform learning; communicate effectively with stakeholders to gather input on the plan, celebrate successes and engage in a continuous improvement cycle; share lessons learned, best practices, challenges and the impact of learning with technology with other education leaders. Prerequisite: Admission to the EdD program.

**EDTC 6362. Implementing Technology Strategy and Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will focus on the tenets of leadership that are necessary to implement technology strategy and systems within education. Students will develop and apply appropriate strategies for their own contexts with regard to leading teams to collaboratively establish the robust infrastructure and systems needed to implement the strategic technology plan; ensure that resources for supporting the effective use of technology for learning are sufficient and scalable to meet future demand; protect user privacy and security; and establish partnerships that support the strategic vision, achieve learning priorities and improve operations. Prerequisite: Admission to the EdD program.

**EDTC 6363. Promoting Continuous Professional Learning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will focus on the tenets of leadership that are necessary to develop, model, and promote continuous professional learning within education. Students will study emerging technologies for learning, innovations in pedagogy, and advancements in the learning sciences and examine goals and strategies for ensuring educators seek to continually learn and grow in these areas; examine and evaluate potential PLN (Personal Learning Networks) to collaboratively learn with and mentor other professionals; reflect on professional growth in the area of technology innovation and brainstorm ideas for continued growth; and develop strategies for promoting a mindset of continuous improvement for how technology can improve learning. Prerequisite: Admission to the EdD program.

## Department of Psychological Sciences

Dr. Jamie Borchardt, Department Head  
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The Master of Science in Applied Psychology offers an intellectually rigorous program that will prepare students for careers in a wide variety of areas related to psychological science. Specifically, the program prepares graduates for careers that require a unique combination of skills and knowledge regarding human behavior, scientific inquiry and critical thinking, research methods, statistical analysis and interpretation, ethics and social responsibility, communication, and teamwork. Students will develop these areas of skills and knowledge by completing a research-based thesis or by completing a project in an applied setting.

Coursework in the program will include research methods, statistics, learning, and history and systems of psychology. Upon completion of this program, students will have developed the research and writing skills to further their education at the doctoral level or to pursue a career in applied research, data science, training, development, or other areas.

There are three tracks in the M.S. in Applied Psychology: A research/thesis concentration, a teaching concentration and an applied project concentration.

## Master of Science Degree in Applied Psychology

### Required Courses

PSYC 5300	Behavioral Statistics	3
PSYC 5301	Research Methods	3
PSYC 5303	Theories of Learning	3
PSYC 5320	History and Systems	3
Total Hours		12

### Additional Required Courses for Concentrations

#### Research

PSYC 5316	Advanced Quantitative Methods and Experimental Design	3
PSYC 5088	Thesis	1-6
Select 3 of the following:		9
PSYC 5302	Social Psychological Processes	
PSYC 5304	Human Development	
PSYC 5315	Physiological Psychology	
PSYC 5321	Evolutionary Psychology	
PSYC 5322	Psychometrics	
PSYC 5379	Advanced Psycholinguistics	
PSYC 5381	Assessment and Evaluation Fundamentals	
Total Hours		18

#### Applied Project

PSYC 5048	Applied Project Capstone	6
Select 4 of the following:		12
PSYC 5302	Social Psychological Processes	
PSYC 5304	Human Development	
PSYC 5315	Physiological Psychology	
PSYC 5321	Evolutionary Psychology	
PSYC 5322	Psychometrics	
PSYC 5381	Assessment and Evaluation Fundamentals	
PSYC 5379	Advanced Psycholinguistics	
Total Hours		18

#### Teaching Option

PSYC 5361	Teaching of Psychology	3
PSYC 5362	Teaching of Psychology Practicum	3
Select 4 of the following:		12
PSYC 5302	Social Psychological Processes	
PSYC 5304	Human Development	
PSYC 5315	Physiological Psychology	
PSYC 5321	Evolutionary Psychology	
PSYC 5322	Psychometrics	
PSYC 5379	Advanced Psycholinguistics	
PSYC 5381	Assessment and Evaluation Fundamentals	
Total Hours		18

## Neuroscience Courses

### Psychology Courses

#### PSYC 5048. Applied Project Capstone. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).

This course requires students to design and complete an independent project that integrates what the student has learned in the program and advances the application of the scientific principles of psychology. Students will communicate the results of their project via a written report and a public presentation.

#### PSYC 5086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).

Directed independent study or research under the supervision of a member of the psychology faculty. Prerequisites: graduate standing and approval of department head.

#### PSYC 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).

Scheduled when the student is ready to begin the thesis. No credit until the thesis is completed. Prerequisites: Completion of all course work required by the degree and consent of the major professor.

#### PSYC 5090. Special Topics. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).

An examination of different topics each semester with a focus on contemporary issues in counseling. This course may be repeated for credit as the topic changes.

#### PSYC 5300. Behavioral Statistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Review of descriptive statistics with emphasis on inferential statistics. Includes correlation, one-way and two-way analysis of variance, regression analysis and experimental design. Use of computer software with emphasis on experience with SPSS. Prerequisite: undergraduate statistics recommended.

**PSYC 5301. Research Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the scientific method of research, types of research and research design. Students are required to review, analyze and interpret research findings in their major field and develop a research project with the assistance of their instructor. Prerequisite: PSYC 5300 or equivalent graduate statistics course. Lab fee assessed.

**PSYC 5302. Social Psychological Processes. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in-depth examination of the individual in a social and cultural context. Topics include: the behavior of groups, the roles of individuals within groups, and the influence of groups on an individual's perceptions, attitudes, emotions, and behavior. Major theories and supporting research are covered. Includes a selected emphasis on specific topics, with individual or team projects and/or original research.

**PSYC 5303. Theories of Learning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of major theories of learning, factors which influence the process of learning, and application of these theories and processes to general and special populations. Prerequisite: Admission to Graduate School or approval of department head.

**PSYC 5304. Human Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A lifespan survey of the development of human beings from conception to death. Topics included will be research and theory into physical, cognitive, social, and personality development in each of the different age groups: prenatal, infancy, childhood, adolescence, and adulthood.

**PSYC 5315. Physiological Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the biological basis of behavior with an emphasis on the structure and biochemistry of the human nervous system. Includes an exploration of the interactive relationships between biological processes, psychopharmacology, genetics, neurological disorders, normal growth and maturation, perception, memory, emotion, stress, mental disorders, consciousness, and communication. Contemporary theories and research are investigated and critiqued.

**PSYC 5316. Advanced Quantitative Methods and Experimental Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an overview of advanced statistical techniques to analyze quantitative data resulting from experimental and quasi-experimental research designs. This course is a continuation of PSYC 5300 and 5301 and requires students to demonstrate proficiency in the use of SPSS for data analysis. The course reviews One-Way and Two-Factor ANOVA. Other topics include ANCOVA, MANOVA, MANCOVA, multiple regression, logistic regression, data reduction techniques (factor analysis and principal components analysis), and non-parametric analyses appropriate for two- and multi-group designs. The course emphasizes the integration of multivariate and advanced statistical design with applicable research paradigms.

**PSYC 5320. History and Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Historical analysis of the development of the science of psychology from early philosophical theories through the establishment of psychology as a science to modern theoretical positions.

**PSYC 5321. Evolutionary Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In-depth evaluation of the current theories of adaptation with a large focus on how adaptation has influenced social, cognitive and developmental processes in humans. Evidence from cross-cultural studies as well as cross species studies will be reviewed and discussed.

**PSYC 5322. Psychometrics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Systematic treatment of the logic of measurement, including such topics as scaling models, validity, variance and covariance, reliability, theories of measurement error and test construction.

**PSYC 5340. Psychopathology and Assessment of Children. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to provide an overview of emotional and behavioral disorders of children and adolescents and theoretical foundations and applications of psychological assessment with this population.

**PSYC 5361. Teaching of Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of pedagogical theories, styles, and strategies as they apply to college-level teaching of psychology. Students will explore a range of techniques for teaching of psychology courses, including presentation of course material, learning assessment tools, test construction, and grading.

**PSYC 5362. Teaching of Psychology Practicum. 3 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

The Teaching of Psychology Practicum is designed to give students supervised practical application related to teaching experience within the realm of Psychology. Students will be paired with a current faculty member teaching, but not limited to, PSYC 2301 General Psychology and PSYC 1100 Transitioning to University Studies in Psychology courses. Prerequisite: Admission to Graduate School.

**PSYC 5379. Advanced Psycholinguistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course emphasizes linguistic principles, the perception of language, the mental lexicon, sentence and discourse comprehension, the production of speech and language, conversational interaction, first and second language acquisition, biological foundations of language, and related topics, such as reading, linguistic diversity, and cultural influences. Course is cross-listed with READ 5379. Credit will not be awarded for both READ 5379 and PSYC 5379.

**PSYC 5381. Assessment and Evaluation Fundamentals. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the nature and development of standardized tests, with emphasis on ethical standards, psychometric theory, test standards and test construction. Selection criteria and utilization of standardized and other instruments in various environments are considered. Includes evaluations and critiques of published tests and experiential exposure to different types of psychological tests.

## Educator Preparation Services

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## School of Kinesiology

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### MISSION

The mission of the **School of Kinesiology** is to prepare our students for careers within the Kinesiology and Sport industry. We seek to provide quality educational opportunities related to sport, exercise science, human performance, and allied health; offer transformative leadership experiences through service; and enhance the students' optimal wellness through a robust professional development program. The **School of Kinesiology** strives to create an atmosphere



that embraces a team culture in which we BUILD FEARLESS CHAMPIONS who are prepared to succeed in the diverse field of Kinesiology and Sport.  
#TeamKinesiology

## VISION

The **School of Kinesiology** will provide tomorrow's leaders with purpose-driven educational experiences that will enhance their knowledge, skills, and confidence related to their chosen career field within the Kinesiology & Sport industry. We will be the premier BUILDER of FEARLESS CHAMPIONS within the academic disciplines of Kinesiology.

## ORGANIZATIONAL STRUCTURE

The **School of Kinesiology** consists of two academic departments - the **Department of Health & Human Performance** and the **Department of Sport Science** - both of which offer graduate degrees.

- The **Department of Health & Human Performance (HHP)** offers the following graduate degree:
  - Master of Science in Athletic Training (MSAT)** is an entry-level professional degree program designed specifically for students who have not obtained the national Board of Certification in athletic training. This degree is for students who have completed a bachelor degree in Kinesiology or a related field and now wish to pursue a degree in athletic training. The major objectives of the MSAT are to prepare students to make impactful contributions in the global healthcare community, develop decision-making skills through critical analysis, and prepare students for successful completion of the national Board of Certification exam.
- The **Department of Sport Science (SPTSCI)** offers the following graduate degrees:
  - Master of Science in Kinesiology with a concentration in Sport Administration** prepares the student interested in administration of athletic programs at the youth sport, high school, collegiate, and professional levels.
  - Master of Science in Kinesiology with a concentration in Exercise Science** prepares students interested in the exercise industry to become certified exercise professionals.

## INFORMATION for the Master of Science in Athletic Training (MSAT)

Students must be accepted into the MSAT and the graduate school prior to beginning coursework. All students start coursework during the summer session. The program follows a healthcare cohort model, and the designated course sequence must be followed. The degree requires a combination of coursework and clinical rotations. Students must make a "C" or better in all coursework. Refer to the MSAT website for more information.

## Master of Science in Athletic Training

### Required Courses

ATRN 5351	Athletic Training Techniques	3
ATRN 5452	Therapeutic Interventions	4
ATRN 5453	Orthopedic Assessment I	4
ATRN 5454	Orthopedic Assessment II	4
ATRN 5455	Therapeutic Exercise	4
ATRN 5356	Evidence Based Practice & Research	3
ATRN 5458	General Medical Assessment	4
ATRN 5363	Orthopedic Assessment III	3
ATRN 5359	Trends in Athletic Training	3
ATRN 5360	Healthcare Administration	3
ATRN 5361	Empowering Success	3
ATRN 5362	Cultural Experiences in Global Healthcare	3
KINE 5383	Fitness and Wellness Applications in Athletic Training	3
ATRN 5191	Clinical I	1
ATRN 5192	Clinical II	1
ATRN 5194	Clinical IV	1
ATRN 5293	Clinical III	2
Total Hours		49

## INFORMATION for the Master of Science in Kinesiology

The **Sport Administration** concentration is offered fully online and provides the student with a flexible curriculum to meet specific needs and interests. The **Exercise Science** concentration is a mix of face-to-face and online courses to provide application based lab experiences.

- Admission to the Program**
  - Undergraduate GPA Requirement** - Students with an undergraduate GPA of 2.50 or greater (last 60 hours) are eligible for admission to the MS in Kinesiology program and are **EXEMPT** from the standardized entrance exam (GRE or MAT) requirement. Students with an undergraduate GPA below 2.50 (last 60 hours) will be reviewed on a case-by-case basis. Contact the Kinesiology Graduate Director for more information.
  - Undergraduate Degree** - An undergraduate degree in Kinesiology is highly recommended for students seeking admission to the Kinesiology graduate program. Contact the Kinesiology Graduate Director for more information.
  - Application** - All interested students should submit their application online at <http://www.tarleton.edu/graduate/>.
- Degree Plan**
  - Faculty members in the **School of Kinesiology** serve as academic advisors for graduate students. After completion of at least 12 semester hours and full admission to the graduate program, the student shall select a chairperson of the advisory committee. In consultation with the chairperson, the remainder of the advisory committee will be selected. Provided all academic requirements have been met, a degree plan will be filed and admission to candidacy granted. The advisory committee has the responsibility for the degree program and comprehensive portfolio of the student prior to conferral of the degree.
  - The Master of Science in Kinesiology is a 30 credit hour program (non-thesis) or 30 credit hour program (thesis). Students must complete a minimum of 24 graduate hours within Kinesiology.
- Satisfactory Progress**
  - Students must make a "C" or better in all coursework and maintain an overall GPA of 3.00 or higher.
- Comprehensive Portfolio**
  - All Kinesiology graduate students must submit a comprehensive portfolio during the semester in which graduation is anticipated. Failure to submit a quality portfolio will result in a written exam as well as an oral presentation. Students who do not pass the written exam and/or the oral presentation will be required to enroll for and pass a 3-hour course during the following semester. Comprehensive Portfolios are due during the semester in which graduation is anticipated: Fall - October 15; Spring - March 15; Summer - June 15.

## Master of Science in Kinesiology

### Required Courses

KINE 5303	Research in Kinesiology	3
Choose between KINE 5088 or KINE 5399		3-6
KINE 5088	Thesis (Thesis students must complete 6 hours of credit)	
KINE 5399	Internship	
Select 9-12 hours from the following (Thesis students needs to take 9 hours)		9-12
KINE 5302	Advanced Psychological Aspects of Sports	
KINE 5304	Principles of Sport Organization	
KINE 5305	Administration of Athletics	
KINE 5310	Social Psychology in Sports	
KINE 5306	Health Trends in Sport Administration	
KINE 5312	Contemporary Issues in Sports Medicine	
KINE 5313	Administrative Practices in Sports Medicine	
KINE 5314	Special Topics in Sports Medicine	
KINE 5317	Leadership and Professional Development	
KINE 5320	Exercise Physiology	
KINE 5321	Contemporary Issues in Sport Management	
KINE 5322	Sport Ethics	
KINE 5323	Sport Marketing	
KINE 5324	Sport Sales	
KINE 5325	Exercise Prescription Through the Lifespan	
KINE 5326	Facilities in Kinesiology, Athletics, and Recreation	
KINE 5328	Adapted Exercise and Sport	
KINE 5329	Sport Finance	
KINE 5330	Teaching in Kinesiology	
KINE 5333	Theory of Exercise Programming and Evaluation	
KINE 5335	Laboratory and Research Techniques in Exercise Science	
KINE 5336	Statistics in Kinesiology	
KINE 5340	Motor Learning	
KINE 5342	Advanced Principles of Athletic Coaching	
KINE 5343	Law for Sport and Recreation	
KINE 5370	History of Sport	
KINE 5383	Fitness and Wellness Applications in Athletic Training	
KINE 5385	Seminar	
KINE 5086	Problems	

Total Hours 18

### Additional Required Courses for Concentrations

#### Sport Administration

KINE 5304	Principles of Sport Organization <sup>1</sup>	3
KINE 5323	Sport Marketing <sup>1</sup>	3
KINE 5329	Sport Finance <sup>1</sup>	3
KINE 5343	Law for Sport and Recreation <sup>1</sup>	3

Total Hours 12

#### Exercise Science

KINE 5320	Exercise Physiology <sup>1</sup>	3
KINE 5330	Teaching in Kinesiology <sup>1</sup>	3
KINE 5333	Theory of Exercise Programming and Evaluation <sup>1</sup>	3
KINE 5335	Laboratory and Research Techniques in Exercise Science <sup>1</sup>	3

Total Hours 12

<sup>1</sup> If this course is counted toward concentration requirements, the student must take an additional three hours of required coursework.

### Leadership Team

- Dr. Kayla Peak, Head - School of Kinesiology
- Dr. Matt Laurent, Head - Department of Health and Human Performance
- Dr. Tom Tallach, Head - Department of Sport Science
- Mrs. Melissa Evans, Administrative Coordinator - School of Kinesiology

### Professor emeritus

- Dr. Joe Gillespie, Professor Emeritus

### Master of Science in Kinesiology

- Dr. Tom Tallach, Department Head / Associate Professor
- Dr. Chet Martin, Director of MS in Kinesiology / Professor

- Dr. Kayla Peak, Professor
- Dr. Joe Priest, Professor
- Dr. Wendell Sadler, Professor
- Dr. Steve Simpson, Professor
- Dr. Matt Laurent, Professor
- Dr. Jarrod Schenewark, Associate Professor
- Dr. Sharon Tiffany Bowers, Associate Professor
- Dr. Andi Green, Assistant Professor
- Dr. Kelsey McEntyre, Assistant Professor
- Dr. Colin Pennington, Assistant Professor
- Dr. Andrew Wolfe, Assistant Professor

## Athletic Training Courses

### **ATRN 5191. Clinical I. 1 Credit Hour (Lecture: 0 Hours, Lab: 9 Hours).**

Clinical I is designed to allow integration and evaluation of athletic training competencies and proficiencies in a clinical environment under the supervision of an approved preceptor. Clinical settings for hands on, supervised experience might include (but is not limited to) university, high school, clinic/outreach, hospital, industrial, or military. Prerequisite: ATRN 5351.

### **ATRN 5192. Clinical II. 1 Credit Hour (Lecture: 0 Hours, Lab: 9 Hours).**

Clinical II is designed to allow integration and evaluation of athletic training competencies and proficiencies in a clinical environment under the supervision of an approved preceptor. Clinical settings for hands on, supervised experience might include (but is not limited to) university, high school, clinic/outreach, hospital, industrial, or military. Prerequisites: ATRN 5191, 5452, 5453.

### **ATRN 5194. Clinical IV. 1 Credit Hour (Lecture: 0 Hours, Lab: 9 Hours).**

Clinical IV is designed to allow integration and evaluation of athletic training competencies and proficiencies in a clinical environment under the supervision of an approved preceptor. Clinical settings for hands on, supervised experience might include (but is not limited to) university, high school, clinic/outreach, hospital, industrial, or military. Prerequisites: ATRN 5293, 5458, 5360.

### **ATRN 5293. Clinical III. 2 Credit Hours (Lecture: 0 Hours, Lab: 18 Hours).**

Clinical III is designed to allow integration and evaluation of athletic training competencies and proficiencies in a clinical environment under the supervision of an approved preceptor. Clinical settings for hands on, supervised experience might include (but is not limited to) university, high school, clinic/outreach, hospital, industrial, or military. This course provides students the opportunity to experience fall two-a-day workouts with an assigned setting. Prerequisite: ATRN 5356.

### **ATRN 5351. Athletic Training Techniques. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview and practice of basic athletic training techniques used for the prevention and care of injuries to the physically active patient. Prerequisite: Acceptance into the MSAT degree program.

### **ATRN 5356. Evidence Based Practice & Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course addresses the role of research in the athletic training profession including conducting research, research sources utilization and dissemination, and principles of evidence based practice. This class will help you learn to take challenging clinical issues and apply a step by step process of evidence based practice in order to find solutions. Prerequisites: ATRN 5454, ATRN 5455, ATRN 5192.

### **ATRN 5357. Leadership in Athletic Training. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to instruct and develop leadership skills in athletic training. Prerequisites: ATRN 5454, ATRN 5455, ATRN 5192.

### **ATRN 5359. Trends in Athletic Training. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will learn about and discuss current trends and issues within the athletic training profession. Prerequisites: ATRN 5458, ATRN 5360, and ATRN 5293.

### **ATRN 5360. Healthcare Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Overview of administrative principles related to the operation of an athletic training program and healthcare facility. Prerequisite: Co or pre-requisite of ATRN 5356.

### **ATRN 5361. Empowering Success. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an integrative learning experience drawing on all previous coursework in order to complete a project that is impactful in the healthcare community. Additionally, students are required to register and prepare for their BOC certification exam as part of this course. Prerequisites: ATRN 5458, ATRN 5360, and ATRN 5293.

### **ATRN 5362. Study Abroad/Cultural Healthcare. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to allow a cultural healthcare experience abroad. Students may be exposed to non-Western medical techniques or assist in teaching prevention and care techniques to coaches/athletes in third-world countries. Locations and experiences will vary by year.

### **ATRN 5363. Orthopedic Assessment III. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study and integration of orthopedic assessment techniques to distinguish axial skeletal injuries common to the physically active patient. Posture and gait analysis are also applied to the assessment process. Prerequisites: ATRN 5453 and ATRN 5354.

### **ATRN 5452. Therapeutic Interventions. 4 Credit Hours (Lecture: 4 Hours, Lab: 4 Hours).**

Investigation of the scientific principles and the application of therapeutic modalities and pharmacological agents in athletic training. Includes therapeutic purposes, indications, contraindications, and adverse effects. Prerequisite: ATRN 5351.

### **ATRN 5453. Orthopedic Assessment I. 4 Credit Hours (Lecture: 4 Hours, Lab: 4 Hours).**

The study and integration of orthopedic assessment techniques to distinguish lower extremity injuries common to the physically active patient. Posture and gait analysis are also applied to the assessment process. Prerequisite: ATRN 5351.

### **ATRN 5454. Orthopedic Assessment II. 4 Credit Hours (Lecture: 4 Hours, Lab: 4 Hours).**

The study and integration of orthopedic assessment techniques to distinguish upper extremity and spinal injuries common to the physically active patient. Prerequisites: ATRN 5452, ATRN 5453, and ATRN 5191.

### **ATRN 5455. Therapeutic Exercise. 4 Credit Hours (Lecture: 4 Hours, Lab: 4 Hours).**

The theory and application of therapeutic exercise tools and techniques in the rehabilitation of injuries to the physically active patient. Prerequisites: ATRN 5452, ATRN 5453, and ATRN 5191.

### **ATRN 5458. General Medical Assessment. 4 Credit Hours (Lecture: 4 Hours, Lab: 4 Hours).**

This course provides an understanding of injury, illness and/or disease of various body systems (including cardiovascular, gastrointestinal, dermatological, neurological, etc). The course includes discussion of diagnostics and interventions, as well as participation considerations for physically active patients. Prerequisite: ATRN 5356.

## Kinesiology Courses

### **KINE 5086. Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Directed study of selected problems in Kinesiology.

**KINE 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Students are required to successfully complete a thesis under the direction and supervision of their thesis chair and committee members. The thesis will require a minimum of two semesters of work and possibly more depending upon their topic and design, thus students will be allowed to register for three hours each semester. The thesis option is designed for students that want to gain extensive experience in research and/or greater knowledge about a specific topic area. It is also designed for those that anticipate more advanced research (e.g., Ph.D.). Upon completion of their work there is a thesis defense. This course is scheduled when the student begins the thesis. No credit is given until the thesis is completed. Thesis hours only count toward the degree if and only if the thesis is complete and approved by the committee and the College of Graduate Studies. Prerequisite: KINE 5303.

**KINE 5301. Readings in Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of published reports and research in the field of Kinesiology.

**KINE 5302. Advanced Psychological Aspects of Sports. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to help students both learn and apply practical and theoretical information as it relates to psychology of sport. Mental training skills that can enhance athletic performance will be included. Additional areas include stress, motivation, goal-setting, leadership, imagery, and self-efficacy.

**KINE 5303. Research in Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is designed to prepare students for research publication and presentation within the Kinesiology discipline.

**KINE 5304. Principles of Sport Organization. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to teach the functions of organization and management in a sport context as well as traditional and contemporary principles and theories thereof.

**KINE 5305. Administration of Athletics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the administrative functions of directors of athletic programs. Liability laws, financial administration, personnel, public relations, and state laws governing athletic programs will be explored.

**KINE 5306. Health Trends in Sport Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the critical health issues and considerations related to sport administration. Topics include classical and contemporary issues and considerations related to mitigating health risks for sports teams, coaching and support staff, and spectators in sport and ancillary facilities.

**KINE 5310. Social Psychology in Sports. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course gives students a basic overview of sports psychology, covering aspects such as confidence, focus, mental training, visualization, peak performance, and the mind-body connection. It also examines the differences between group and individual sports and the mindsets of the prototypical athletes who engage in them. Prerequisite: Graduate standing.

**KINE 5312. Contemporary Issues in Sports Medicine. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview and study of contemporary issues as related to Sports Medicine.

**KINE 5313. Administrative Practices in Sports Medicine. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination and application of administrative practices related to Sports Medicine.

**KINE 5314. Special Topics in Sports Medicine. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview and study of selected special topics as related to Sports Medicine.

**KINE 5317. Leadership and Professional Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course designed to prepare students for the leadership roles related to Kinesiology and Athletics. Issues in Professional development will also be examined.

**KINE 5320. Exercise Physiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Physiological responses to exercise are studied. Areas include metabolism, cardiorespiratory components, body composition, neuromuscular concepts, heat stress, applied nutritional aspects, and ergogenic aids.

**KINE 5321. Contemporary Issues in Sport Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an analysis of current issues in management strategies and the body of knowledge associated with pursuing a career in sport management. The course introduces the student to sport management career opportunities, problems within the profession and to sport principles as they apply to management, leadership style, communication, motivation and entrepreneurship.

**KINE 5322. Sport Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is dually designed to assist students in self-evaluating and developing their moral and ethical reasoning skills. Students will learn to view situations common to the industry of sport through multiple ethical lenses to assess and understand the perspectives of others. Special consideration will be given to both the macro and micro ethical concepts of competition and fair play, doping and genetic enhancement in sport, gender and sexual equity and issues in the social ethics of sport. Contemporary case studies examining personal, social and organizational examples of application of legal and ethical principles will be utilized.

**KINE 5323. Sport Marketing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to be an application of analytical concepts and principles to the development of effective strategies for solving sport marketing issues. Students learn the principles of organizing and promoting events and activities associated with the sport industry.

**KINE 5324. Sport Sales. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will create informative and persuasive presentations, improve communication skills, establish alternative solutions for objections, and build strong customer relationships while informing them of the unique aspects and details involved in sports sales. Students will compose needs assessments, analyze prospective clients, gather information, develop effective time management, create customer profiles, and move prospective customers to clients.

**KINE 5325. Exercise Prescription Through the Lifespan. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Advanced course in clinical exercise testing and prescription relative to children, healthy adults, and diseases of the cardiovascular, pulmonary, metabolic, musculoskeletal, neuromuscular, and immunologic systems. It is designed to provide the student with a basic understanding of the pathophysiology and exercise responses in these populations and as related to the American College of Sports Medicine.

**KINE 5326. Facilities in Kinesiology, Athletics, and Recreation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles, terminology, and standards for planning, constructing, and maintaining kinesiology, athletic, and recreation facilities.

**KINE 5328. Adapted Exercise and Sport. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of muscle re-education and the application of exercise to orthopedic, muscular, and neurological disorders. Principles of planning and directing adapted and therapeutic exercise and sport programs.

**KINE 5329. Sport Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the financial tools that sports managers use to run their sport businesses. As such, it explores traditional and innovative methods of revenue acquisition and financial management in sports organizations, the financial business structure of sports organizations, and the financial planning and forecasting processes that make organizations effective. Various other aspects of finance are discussed as they relate to sports organizations, including the time value of money, capital structuring, stocks and bonds, inventory management, and taxation.

**KINE 5330. Teaching in Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to introduce a variety of teaching styles, instructional practices, and pedagogical strategies for use within kinesiology and the higher education setting.

**KINE 5333. Theory of Exercise Programming and Evaluation. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course is designed to teach students how to apply various theories of training and periodization, to aid in appropriately designing exercise programs. Additionally, students will learn to use modern technologies to track and evaluate athlete/client progress, leading to informed decisions for subsequent programming of exercise.

**KINE 5335. Laboratory and Research Techniques in Exercise Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This laboratory-based course is designed to provide students with a basic understanding of selected research methods used in the quantitative assessment of health, exercise tolerance, muscle metabolism, and training adaptations. Specifically, exercise physiology tests and procedures, laboratory guidelines, and supervision. Emphasis on choice and implementation of proper procedures; calibration; operation and maintenance of exercise physiology equipment. In addition, we will discuss decision making regarding test selection, data collection and organization procedures, and interpretation and reporting of exercise test results.

**KINE 5336. Statistics in Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of descriptive and inferential statistical techniques used in a variety of health-related and athletic-related tests. Test construction, reliability, validity, and objectivity methods will be studied.

**KINE 5340. Motor Learning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the theories and practical applications of human motor performance and achievement.

**KINE 5342. Advanced Principles of Athletic Coaching. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is designed to present knowledge essential for coaching any level (youth, recreational, club, elite, and professional) athlete in any sport. Emphasis is on a comprehensive approach to the foundations and theories of coaching including development of a coaching philosophy, determining coaching objectives, coaching for character, coaching diverse athletes, motivational techniques, as well as, principles of teaching, physical training, and management.

**KINE 5343. Law for Sport and Recreation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines legal issues related to the administration and management of athletic, and recreation programs. Issues include the area of tort, constitutional, contract, employment, and statutory law. Also discussed are the issues of intellectual property, products liability, and antitrust. Case law is used to illustrate the application of the law in everyday situations.

**KINE 5370. History of Sport. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of sport from the origins in Ancient Greece to the present. The emphasis on social and cultural developments that contributed to the growth of sport in the modern world.

**KINE 5383. Fitness and Wellness Applications in Athletic Training. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course is designed to teach students how to instruct clients/patients in the principles of ergodynamics and their relationship to the prevention of illness and injury. Additionally, students will be exposed to various exercise and wellness programming concepts. Students will also learn how to administer and interpret results of fitness and wellness screenings.

**KINE 5385. Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview and study of various topics related to Kinesiology.

**KINE 5399. Internship. 3 Credit Hours (Lecture: 1 Hour, Lab: 7 Hours).**

Supervised experience in related fields in Kinesiology.

## Department of Health and Human Performance

Dr. Matt Laurent  
Department of Health and Human Performance  
Wisdom Gym, Room 108A  
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Stephenville, Texas 76402  
2544595343  
laurent@tarleton.edu

The Department of Health & Human Performance (HHP) offers the following graduate degree:

- **Master of Science in Athletic Training (MSAT)** is an entry-level professional degree program designed specifically for students who have not obtained the national Board of Certification in athletic training. This degree is for students who have completed a bachelor degree in Kinesiology or a related field, and now wish to pursue a degree in athletic training. The major objectives of the MSAT are to prepare students to make impactful contributions in the global healthcare community, develop decision-making skills through critical analysis, and prepare students for successful completion of the national Board of Certification exam.

### Information for the Master of Science in Athletic Training (MSAT)

Students must be accepted into the MSAT and the graduate school prior to beginning coursework. All students start coursework during the summer session. The program follows a healthcare cohort model, and the designated course sequence must be followed. The degree requires a combination of coursework and clinical rotations. Students must make a "C" or better in all coursework. Refer to the MSAT website for more information.

### Master of Science in Athletic Training

#### Required Courses

ATRN 5351	Athletic Training Techniques	3
ATRN 5452	Therapeutic Interventions	4
ATRN 5453	Orthopedic Assessment I	4
ATRN 5454	Orthopedic Assessment II	4
ATRN 5455	Therapeutic Exercise	4
ATRN 5356	Evidence Based Practice & Research	3
ATRN 5458	General Medical Assessment	4
ATRN 5363	Orthopedic Assessment III	3
ATRN 5359	Trends in Athletic Training	3
ATRN 5360	Healthcare Administration	3
ATRN 5361	Empowering Success	3
ATRN 5362	Cultural Experiences in Global Healthcare	3
KINE 5383	Fitness and Wellness Applications in Athletic Training	3
ATRN 5191	Clinical I	1
ATRN 5192	Clinical II	1
ATRN 5194	Clinical IV	1

ATRN 5293	Clinical III	2
Total Hours		49

## Assistant professors

- Dr. Andi Green
- Dr. Andy Wolfe

## Associate professor

- Dr. Jennifer Lancaster

## Professors

- Dr. Matt Laurent
- Dr. Kayla Peak
- Dr. Joe Priest
- Dr. Steve Simpson

## Athletic Training Courses

### **ATRN 5191. Clinical I. 1 Credit Hour (Lecture: 0 Hours, Lab: 9 Hours).**

Clinical I is designed to allow integration and evaluation of athletic training competencies and proficiencies in a clinical environment under the supervision of an approved preceptor. Clinical settings for hands on, supervised experience might include (but is not limited to) university, high school, clinic/outreach, hospital, industrial, or military. Prerequisite: ATRN 5351.

### **ATRN 5192. Clinical II. 1 Credit Hour (Lecture: 0 Hours, Lab: 9 Hours).**

Clinical II is designed to allow integration and evaluation of athletic training competencies and proficiencies in a clinical environment under the supervision of an approved preceptor. Clinical settings for hands on, supervised experience might include (but is not limited to) university, high school, clinic/outreach, hospital, industrial, or military. Prerequisites: ATRN 5191, 5452, 5453.

### **ATRN 5194. Clinical IV. 1 Credit Hour (Lecture: 0 Hours, Lab: 9 Hours).**

Clinical IV is designed to allow integration and evaluation of athletic training competencies and proficiencies in a clinical environment under the supervision of an approved preceptor. Clinical settings for hands on, supervised experience might include (but is not limited to) university, high school, clinic/outreach, hospital, industrial, or military. Prerequisites: ATRN 5293, 5458, 5360.

### **ATRN 5293. Clinical III. 2 Credit Hours (Lecture: 0 Hours, Lab: 18 Hours).**

Clinical III is designed to allow integration and evaluation of athletic training competencies and proficiencies in a clinical environment under the supervision of an approved preceptor. Clinical settings for hands on, supervised experience might include (but is not limited to) university, high school, clinic/outreach, hospital, industrial, or military. This course provides students the opportunity to experience fall two-a-day workouts with an assigned setting. Prerequisite: ATRN 5356.

### **ATRN 5351. Athletic Training Techniques. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview and practice of basic athletic training techniques used for the prevention and care of injuries to the physically active patient. Prerequisite: Acceptance into the MSAT degree program.

### **ATRN 5356. Evidence Based Practice & Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course addresses the role of research in the athletic training profession including conducting research, research sources utilization and dissemination, and principles of evidence based practice. This class will help you learn to take challenging clinical issues and apply a step by step process of evidence based practice in order to find solutions. Prerequisites: ATRN 5454, ATRN 5455, ATRN 5192.

### **ATRN 5357. Leadership in Athletic Training. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to instruct and develop leadership skills in athletic training. Prerequisites: ATRN 5454, ATRN 5455, ATRN 5192.

### **ATRN 5359. Trends in Athletic Training. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will learn about and discuss current trends and issues within the athletic training profession. Prerequisites: ATRN 5458, ATRN 5360, and ATRN 5293.

### **ATRN 5360. Healthcare Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Overview of administrative principles related to the operation of an athletic training program and healthcare facility. Prerequisite: Co or pre-requisite of ATRN 5356.

### **ATRN 5361. Empowering Success. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an integrative learning experience drawing on all previous coursework in order to complete a project that is impactful in the healthcare community. Additionally, students are required to register and prepare for their BOC certification exam as part of this course. Prerequisites: ATRN 5458, ATRN 5360, and ATRN 5293.

### **ATRN 5362. Study Abroad/Cultural Healthcare. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to allow a cultural healthcare experience abroad. Students may be exposed to non-Western medical techniques or assist in teaching prevention and care techniques to coaches/athletes in third-world countries. Locations and experiences will vary by year.

### **ATRN 5363. Orthopedic Assessment III. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study and integration of orthopedic assessment techniques to distinguish axial skeletal injuries common to the physically active patient. Posture and gait analysis are also applied to the assessment process. Prerequisites: ATRN 5453 and ATRN 5354.

### **ATRN 5452. Therapeutic Interventions. 4 Credit Hours (Lecture: 4 Hours, Lab: 4 Hours).**

Investigation of the scientific principles and the application of therapeutic modalities and pharmacological agents in athletic training. Includes therapeutic purposes, indications, contraindications, and adverse effects. Prerequisite: ATRN 5351.

### **ATRN 5453. Orthopedic Assessment I. 4 Credit Hours (Lecture: 4 Hours, Lab: 4 Hours).**

The study and integration of orthopedic assessment techniques to distinguish lower extremity injuries common to the physically active patient. Posture and gait analysis are also applied to the assessment process. Prerequisite: ATRN 5351.

### **ATRN 5454. Orthopedic Assessment II. 4 Credit Hours (Lecture: 4 Hours, Lab: 4 Hours).**

The study and integration of orthopedic assessment techniques to distinguish upper extremity and spinal injuries common to the physically active patient. Prerequisites: ATRN 5452, ATRN 5453, and ATRN 5191.

### **ATRN 5455. Therapeutic Exercise. 4 Credit Hours (Lecture: 4 Hours, Lab: 4 Hours).**

The theory and application of therapeutic exercise tools and techniques in the rehabilitation of injuries to the physically active patient. Prerequisites: ATRN 5452, ATRN 5453, and ATRN 5191.

### **ATRN 5458. General Medical Assessment. 4 Credit Hours (Lecture: 4 Hours, Lab: 4 Hours).**

This course provides an understanding of injury, illness and/or disease of various body systems (including cardiovascular, gastrointestinal, dermatological, neurological, etc). The course includes discussion of diagnostics and interventions, as well as participation considerations for physically active patients. Prerequisite: ATRN 5356.

## Kinesiology Courses

### **KINE 5086. Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Directed study of selected problems in Kinesiology.

### **KINE 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Students are required to successfully complete a thesis under the direction and supervision of their thesis chair and committee members. The thesis will require a minimum of two semesters of work and possibly more depending upon their topic and design, thus students will be allowed to register for three hours each semester. The thesis option is designed for students that want to gain extensive experience in research and/or greater knowledge about a specific topic area. It is also designed for those that anticipate more advanced research (e.g., Ph.D.). Upon completion of their work there is a thesis defense. This course is scheduled when the student begins the thesis. No credit is given until the thesis is completed. Thesis hours only count toward the degree if and only if the thesis is complete and approved by the committee and the College of Graduate Studies. Prerequisite: KINE 5303.

### **KINE 5301. Readings in Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of published reports and research in the field of Kinesiology.

### **KINE 5302. Advanced Psychological Aspects of Sports. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to help students both learn and apply practical and theoretical information as it relates to psychology of sport. Mental training skills that can enhance athletic performance will be included. Additional areas include stress, motivation, goal-setting, leadership, imagery, and self-efficacy.

### **KINE 5303. Research in Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is designed to prepare students for research publication and presentation within the Kinesiology discipline.

### **KINE 5304. Principles of Sport Organization. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to teach the functions of organization and management in a sport context as well as traditional and contemporary principles and theories thereof.

### **KINE 5305. Administration of Athletics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the administrative functions of directors of athletic programs. Liability laws, financial administration, personnel, public relations, and state laws governing athletic programs will be explored.

### **KINE 5306. Health Trends in Sport Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the critical health issues and considerations related to sport administration. Topics include classical and contemporary issues and considerations related to mitigating health risks for sports teams, coaching and support staff, and spectators in sport and ancillary facilities.

### **KINE 5310. Social Psychology in Sports. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course gives students a basic overview of sports psychology, covering aspects such as confidence, focus, mental training, visualization, peak performance, and the mind-body connection. It also examines the differences between group and individual sports and the mindsets of the prototypical athletes who engage in them. Prerequisite: Graduate standing.

### **KINE 5312. Contemporary Issues in Sports Medicine. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview and study of contemporary issues as related to Sports Medicine.

### **KINE 5313. Administrative Practices in Sports Medicine. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination and application of administrative practices related to Sports Medicine.

### **KINE 5314. Special Topics in Sports Medicine. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview and study of selected special topics as related to Sports Medicine.

### **KINE 5317. Leadership and Professional Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course designed to prepare students for the leadership roles related to Kinesiology and Athletics. Issues in Professional development will also be examined.

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Physiological responses to exercise are studied. Areas include metabolism, cardiorespiratory components, body composition, neuromuscular concepts, heat stress, applied nutritional aspects, and ergogenic aids.

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This course is an analysis of current issues in management strategies and the body of knowledge associated with pursuing a career in sport management. The course introduces the student to sport management career opportunities, problems within the profession and to sport principles as they apply to management, leadership style, communication, motivation and entrepreneurship.

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This course is dually designed to assist students in self-evaluating and developing their moral and ethical reasoning skills. Students will learn to view situations common to the industry of sport through multiple ethical lenses to assess and understand the perspectives of others. Special consideration will be given to both the macro and micro ethical concepts of competition and fair play, doping and genetic enhancement in sport, gender and sexual equity and issues in the social ethics of sport. Contemporary case studies examining personal, social and organizational examples of application of legal and ethical principles will be utilized.

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This course is designed to be an application of analytical concepts and principles to the development of effective strategies for solving sport marketing issues. Students learn the principles of organizing and promoting events and activities associated with the sport industry.

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This course will create informative and persuasive presentations, improve communication skills, establish alternative solutions for objections, and build strong customer relationships while informing them of the unique aspects and details involved in sports sales. Students will compose needs assessments, analyze prospective clients, gather information, develop effective time management, create customer profiles, and move prospective customers to clients.

### **KINE 5325. Exercise Prescription Through the Lifespan. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Advanced course in clinical exercise testing and prescription relative to children, healthy adults, and diseases of the cardiovascular, pulmonary, metabolic, musculoskeletal, neuromuscular, and immunologic systems. It is designed to provide the student with a basic understanding of the pathophysiology and exercise responses in these populations and as related to the American College of Sports Medicine.

### **KINE 5326. Facilities in Kinesiology, Athletics, and Recreation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles, terminology, and standards for planning, constructing, and maintaining kinesiology, athletic, and recreation facilities.

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This course examines the financial tools that sports managers use to run their sport businesses. As such, it explores traditional and innovative methods of revenue acquisition and financial management in sports organizations, the financial business structure of sports organizations, and the financial planning and forecasting processes that make organizations effective. Various other aspects of finance are discussed as they relate to sports organizations, including the time value of money, capital structuring, stocks and bonds, inventory management, and taxation.

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This laboratory-based course is designed to provide students with a basic understanding of selected research methods used in the quantitative assessment of health, exercise tolerance, muscle metabolism, and training adaptations. Specifically, exercise physiology tests and procedures, laboratory guidelines, and supervision. Emphasis on choice and implementation of proper procedures; calibration; operation and maintenance of exercise physiology equipment. In addition, we will discuss decision making regarding test selection, data collection and organization procedures, and interpretation and reporting of exercise test results.

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A survey of the theories and practical applications of human motor performance and achievement.

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The course is designed to present knowledge essential for coaching any level (youth, recreational, club, elite, and professional) athlete in any sport. Emphasis is on a comprehensive approach to the foundations and theories of coaching including development of a coaching philosophy, determining coaching objectives, coaching for character, coaching diverse athletes, motivational techniques, as well as, principles of teaching, physical training, and management.

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A survey of sport from the origins in Ancient Greece to the present. The emphasis on social and cultural developments that contributed to the growth of sport in the modern world.

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This course is designed to teach students how to instruct clients/patients in the principles of ergodynamics and their relationship to the prevention of illness and injury. Additionally, students will be exposed to various exercise and wellness programming concepts. Students will also learn how to administer and interpret results of fitness and wellness screenings.

**KINE 5385. Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview and study of various topics related to Kinesiology.

**KINE 5399. Internship. 3 Credit Hours (Lecture: 1 Hour, Lab: 7 Hours).**

Supervised experience in related fields in Kinesiology.

## Department of Sport Science

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The **Department of Sport Science (SPTSCI)** offers the following graduate degrees:

- **Master of Science in Kinesiology with a concentration in Sport Administration** prepares the student interested in administration of athletic programs at the youth sport, high school, collegiate, and professional levels.
- **Master of Science in Kinesiology with a concentration in Exercise Science** prepares students interested in the exercise industry to become certified exercise professionals.

### Information for the Master of Science in Kinesiology

The **Sport Administration** concentration is offered fully online and provides the student with a flexible curriculum to meet specific needs and interests. The **Exercise Science** concentration is a mix of face-to-face and online courses to provide application based lab experiences.

- **Admission to the Program**
  - **Undergraduate GPA Requirement** - Students with an undergraduate GPA of 2.50 or greater (last 60 hours) are eligible for admission to the MS in Kinesiology program and are **EXEMPT** from the standardized entrance exam (GRE or MAT) requirement. Students with an undergraduate GPA below 2.50 (last 60 hours) will be reviewed on a case-by-case basis. Contact the Kinesiology Graduate Director for more information.
  - **Undergraduate Degree** - An undergraduate degree in Kinesiology is highly recommended for students seeking admission to the Kinesiology graduate program. Contact the Kinesiology Graduate Director for more information.
  - **Application** - All interested students should submit their application online at <http://www.tarleton.edu/graduate/>.
- **Degree Plan**
  - Faculty members in the **School of Kinesiology** serve as academic advisors for graduate students. After completion of at least 12 semester hours and full admission to the graduate program, the student shall select a chairperson of the advisory committee. In consultation with the chairperson, the remainder of the advisory committee will be selected. Provided all academic requirements have been met, a degree plan will be filed and admission to candidacy granted. The advisory committee has the responsibility for the degree program and comprehensive portfolio of the student prior to conferral of the degree.



- The Master of Science in Kinesiology is a 30 credit hour program (non-thesis) or 30 credit hour program (thesis). Students must complete a minimum of 24 graduate hours within Kinesiology.
- **Satisfactory Progress**
  - Students must make a "C" or better in all coursework and maintain an overall GPA of 3.00 or higher.
- **Comprehensive Portfolio**
  - All Kinesiology graduate students must submit a comprehensive portfolio during the semester in which graduation is anticipated. Failure to submit a quality portfolio will result in a written exam as well as an oral presentation. Students who do not pass the written exam and/or the oral presentation will be required to enroll for and pass a 3-hour course during the following semester. Comprehensive Portfolios are due during the semester in which graduation is anticipated: Fall - October 15; Spring - March 15; Summer - June 15.

## Master of Science in Kinesiology

### Required Courses

KINE 5303	Research in Kinesiology	3
Choose between KINE 5088 or KINE 5399		3-6
KINE 5088	Thesis (Thesis students must complete 6 hours of credit)	
KINE 5399	Internship	
Select 9-12 hours from the following (Thesis students needs to take 9 hours)		9-12
KINE 5302	Advanced Psychological Aspects of Sports	
KINE 5304	Principles of Sport Organization	
KINE 5305	Administration of Athletics	
KINE 5310	Social Psychology in Sports	
KINE 5306	Health Trends in Sport Administration	
KINE 5312	Contemporary Issues in Sports Medicine	
KINE 5313	Administrative Practices in Sports Medicine	
KINE 5314	Special Topics in Sports Medicine	
KINE 5317	Leadership and Professional Development	
KINE 5320	Exercise Physiology	
KINE 5321	Contemporary Issues in Sport Management	
KINE 5322	Sport Ethics	
KINE 5323	Sport Marketing	
KINE 5324	Sport Sales	
KINE 5325	Exercise Prescription Through the Lifespan	
KINE 5326	Facilities in Kinesiology, Athletics, and Recreation	
KINE 5328	Adapted Exercise and Sport	
KINE 5329	Sport Finance	
KINE 5330	Teaching in Kinesiology	
KINE 5333	Theory of Exercise Programming and Evaluation	
KINE 5335	Laboratory and Research Techniques in Exercise Science	
KINE 5336	Statistics in Kinesiology	
KINE 5340	Motor Learning	
KINE 5342	Advanced Principles of Athletic Coaching	
KINE 5343	Law for Sport and Recreation	
KINE 5370	History of Sport	
KINE 5383	Fitness and Wellness Applications in Athletic Training	
KINE 5385	Seminar	
KINE 5086	Problems	
Total Hours		18

### Additional Required Courses for Concentrations

#### Sport Administration

KINE 5304	Principles of Sport Organization <sup>1</sup>	3
KINE 5323	Sport Marketing <sup>1</sup>	3
KINE 5329	Sport Finance <sup>1</sup>	3
KINE 5343	Law for Sport and Recreation <sup>1</sup>	3
Total Hours		12

#### Exercise Science

KINE 5320	Exercise Physiology <sup>1</sup>	3
KINE 5330	Teaching in Kinesiology <sup>1</sup>	3
KINE 5333	Theory of Exercise Programming and Evaluation <sup>1</sup>	3
KINE 5335	Laboratory and Research Techniques in Exercise Science <sup>1</sup>	3
Total Hours		12

<sup>1</sup> If this course is counted toward concentration requirements, the student must take an additional three hours of required coursework.

### Professor emeritus

- Dr. Joe Gillespie

## Professors

- Dr. Matt Laurent
- Dr. Chet Martin
- Dr. Kayla Peak
- Dr. Joe Priest
- Dr. Wendell Sadler
- Dr. Steve Simpson

## Associate professors

- Dr. Sharon-Tiffany Bowers
- Dr. Jarrod Schenewark
- Dr. Tom Tallach

## Assistant professors

- Dr. Kelsey McEntyre
- Dr. Colin Pennington
- Dr. Andy Wolfe

## Courses

### **KINE 5086. Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Directed study of selected problems in Kinesiology.

### **KINE 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Students are required to successfully complete a thesis under the direction and supervision of their thesis chair and committee members. The thesis will require a minimum of two semesters of work and possibly more depending upon their topic and design, thus students will be allowed to register for three hours each semester. The thesis option is designed for students that want to gain extensive experience in research and/or greater knowledge about a specific topic area. It is also designed for those that anticipate more advanced research (e.g., Ph.D.). Upon completion of their work there is a thesis defense. This course is scheduled when the student begins the thesis. No credit is given until the thesis is completed. Thesis hours only count toward the degree if and only if the thesis is complete and approved by the committee and the College of Graduate Studies. Prerequisite: KINE 5303.

### **KINE 5301. Readings in Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of published reports and research in the field of Kinesiology.

### **KINE 5302. Advanced Psychological Aspects of Sports. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to help students both learn and apply practical and theoretical information as it relates to psychology of sport. Mental training skills that can enhance athletic performance will be included. Additional areas include stress, motivation, goal-setting, leadership, imagery, and self-efficacy.

### **KINE 5303. Research in Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is designed to prepare students for research publication and presentation within the Kinesiology discipline.

### **KINE 5304. Principles of Sport Organization. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to teach the functions of organization and management in a sport context as well as traditional and contemporary principles and theories thereof.

### **KINE 5305. Administration of Athletics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the administrative functions of directors of athletic programs. Liability laws, financial administration, personnel, public relations, and state laws governing athletic programs will be explored.

### **KINE 5306. Health Trends in Sport Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the critical health issues and considerations related to sport administration. Topics include classical and contemporary issues and considerations related to mitigating health risks for sports teams, coaching and support staff, and spectators in sport and ancillary facilities.

### **KINE 5310. Social Psychology in Sports. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course gives students a basic overview of sports psychology, covering aspects such as confidence, focus, mental training, visualization, peak performance, and the mind-body connection. It also examines the differences between group and individual sports and the mindsets of the prototypical athletes who engage in them. Prerequisite: Graduate standing.

### **KINE 5312. Contemporary Issues in Sports Medicine. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview and study of contemporary issues as related to Sports Medicine.

### **KINE 5313. Administrative Practices in Sports Medicine. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination and application of administrative practices related to Sports Medicine.

### **KINE 5314. Special Topics in Sports Medicine. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview and study of selected special topics as related to Sports Medicine.

### **KINE 5317. Leadership and Professional Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course designed to prepare students for the leadership roles related to Kinesiology and Athletics. Issues in Professional development will also be examined.

### **KINE 5320. Exercise Physiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Physiological responses to exercise are studied. Areas include metabolism, cardiorespiratory components, body composition, neuromuscular concepts, heat stress, applied nutritional aspects, and ergogenic aids.

### **KINE 5321. Contemporary Issues in Sport Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an analysis of current issues in management strategies and the body of knowledge associated with pursuing a career in sport management. The course introduces the student to sport management career opportunities, problems within the profession and to sport principles as they apply to management, leadership style, communication, motivation and entrepreneurship.

### **KINE 5322. Sport Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is dually designed to assist students in self-evaluating and developing their moral and ethical reasoning skills. Students will learn to view situations common to the industry of sport through multiple ethical lenses to assess and understand the perspectives of others. Special consideration will be given to both the macro and micro ethical concepts of competition and fair play, doping and genetic enhancement in sport, gender and sexual equity and issues in the social ethics of sport. Contemporary case studies examining personal, social and organizational examples of application of legal and ethical principles will be utilized.

### **KINE 5323. Sport Marketing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to be an application of analytical concepts and principles to the development of effective strategies for solving sport marketing issues. Students learn the principles of organizing and promoting events and activities associated with the sport industry.

**KINE 5324. Sport Sales. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will create informative and persuasive presentations, improve communication skills, establish alternative solutions for objections, and build strong customer relationships while informing them of the unique aspects and details involved in sports sales. Students will compose needs assessments, analyze prospective clients, gather information, develop effective time management, create customer profiles, and move prospective customers to clients.

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## Health Sciences & Human Services

The College of Health Sciences and Human Services includes the Department of Counseling; the Department of Medical Laboratory Sciences and Public Health; the Department of Nursing; and the Department of Social Work. The college offers a number of programs leading to graduate degrees such as: MS in Clinical Mental Health Counseling, MS in Medical Laboratory Sciences, MSN in Nursing Education, MSN in Nursing Administration, and a MSW in Social Work. Please see the undergraduate section of the catalog for information regarding undergraduate programs offered by the College of Health Services and Human Sciences.

The college offers graduate degree programs, which are listed below.

### Graduate Programs offered by the College of Health Sciences and Human Services

#### The Department of Counseling:

MS in Clinical Mental Health Counseling

#### The Department of Medical Laboratory Sciences:

MS in Medical Laboratory Sciences

#### The Department of Nursing:

MSN in Nursing Education  
MSN in Nursing Administration

## The Department of Social Work:

MSW in Social Work

## Counseling

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Department of Counseling  
Box T 0765  
Stephenville, TX 76402  
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www.tarleton.edu/counsel/ (<http://www.tarleton.edu/counsel/>)

The Department of Counseling is one program on three campuses, we offer a Master of Science in Clinical Mental Health Counseling degree. The MS in Clinical Mental Health Counseling degree includes academic coursework that satisfies the academic course requirements for Licensed Professional Counselor (LPC) in Texas. Students with a teaching certificate and two year's teaching experience are able to exercise an option to take coursework to be eligible to take the TExES school certification test.

### Mission Statement

The Department of Counseling seeks to prepare professional counselors who have developed sound counseling skills through a diversity of experiential learning; acquired a comprehensive theoretical knowledge base; and developed a strong professional counselor identity. The Department's intent is for graduates to be moral and ethical thinkers, scholars, and leaders who demonstrate civility and integrity, while contributing meaningfully and responsibly to the counseling profession.

### Vision Statement

The Department of Counseling seeks local, state, regional, national, and international prominence as a collaborative and transformative community engaged in exemplary research, education, and service that benefit the profession of counseling and the public it serves.

### Clinical Mental Health Counseling (CMHC) Curriculum Objectives

The CMHC curriculum is based on objectives that provide students with a structured sequence of curricular and clinical experiences reflecting the present and projected needs of a pluralistic society for which specialized counseling and human development activities have been developed. The objectives are consistent with state licensing/certification and national certification educational requirements. The stated objectives are evidenced in course objectives and assignments embedded in Course Syllabi. These objectives reflect input from the Department faculty, Advisory Board, and former students of the Department.

The CMHC curriculum is organized around the following set of objectives:

- 1. Professional Identity:** Students will demonstrate an understanding of professional functioning including history, roles, technological competence, organizations, credentialing, advocacy process, and ethical standards in professional counseling.
- 2. Social and Cultural Diversity:** Students will demonstrate an understanding of the cultural context of relationships, issues, and trends in a multicultural and diverse society as they relate to factors such as age, ethnicity, nationality, culture, gender, sexual orientation, physical characteristics, education, family values, spiritual values, socioeconomic status, and other unique characteristics.
- 3. Human Growth and Development:** Students will demonstrate an understanding of individuals at all developmental levels, including theories of development across the life span, theories of learning and personality development, human behavior including environmental factors effecting both normal and abnormal behavior, ethical and legal considerations, and strategies for facilitating development over the life span.
- 4. Career Development:** Students will demonstrate an understanding of career development and related life factors including theories and developmental modes, career development program planning, educational and occupation information as well as computer-based career information systems, diversity issues in career development, career planning, placement and evaluation including assessment instruments, ethical and legal considerations, and career counseling techniques.
- 5. Helping Relationships:** Students will demonstrate an understanding of counseling and consultation processes including basic interviewing and counseling skills as well as knowledge and application of counseling theories. An understanding of family and other systems theories in family assessment and counseling is included. Other helping considerations include knowledge of self, consultation and ethical and legal considerations.
- 6. Group Work:** Students will demonstrate an understanding of group development, dynamics, counseling theories, group counseling methods, and skills and other group work approaches.
- 7. Assessment:** The program will expect the student to demonstrate an understanding of individual and group approaches to assessment and evaluation.
- 8. Research and Program Evaluation:** Students will demonstrate an understanding of research, statistical analysis, needs assessment, and program evaluation.

## Course Delivery

The Department of Counseling, one program delivered on three campuses. Students take courses with cohorts abiding by the published course rotation.

- Courses are delivered in Stephenville, Fort Worth, and Waco during the fall, spring and summer semesters.
- Courses are primarily offered in the evenings with a limited number offered on-line/hybrid and/or weekends.

## Course Rotations

Students are required take classes fall, spring, and summer. Students are required to follow published course rotations. Lastly, students are required to be advised by their Faculty Advisor each semester.

## Registration After First Day of Class or Changing Classes

Under no circumstance will a student be allowed to register for a class or change a class after the first day of classes for the semester has occurred.

## Semester Course Load

A full course load in the Department of Counseling is considered to be nine semester hours. A student must seek permission from Faculty Advisor and Department Head to take twelve hours. Under no circumstance will a semester load of more than twelve hours be considered or allowed.

## Admissions

Applicants are accepted to the Clinical Mental Health Counseling Program in the fall semester. The application deadline is July 15th.

Applicants are permitted to enroll in six hours their first semester.

## Admissions Criteria

Admissions decisions are based on a holistic First Semester Review that includes the following indicators:

1. **Academic aptitude for master's level study.** Indicators:
  - a. High grade point average in bachelor's degree work.
  - b. High grade point average in post-bachelor's degree graduate work.
  - c. Successful completion of, or progress in, TSU graduate courses in counseling.
  - d. Commitment to and demonstration of graduate level writing proficiency and use of APA style.
2. **Interest in assuming an identity as a professional counselor.** Indicators:
  - a. An expressed preference for becoming a professional counselor.
  - b. Knowledge of the counseling profession.
  - c. Employment or volunteer experience in a counseling environment.
3. **Successful work experience or leadership activities.** Indicators:
  - a. One or more years of full-time work experience.
  - b. Recognition as a successful employee, volunteer, or college student.
  - c. Leadership experiences as an employee, volunteer, or college student.
4. **Interpersonal skills.** Indicators:
  - a. History of positive relationships with peers, professors, employers, friends, and family.
  - b. Ability to handle stressful situations effectively.
  - c. No evidence of unethical behavior.
  - d. Openness to and willingness to act on feedback from faculty.
5. **Interest in a counseling area needed to balance the program or the profession.** Indicators:
  - a. Indication of interest in a needed emphasis area.
  - b. Experience or background in a needed emphasis area.

*As part of its commitment to the Tarleton State University policy of affirmative action, and to the professional ethics and values of the field of counseling, the Professional Counseling Program strives to seek a diverse student body.*

## Applicants with History of Felony or Misdemeanor Convictions

Applicants with any history of felony or misdemeanor convictions may be denied licensure. It is the student's sole responsibility to check with the Texas LPC Board ([http://www.dshs.state.tx.us/counselor/lpc\\_rules.shtm](http://www.dshs.state.tx.us/counselor/lpc_rules.shtm)). The Department bears no responsibility in this matter.

## Admissions Procedure (Two-Step Process)

### Step 1: Apply to College of Graduate Studies

*Admission to the College of Graduate Studies does not automatically admit a student to a graduate degree program.*

- Complete and submit the Apply Texas Online Application: [https://www.applytexas.org/adappc/gen/c\\_start.WBX](https://www.applytexas.org/adappc/gen/c_start.WBX)
- Submit official transcripts of all undergraduate and graduate academic coursework (2.75 or higher GPA on last sixty hours of undergraduate work, and a letter of recommendation needed applicants whose GPA is in between 2.75-2.99 )

All documents listed above are to be submitted to and processed by the College of Graduate Studies by:

- **July 15**

### Step 2: Apply to Department of Counseling - Clinical Mental Health Counseling Program

- Attend Admission Interview (Mandatory)
- Attend Program Orientation (Mandatory)
- During Orientation, learn how to enroll in CNSL 5350 and CNSL 5353
- During CNSL 5350 and CNSL 5353, complete Application to the Department of Counseling and pay \$30 application fee
- Attend First Semester Review to learn admission status

## Additional Information

Students must maintain a 3.0 GPA throughout the course of the program and receive a grade of "B" or better in **ALL prerequisite** CNSL courses. The following prerequisite courses are: CNSL 5311 Multicultural, CNSL 5354 Group, CNSL 5358 Diagnosis, CNSL 5357 Pre-Prac, and CNSL 5397 Ethics. A prerequisite course must be repeated the next semester the course is offered if the grade is below a "B." The course in question may only be repeated once.

If applicants are not able to earn a "B" or better in CNSL 5350 and CNSL 5353, he or she will not be admitted to the Clinical Mental Health Counseling Program.

Applicants will not be considered for admission to the Clinical Mental Health Counseling Program until CNSL 5350 and CNSL 5353 have successfully been completed by earning a grade of "B" or better. Again, the courses may only be repeated once. No applicant will be permitted to enroll in additional coursework (CNSL) in the Department if not admitted.

## Admission Interviews

The following discusses the Admission Interview process. Applicants must attend Admission Interviews and achieve a passing score in order to be invited to the Department's mandatory Program Orientation.

1. The Department must receive an acceptance notice for the applicant from COGS by July 15 for applicant to be scheduled for an interview.
2. All applicants must have a GPA of 2.75 on last 60 hours of course work.
3. All applicants must attend and participate in the interview process.
4. If an applicant passes the interview process, he or she will be invited to attend the mandatory Program Orientation.

## Interview Process

The following outlines the interview process for the Department:

1. Applicants meet with a faculty member for an interview.

2. Applicants participate in a group exercise.
3. Applicants write an essay.
4. An applicant must meet a minimum score to be considered for admission.
5. All applicants are notified of status in the process within 48 business hours of interview day by email.
6. If an applicant is denied to move further in the process, he or she may reapply the next semester the program accepts applicants.

## First Semester Review

All applicants in CNSL 5350 and CNSL 5353 must attend the First Semester Review to learn the status of admission. The purpose of this meeting is to discuss performance in terms of professionalism, competency with beginning counseling skills, professional responsibility, and integrity and ethical standards. Attendance at this meeting is mandatory in order to be considered for continued enrollment in courses in the Department.

Based on results of the *First Semester Review*, your admission status is as follows:

- Fully Admitted,
- Admitted with Conditions,
- Not Admitted.

**Fully Admitted:** the applicant has full admission to the Department and a Degree Plan.

**Admitted with Conditions:** the applicant is NOT fully admitted. Faculty feel the applicant needs to meet certain conditions in order to be admitted. The applicant will not receive a Degree Plan until conditions have been satisfied. These conditions are considered on a case by cases basis. An applicant with the status of "admitted with conditions" receives a written, detailed remediation plan and due date. The applicant has **ONE** semester to satisfy conditions. If the applicant fails to satisfy the conditions, the admissions status will change to "not admitted." In this case, the applicant is referred to the College of Graduate Studies and Career Services for assistance in finding a better career fit.

**Not Admitted:** the applicant is not admitted to the program/department and will not receive a Degree Plan. The applicant is referred to the College of Graduate Studies and Career Services for assistance in finding a better career fit.

### Remediation can include: (not an exhaustive list)

- Being encouraged to seek personal counseling at the applicant's expense
- Writing essays
- Volunteer work
- Attending a writing lab
- Applicants will receive both verbal and written notification of status.

## Program Orientation

Applicants must attend the mandatory Program Orientation prior to enrolling in classes. Applicants receive enrollment instructions for CNSL 5353 and CNSL 5350 during orientation. If an applicant is unable to attend the Program Orientation, he or she must wait to seek admission until the next semester the Department admits applicants.

## Transfer Hours

Students are permitted to transfer up to six hours of pre-approved CACREP coursework into the Department. Courses cannot be over six years old at time of graduation. The LPC board will not accept courses over ten years old. A student bears the responsibility to see his or her Faculty Advisor to determine if the course is acceptable. The student must submit a transcript and syllabus to the Faculty Advisor when making the request. The course(s) must be equivalent to the Department of Counseling CMHC program course. Faculty Advisors must submit the course substitution sheet to the department head for final approval.

Under no circumstance will CNSL 5353 or CNSL 5350, equivalents be permitted for transfer.

## Professional School Counselor Option

Students utilizing this option must have a teaching certificate and two years of teaching experience on their official service record. If a student meets these criteria, he or she can make application to the Professional School Counselor Program during the first semester of course work. It is the student's responsibility to contact the department's School Counselor Coordinator to request the application. The Departmental office can give the student the School Counselor Coordinator's contact information (254-968-1688). The cost of applying to the Professional School Counselor Program is \$90 (\$35 application fee and a \$55 TEA Technology fee). The fees are automatically entered into the system by Tarleton's Certification Office and will be added to the student's Tarleton bill.

Once admitted into the Professional School Counselor Program, the student will be listed in the EPS database showing program admission. An email from TEA will be received informing the student of eligibility to test. TEA will ask the student to set up an account, if a TEA account already exists, the student should disregard this email. A student will NOT be able to test until the last semester of coursework. See the School Certification section of this handbook for more information.

## Departmental Communication

Students Go.Tarleton.edu email account is the official email account for the university and the ONLY email account the department will utilize. Students must set up this account. Failure to do so will result in failing to receive imperative information from the university and the department.

- The following is the link for setting up your student email account: <http://www.tarleton.edu/technology/studentemail/>

The department utilizes a Listserv to communicate with students. This Listserv is sent to the Go.Tarleton.edu account only. Information shared ranges from deadlines to job opportunities.

## Goodness of Fit

If a faculty member believes a student is not making satisfactory progress (academic or professional responsibility) in meeting departmental, professional, or university standards, that faculty member will review the situation with other faculty members. The faculty member may choose to refer the student for a **Goodness of Fit Review** meeting. This meeting will be comprised of a minimum of two core faculty members. The faculty will review the student's performance (academic or professional responsibility) during the meeting utilizing a **Goodness of Fit Review Form**.

## Comprehensive Examination

Every candidate for the MS in Clinical Mental Health Counseling degree must apply for and pass a comprehensive examination. The comprehensive examination is taken in the first semester of clinical coursework (CNSL 5397). Students are responsible for checking the website (<http://www.tarleton.edu/counsel/student-resources/cpce-exam.html>) for registration deadlines, information regarding the examination and making arrangements to take it as scheduled. The cost is \$85 which will be charged to the student's Texan bill. The test is administered at the Stephenville location in the Testing Center. Students are required to show

their Tarleton ID prior to being admitted to the Testing Center. **If a student arrives late and/or without proper ID, he or she will not be admitted into the testing center and will not be allowed to take the test.**

**Degree Requirements:**

**Master of Science in Clinical Mental Health Counseling**

**Required Courses**

**Core Requirements:**

CNSL 5301	Research Methods in Counseling	3
CNSL 5304	Human Growth and Development in Counseling	3
CNSL 5311	Multicultural Counseling	3
CNSL 5313	Crisis Interventions and Management for Counselors	3
CNSL 5332	Psychopharmacology	3
CNSL 5350	Foundations of Counseling	3
CNSL 5351	Career Counseling	3
CNSL 5353	Counseling Theories and Applications	3
CNSL 5354	Group Procedures for Counselors	3
CNSL 5356	Introduction to Family Counseling	3
CNSL 5357	Pre-Practicum	3
CNSL 5358	Diagnosis and Treatment Planning	3
CNSL 5381	Assessment in Counseling	3
CNSL 5391	Ethical Foundations of Counseling	3
CNSL 5394	Behavioral Addictions and Substance Abuse	3
CNSL 5397	Practicum	3
CNSL 5399	Internship	3
CNSL 5399	Internship	3
Choose two of the following:		6
CNSL 5324	Human Sexuality and Sexual Dysfunction	
CNSL 5352	Seminar in School Counseling	
CNSL 5359	Evidence Based Counseling	
CNSL 5393	Play Therapy	
CNSL 5382	Behavior Management and Counseling	
CNSL 5392	Counseling Children and Adolescents	
CNSL 5325	Building, Marketing, and Managing a Private Practice	
CNSL 5370	Expressive Arts in Counseling	
CNSL 5371	Couples Counseling	
CNSL 5372	Interpersonal Neurobiology for Counseling	
CNSL 5373	Using Mindfulness in Counseling	
CNSL 5374	Counseling Grief and Loss	
CNSL 5375	Sexual Orientation and Gender Identity Therapeutic Counseling	

Total Hours

60

**Chair**

- Munsey, Beck

**Professor**

- Burdenski, Tom

**Associate professors**

- Blanco, Pedro
- Merriman, Julie
- Munssey, Beck
- Foster, Ryan

**Assistant professors**

- Wilder, Chris
- Manning, LaShondra
- Holliman, Ryan

**Courses**

**CNSL 5086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Open to graduate students in counseling who are independently capable of developing a problem in the area of counseling and guidance. Problems chosen by the student must be approved in advance by the instructor.

**CNSL 5301. Research Methods in Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course emphasizes research in the counseling field, basic statistics, literature review, proposal and report development, research implementation, needs assessment, program development, and ethical and legal considerations regarding research through the presentation of a formal research proposal and/or presentation of a completed research report. In addition the course explores the history and theory underlying program evaluation, approaches to evaluation, and techniques used for program evaluation, students consider the importance of scholarly writing and learn how to identify a topic for research and how to conduct a literature search. Prerequisite: CNSL 5350 and CNSL 5353.

**CNSL 5304. Human Growth and Development in Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces studies that provide an understanding of the nature and needs of persons at all developmental levels and in diverse cultural contexts. This course also provides a systematic study of human development emphasizing physical, personality, cognitive, moral and psychosocial developmental theories and issues, with an emphasis on facilitating optimal development and wellness over the lifespan. This course will attempt to merge theory into practice and integrate critical thinking concepts associated with developmental factors in human development. Prerequisite: CNSL 5350 and CNSL 5353.

**CNSL 5311. Multicultural Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is the study of interaction of social/cultural groups in America, problems of minorities and ethnic groups, problems related to gender and age, problems within family systems and contemporary sources of positive change. This course provides an understanding of how diverse values and mores, interaction patterns, social conditions, and trends related to cultural and ethnic diversity affect counseling. Emphasis is on developing knowledge, skills, and attitudes for more effective counseling with persons different from the counselor regarding characteristics such as culture, race, gender, sexual orientation, physical disability, and religious preference. Substantial attention is given to developing awareness of one's own values, attitudes, and beliefs as they relate to counseling in a diverse society. Prerequisite: CNSL 5350 and CNSL 5353.

**CNSL 5313. Crisis Interventions and Management for Counselors. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to the research and practice of crisis counseling, trauma counseling and disaster mental health. Issues related to the assessment, diagnosis and treatment of clients affected by crises, trauma and disasters will be thoroughly addressed. Prerequisite: CNSL 5350 and CNSL 5350.

**CNSL 5323. Ethical Consultation and Supervision in Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide an introduction to counseling services in private practice, community centers and helping agencies, and schools and universities. Students will learn how to open a private practice, be consultants, clinical directors, and administrators. Overview of leadership theory and skills, consultation models and process, program evaluation, methods, and structure, and ethical, legal, and professional issues, the availability of funding sources and community resources. Students develop a personal model of consultation and apply their knowledge and skills to case studies and real-life examples. Prerequisites: CPSY 5350 and CPSY 5353.

**CNSL 5324. Human Sexuality and Sexual Dysfunction. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a detailed examination of human sexuality, including reproductive physiology, sexual development across the lifespan, sexual behavior, sexual diversity, and the treatment of sexual dysfunction. The course includes a focus on the role of sexuality in relationships and in marital and family dynamics. Prerequisites: CNSL 5350, CNSL 5353, and CNSL 5356.

**CNSL 5325. Building, Marketing, and Managing a Private Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will learn how to build, market, and manage a thriving private practice. Students will understand how to design a business plan, finances, building quarterly market plans, client record keeping, and other important details of running a successful private practice. Prerequisite: CNSL 5304, CNSL 5311, CNSL 5350, CNSL 5351, CNSL 5353, and CNSL 5354.

**CNSL 5332. Psychopharmacology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The understanding of the basic neurobiology of psychopathology and how psychotropic medications treat such conditions is the foundation of this class. An emphasis is placed on the role of the counselor as a member of a treatment team who helps facilitate client treatment compliance and monitors the efficacy and side effect manifestations of psychotropic treatment, while helping to integrate that treatment with other non-pharmacological modalities. The course will include an overview of psychopharmacological medications, their basic classification, indications, contraindications, and side-effects will be provided. One goal of this course is to introduce the students to the basic terminology and models of pharmacokinetics as they relate to clinical mental health counseling and pharmacological treatment. A tertiary aim of the course will be to discuss the ethical role of the mental health counselor who is a part of the mental health care team in pharmacotherapy. Prerequisites: CNSL 5350, CNSL 5353, and CNSL 5358.

**CNSL 5350. Foundations of Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines theories and concepts with emphasis on counseling skills, as well as historical, philosophical, ethical, legal, multicultural exploration and professional issues. The course provides an overview of counseling services commonly found in a variety of settings. It includes individual and group counseling, assessment, career planning, referral, and consultation. All students are required to take the Sixteen Personality Factor Questionnaire (16PF) and complete an essay based on the results. The essay will be reviewed during First Semester Review. The First Semester Review is a mandatory meeting students in their first semester of course work must attend to determine eligibility for admissions to the Counseling Program. The purpose of this meeting is to discuss performance in terms of professionalism, competency with beginning counseling skills, social and emotional maturity, and integrity and ethical standards. The course is taken concurrently with CNSL 5353 in the first semester of enrollment. For further details, reference the TSU Graduate Counseling Program Handbook. Prerequisite: Taken first semester concurrently with CNSL 5353.

**CNSL 5351. Career Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an in-depth study of career counseling that focuses on occupational, educational, and personal/social issues for general and special populations. The course includes examination of theoretical bases for career counseling and a study of organization and delivery of information through individual and group activities. All ethically related concerns are addressed. Students will be required to purchase occupational and educational information materials. Prerequisite: CNSL 5350 and CNSL 5353.

**CNSL 5352. Seminar in School Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an in-depth study of a comprehensive school counseling and guidance program. The course will address the theoretical foundation, knowledge, and skills to prepare the student to implement a counseling and guidance program in an educational (K-12) setting. As the foundation course for those planning to enter school counseling, this course covers organization, planning, management, and evaluation of comprehensive school counseling programs; appropriate roles and functions of school counselors at various school levels, coordination of professional services; and professional issues such as ethics and associations as they specifically relate to school counseling. This course is required of all students seeking master's degrees with the school counseling focus and of all students seeking school counselor certification in Texas. Prerequisites: CNSL 5350 and CNSL 5353.

**CNSL 5353. Counseling Theories and Applications. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course surveys and investigates counseling theories with an emphasis on how theories influence practice. There is a special emphasis is on applications to various population. The course includes role-plays and other experiential methods. Students will participate in recording a counseling session to be critiqued. All students attend mandatory personal counseling with a community counselor during the course. Related ethical and legal concerns are discussed. Prerequisite: Taken first semester concurrently with CNSL 5350.

**CNSL 5354. Group Procedures for Counselors. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to group therapy and group procedures with an emphasis on developing group counseling skills to work with children, adolescents, adults, and special populations. The course covers various types of groups, an understanding of group dynamics and development, and related ethical and legal concerns. Students will participate in supervised group counseling experiences. Using relevant literature, multimedia resources, and a scholar-practitioner model, students develop an understanding of culturally and contextually relevant group practice, group leaders' roles and responsibilities, the relevance and purpose of group work, and strategies for group utilization to foster social change. Students also participate in a group experience in their class. In addition, leadership styles, techniques, and roles are explored. Prerequisite: CNSL 5350 and CNSL 5353.

**CNSL 5356. Introduction to Family Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an overview of the theoretical concepts and intervention strategies unique to family, systems, and relational therapies. The course includes the study of family dynamics, family development, relationships, and the resolution of family concerns. Ethical and legal considerations are included. Prerequisite: CNSL 5350 and CNSL 5353.



**CNSL 5357. Pre-Practicum. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to introduce counseling students to basic interviewing and counseling, to include theories and skills. The students will demonstrate an understanding of ethical behavior. The course includes application of multicultural competencies to case conceptualization. The course includes self-care strategies for the counseling student. The course addresses professional issues relevant to the practice of Clinical Mental Health Counseling. Prerequisites: CNSL 5350, CNSL 5351, CNSL 5353 and CNSL 5354, CNSL 5381.

**CNSL 5358. Diagnosis and Treatment Planning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an overview of psychopathology that includes the history of abnormal behavior and an in-depth study of the specific diagnostic psychological disorders. Emphasis in the course will be on classification systems currently used in clinical settings and treatment alternatives from a counseling perspective. Prerequisites: CNSL 5350 and CNSL 5353.

**CNSL 5359. Evidence Based Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to provide students with both a knowledge/evidence base for the foundations of counseling and practical skills that will prepare them to see clients in their field work. Evidence is presented that the therapeutic alliance is, across all approaches to therapy, the strongest correlate of successful outcome. Students acquire skills in building a personal bond, providing deep empathy, promoting a collaborative atmosphere in therapy, and empowering clients to solve their own problems. Students are also encouraged to explore their own personal impact in developing a therapeutic alliance. Prerequisite: CNSL 5350, CNSL 5353, and CNSL 5358.

**CNSL 5370. Expressive Arts in Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to give counseling students an overview of expressive forms of counseling. Students will be able to gain further knowledge of creative approaches to counseling while also getting an opportunity to experience differing techniques. Additionally this course combines didactic and experiential learning. Discussion, role-play, lectures, small-group experiences, films, and demonstration are some possible methods that may be utilized. Prerequisites: CNSL 5350 & CNSL 5353.

**CNSL 5371. Couples Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide students with knowledge and understanding of the principal theoretical frameworks, and the existing clinical approaches to counseling couples derived from the theoretical frameworks. The course will also expose students to a variety of clinical issues a counselor is most likely to encounter in clinical work with couples. Prerequisites: CNSL 5350 & CNSL 5353.

**CNSL 5372. Interpersonal Neurobiology for Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides a comprehensive treatment of interpersonal neurobiology and its applications to clinical mental health counseling. The course will discuss neuroanatomy, neurophysiology, mental health disorders, and counseling methods from an interpersonal neurobiological perspective. Prerequisites: CNSL 5350 & CNSL 5353.

**CNSL 5373. Using Mindfulness in Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a detailed examination of mindfulness therapeutic techniques counselors use to help clients. Current trends in the counseling field will be examined and evidence-based research will be discussed throughout the course. Also, the course will cover different theoretical perspectives on mindfulness. The course includes a focus on the role of mindfulness helps clients and counselor achieve holistic wellness. Prerequisites: CNSL 5350 and CNSL 5353.

**CNSL 5374. Counseling Grief and Loss. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Designed to provide a foundation for counseling practice in the area of grief and loss. The practice of grief counseling is based on an in-depth understanding of the various theories and models associated with grief and loss and the applications of those models. Major and minor types of losses will be explored as well as differing reactions across developmental stages. Self-exploration of personal experiences, responses, and reactions to grief and loss will be examined. Prerequisites: CNSL 5350 & CNSL 5353.

**CNSL 5375. Sexual Orientation and Gender Identity Therapeutic Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a detailed examination of sexual orientation and gender expansion across the lifespan. Discussion of terminology and development unique to this population. Also, a focus on therapeutic techniques specific to this population will be looked at and practiced throughout the course. Prerequisites: CNSL 5350 & CNSL 5353.

**CNSL 5381. Assessment in Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to provide an introduction to the principles, concepts, methods, and applications of assessing human experience and behavior for counseling purposes. Topics included for study in this course include the history and philosophy behind measurement and assessment in counseling, statistical concepts, and common assessment formats for measuring constructs such as personality, pathology, achievement and aptitude, and career interests. The required assignments focus on the themes of assessment critique, administration and interpretation of assessment results, and incorporating assessment results into work with clients and students. Prerequisite: CNSL 5350 and CNSL 5353.

**CNSL 5382. Behavior Management and Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an examination of the major approaches and techniques utilized in behavior counseling and behavior management, including the principles of applied behavioral analysis. The course explores formal treatment planning, application, and evaluation of counseling for the management of specific emotional and mental health disorders. Prerequisite: CNSL 5350, CNSL 5353, and CNSL 5358.

**CNSL 5383. Counseling Veteran, Law Enforcement, and First Responders. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Description: This course is an overview of moral injury and the effects when working with veterans, law enforcement, and first responders. An overview of trauma informed guilt reduction therapy in relationship to developing a working knowledge of military and first responder culture and how to integrate trauma informed guilt reduction therapy to address trauma within this closed culture. Prerequisite: CNSL 5358.

**CNSL 5390. Selected Topics in Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of different topics each semester with a focus on contemporary issues in counseling. This course may be repeated for credit as the topic changes.

**CNSL 5391. Ethical Foundations of Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an exploration of the ethical principles of counselors and related codes of ethics. The course covers models or ethical decision-making and how to apply to counseling practice. Students will learn about the importance of self-care and application. The course explores the importance of multicultural considerations and implications for social justice. Students will learn ethical obligations to advocate for clients. The course covers ethical standards of professional organizations and credentialing bodies. Prerequisite: CNSL 5350 and CNSL 5353.

**CNSL 5392. Counseling Children and Adolescents. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is intended to provide a comprehensive study of therapeutic approaches and techniques for children and adolescents and is designed to develop students' knowledge and skills in the theory and practice of working with children. It prepares counselors to address the specific needs of children and adolescents, with emphasis on developmental needs, specific therapeutic interventions, and common emotional issues. Group and individual counseling techniques and treatment planning are included. Contemporary issues and interventions addressed include: typical developmental problems, creative interventions, crisis management, exceptional children, parenting skills, multicultural considerations, and ethical concerns. Prerequisites: CNSL 5350, CNSL 5353, and CNSL 5393.

**CNSL 5393. Play Therapy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an overview of the essential elements and principles of play therapy, including history, theories, modalities, techniques, applications, and skills. Further, an experiential component focuses on basic play therapy skill development within the context of ethical and diversity-sensitive practice. The course meets Association for Play Therapy requirements providing 67.5 Continuing Education (CE) hours towards the mandatory 150 required for RPT certification. Prerequisites: CNSL 5350, CNSL 5353, and CNSL 5358.

**CNSL 5394. Behavioral Addictions and Substance Abuse. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is intended to provide students with information regarding behavioral addictions (gambling, sex, Internet, video gaming, etc.), substance abuse, and co-occurring disorders. Information regarding the etiology, recognition, assessment, diagnosis, treatment, and impact of addictions will be addressed. The influence of addictions throughout the lifespan will also be examined. An experiential component is included as well. Ethical and legal concerns are covered. Prerequisite: CNSL 5350 and CNSL 5353.

**CNSL 5395. Internship in Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised professional activities in guidance and counseling. Major emphasis is placed on the student's involvement in successful practices at the educational level of interest. Students must have met all academic and professional standards of practice before placement. The field experience will consist of a minimum of 150 clock hours. Liability insurance is required. An application must be submitted by the published due date in the semester prior to field placement and approved by the practicum/internship director. Prerequisites: 3.0 or greater GPA and CPSY 5357, or approval of the department head. Field experience fee \$75.

**CNSL 5396. Internship in Counseling II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised professional activities in counseling at a field placement. Students must have met all academic and professional standards of practice before placement. The field experience will consist of a minimum of 160 clock hours. Liability insurance is required. A complete application must be submitted by the published due date in the semester prior to field placement and approved by the director. This course is repeatable up to two times for a maximum number of 6 credit hours. Prerequisites: CNSL 5395 and approval of program director.

**CNSL 5397. Practicum. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an overview of the basic counseling skills used by the professional counselor in working with children, adolescents, and adults. The course includes a laboratory experience in which the student is trained in the application of counseling relationship-building and working-stage skills via role-play activities with other students in the class and field placements as available. Integration of theory and practice is imperative in counselor training. This course is repeatable up to two times but a maximum number of 3 credit hours will be awarded. This course will be graded using a pass/fail grading system. Prerequisite: 3.0 GPA or greater and CNSL 5357, CNSL 5358, CNSL 5311, and one elective from CNSL 5382, CNSL 5324, CNSL 5359, CNSL 5393, or CNSL 5392.

**CNSL 5399. Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Primary interest is on integration of process, conceptual, professional, and personal skills. Provides extensive supervised experience in a setting closely aligned with student's chosen program. Taken as a two-semester sequence of two, three credit-hour courses. Each semester requires twenty weekly hours (300 total in each) of field experience. This course is repeatable up to four times, but a maximum of 6 credit hours will be awarded. This course will be graded using a pass/fail grading system. Prerequisite: CNSL 5350, CNSL 5351, CNSL 5353, CNSL 5354, CNSL 5381, grade of "B" or better in CNSL 5357 and CNSL 5397 and departmental permission received via application acceptance.

## Department of Medical Laboratory Sciences, Public Health, and Nutrition Science

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1501 Enderly Place  
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Sally Lewis, Ph.D., MLS (ASCP), HTL, MB  
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### Master of Science in Medical Laboratory Sciences

The Master of Science in Medical Laboratory Sciences offers students either a non-thesis track with two concentrations (Molecular Diagnostics and MLS ASCP Certification) or a thesis track with a concentration in Molecular Diagnostics. The program accepts new classes in Spring and Fall with deadlines of September 1st and May 1st, respectively. Upon successful completion of the program, students are eligible to sit for the Molecular Biology Board of Certification exam through the American Society for Clinical Pathology. This program is accredited by the National Accrediting Agency for Medical Laboratory Sciences (NAACLS), 5600 N. River Road, Suite 720, Rosemont, IL 60018, (773) 714-8880.

**Admission to either the Molecular Diagnostics thesis or non-thesis tracks of the M.S. in Medical Laboratory Sciences requires:**

- Approval of the Admissions Committee
- Admission to the Graduate School
- One of the following:
  - Professional certification in one of the following areas:
    - MLS/MT (ASCP)
    - HTL (ASCP)
    - CT (ASCP)
    - CG (ASCP)
    - ASCP Specialist certification including:
      - SM
      - SC
      - SH
      - SBB
  - Bachelor of Science in:
    - Biology
    - Biochemistry
    - Molecular Biology
    - Microbiology
    - Related Field<sup>1</sup>

**Admission to the MS in MLS ASCP Certification track requires application to the MLS program.** Qualified applicants will have been accepted into the BS/MLS certificate program and have successfully completed the introductory portion of the MLS program.

<sup>1</sup> With a minimum of 16 credit hours in biology (including microbiology, immunology, molecular biology), 16 credit hours in chemistry (including 8 hours in inorganic chemistry and 8 hours of organic chemistry or 4 hours organic chemistry and 4 hours biochemistry), approval of the Program Director and admission to the Graduate school.

Applications, deadlines and additional information may be found at [www.tarleton.edu/medicallab](http://www.tarleton.edu/medicallab) (<http://www.tarleton.edu/medicallab/>)

**Master of Science in Medical Laboratory Sciences****Required Courses**

MDLS 5101	CLS Literature review Seminar	1
MDLS 5174	Intro Lab Safety and Operations	1
MDLS 5202	Molecular Diagnostics	2
MDLS 5220	Medical Genetics	2
MDLS 5330	Medical Biochemistry	3
MDLS 5450	Molecular Diagnostics Techniques I <sup>2</sup>	4
MDLS 5451	Molecular Diagnostics Techniques II <sup>3</sup>	4
MDLS 5244	Applications in Molecular Diagnostics I <sup>2</sup>	2
MDLS 5245	Applications in Molecular Diagnostics II <sup>4</sup>	2
MDLS 5206	Laboratory Management	2
MDLS 5298	Statistical Methods for Healthcare Research	2
MDLS 5099	Practicum, Field Problem, or Internship <sup>1</sup>	1-3
Total Hours		28

**Additional Required Courses for Concentrations****Molecular Diagnostics Thesis**

MDLS 5088	Thesis	6
Total Hours		6

**Molecular Diagnostics Non-Thesis**

MDLS 5086	Clinical Laboratory Science Problems	2
Total Hours		2

<sup>1</sup> Both the thesis and non-thesis Molecular Diagnostics options require a three credit hour practicum, in which students gain exposure and practice molecular techniques

<sup>2</sup> Students must complete MDLS 5174, MDLS 5202, and MDLS 5220 prior to taking MDLS 5450 and MDLS 5244

<sup>3</sup> Students must complete MDLS 5450 prior to taking MDLS 5451

<sup>4</sup> Students must complete MDLS 5244 prior to taking MDLS 5245

**Master of Science in Medical Laboratory Sciences with Certification**

The Master of Science in Medical Laboratory Sciences with Certification offers students a non-thesis track within the Medical Laboratory Sciences program. The program accepts new classes in Spring and Fall with deadlines of September 1st and March 1st, respectively. Upon successful completion of the program, students are eligible to sit for the Medical Laboratory Science Board of Certification exam through the American Society for Clinical Pathology. This program is accredited by the National Accrediting Agency for Medical Laboratory Sciences (NAACLS), 5600 N. River Road, Suite 720, Rosemont, IL 60018, (773) 714-8880.

**Admission to the MS in MLS ASCP Certification track requires application to the MLS program.** Qualified applicants will have been accepted into the BS/MLS certificate program and have successfully completed the introductory portion of the MLS program

**Master of Science in Medical Laboratory Sciences with Certification****Required Courses**

Undergraduate Coursework

MDLS 5226	Hematology II Lecture	2
MDLS 5127	Hematology II Lab	1
MDLS 5336	Medical Microbiology II Lecture	3
MDLS 5378	Clinical Chemistry II Lecture	3
MDLS 5179	Clinical Chemistry II Lab	1
MDLS 5444	Immunoematology Lecture	4
MDLS 5149	Immunoematology Lab	1
MDLS 5202	Molecular Diagnostics	2
MDLS 5092	Clinical Laboratory Practicum I	2
MDLS 5093	Clinical Laboratory Practicum II	2
MDLS 5094	Clinical Laboratory Practicum III	2
MDLS 5095	Clinical Laboratory Practicum IV	2
MDLS 5204	Clinical Correlations and Capstone Review	2
MDLS 5206	Laboratory Management	2
MDLS 5091	Integrated Clinical Laboratory Science and Research	2
Total Hours		54

## Professors

- Lewis
- Murray

## Associate professors

- Dubansky
- Han
- Ryou

## Assistant professors

- Garner
- Hutson
- McAffe
- Rijal

## Courses

### **MDLS 5086. Clinical Laboratory Science Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Independent research under the supervision of an instructor. A formal report will be submitted to the instructor. A maximum of six hours may be taken.

### **MDLS 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin thesis. No credit until thesis is completed.

### **MDLS 5090. Special Topics. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Study of selected topic(s) directly related to medical laboratory science. May be repeated once for credit as topic varies.

### **MDLS 5091. Integrated Clinical Laboratory Science and Research. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 5 Hours).**

An integrated clinical laboratory course designed to introduce the concepts of specimen tracking and processing using a laboratory information system, test result utilization, utilization review, and clinical research. Emphasis will be placed on workload organization; quality control evaluation accuracy; consistency; validity of results generated; and appropriate reporting of high complexity results.

### **MDLS 5092. Clinical Laboratory Practicum I. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 16 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in hematology, hemostasis, and body fluid analysis. Emphasis is placed on the analysis of high complexity quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

### **MDLS 5093. Clinical Laboratory Practicum II. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 16 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving high complexity problems in medical microbiology and parasitology. Emphasis is placed on the analysis of quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

### **MDLS 5094. Clinical Laboratory Practicum III. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 16 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in immunology, serology, and blood banking. Emphasis is placed on the analysis of high complexity quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

### **MDLS 5095. Clinical Laboratory Practicum IV. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 16 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work and solving problems in clinical chemistry, toxicology, and molecular pathology. Emphasis is placed on the analysis of high complexity quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

### **MDLS 5099. Practicum, Field Problem, or Internship. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 8-24 Hours).**

Supervised professional activities in specialized laboratory settings. A maximum of six hours may be taken.

### **MDLS 5101. CLS Literature review Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Review of current literature topics in the medical laboratory sciences. Emphasis is placed on critique of methods, research design and value to the current body of knowledge. May be repeated for credit for a maximum of 6 credit hours.

### **MDLS 5110. Hematology for Cytogeneticist. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Study of the formation and function of the formed elements of the blood. Emphasis is placed on the pathogenesis of peripheral blood and bone marrow disorders including the correlation of cytogenetic abnormalities. Course Fee \$30.

### **MDLS 5116. Body Fluids Analysis. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Advanced concepts related to the biochemical and cellular analysis of body fluids. Includes normal physiologic function and pathophysiology of synovial, seminal, cerebrospinal, serous, and amniotic fluid. Emphasis on additional analysis and troubleshooting skills.

**MDLS 5127. Hematology II Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised experiences with emphasis placed on the enumeration, morphology, and staining characteristics of abnormal blood cells. Emphasis will be placed on specimen processing and generation and evaluation of diagnostic data and additional analysis and troubleshooting skills. Prerequisites: Students must be admitted into the Medical Laboratory Sciences Master of Science program. Co-requisite MDLS 5226.

**MDLS 5137. Medical Microbiology II Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised experience with emphasis on staining, isolation, identification, and antimicrobial susceptibility testing of microorganisms isolated from clinical specimens. Emphasis is also placed on specimen processing and generation and evaluation of diagnostic data and additional analysis and troubleshooting skills. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program. Co-requisite MDLS 5236.

**MDLS 5138. Medical Mycology and Virology. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Discussion of the epidemiology and pathogenesis of fungi and viruses implicated in human disease. Emphasis will be placed upon diagnostic tools used in the clinical laboratory to isolate, culture, and identify these microorganisms and additional analysis and troubleshooting skills.

**MDLS 5147. Immunohematology II Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 4 Hours).**

Supervised experiences related to antibody detection and identification, incompatibility and transfusion reaction resolution; component processing and storage; and selection for therapy. Emphasis is placed on specimen processing, laboratory techniques, and generation and evaluation of diagnostic data and additional analysis and troubleshooting skills. Prerequisites: Students must be admitted into the Medical Laboratory Sciences Master of Science program. Co-requisite MDLS 5246.

**MDLS 5149. Immunohematology Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised experiences related to blood grouping and typing and compatibility testing, antibody detection and identification, incompatibility and transfusion reaction resolution; component processing and storage; and selection for therapy. Emphasis is placed on specimen processing, laboratory techniques, and generation and evaluation of diagnostic data.

**MDLS 5166. Immunology and Serology II Lecture. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Discussion of immunologic mechanisms and pathogenesis involved in autoimmune, allergic, and immunodeficient diseases. Emphasis on analysis and troubleshooting.

**MDLS 5167. Immunology and Serology II Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Supervised learning experience with emphasis on the detection, identification, and characterization of antigens and antibodies involved in autoimmune disease. Also emphasis on cells involved in cellular immunity using immunologic techniques. Emphasis is placed on specimen processing and generation and evaluation of diagnostic data and high complexity analysis and troubleshooting skills. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program. Co-requisite MDLS 5166.

**MDLS 5170. Clin Cytogenetics Lab Oper/Pra. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course is designed to acquaint students with the operations of a modern cytogenetics laboratory. Emphasis will be placed on problem-solving processes and strategies to resolve difficult cases. Issues related to the reimbursement and regulation are addressed. Course Fee \$30.

**MDLS 5174. Intro Lab Safety and Operations. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Introduction to the theories and principles of instrument operation and safety practices commonly used in the clinical laboratory. Supervised learning experience in instrument operation and troubleshooting. Course fee \$15.

**MDLS 5179. Clinical Chemistry II Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised learning experiences with emphasis on manual, semi-automated, and automated procedures for assaying metabolites, drugs, enzymes, hormones, and tumor markers. Emphasis is placed on specimen selection, processing, analyses, and evaluation of diagnostic data and on high complexity analysis and troubleshooting skills. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program. Co-requisite MDLS 5278.

**MDLS 5202. Molecular Diagnostics. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

An overview of molecular mechanisms including replication, transcription, and translation. Emphasis is placed on the principles of molecular methods and their application in diagnosis of microbiologic, immunologic, genetic, endocrine, hematopoietic, and metabolic disease.

**MDLS 5204. Clinical Correlations and Capstone Review. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Course employs an integrative approach to laboratory medicine with emphasis on the review of patient cases and appropriate utilization of laboratory tests in diagnosis and case management. A comprehensive review and assessment of the concepts in clinical laboratory medicine.

**MDLS 5206. Laboratory Management. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Designed to acquaint students with the principles of operating a clinical laboratory. Emphasis is on personnel, financial, marketing, and general administrative management. Also, the student is introduced to writing instructional objectives, constructing evaluation instruments, and planning instructional strategies and establishing a professional development program. Ethical issues in laboratory medicine are also discussed.

**MDLS 5220. Medical Genetics. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Study of human genetics including chromosome structure, principles of inheritance, anatomy and physiology of a gene, genetic expression and regulation, cytogenetics, immunogenetics, molecular genetics, with an emphasis on diagnostic testing for human genetic diseases and the genetic basis of cancer. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program.

**MDLS 5221. Immunopathology. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Principles of innate and adaptive immunity including antigen recognition, signal transduction, lymphocyte development and homeostasis of lymphocyte populations, cytokine effects, failure of host defense mechanisms such as autoimmunity, immunodeficiencies, immunoproliferative diseases, analysis of the immune response in intact and manipulated organisms, and tumor immunobiology, with emphasis on clinical induction, measurement and manipulation of the human immune response. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program.

**MDLS 5226. Hematology II Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Studies on the formation and identification of abnormal cellular blood elements are discussed. Emphasis is placed on abnormal physiology and hematologic manifestations of disease and high complexity analysis and troubleshooting. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program. Co-Requisite Course: MDLS 5125 or approval of department head.

**MDLS 5236. Medical Microbiology II Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion of antimicrobial susceptibility, anaerobic bacteria, mycobacteria, chlamydia, rickettsia, and an overview of infections by organ system. Emphasis is on epidemiology, pathogenesis, source of isolation, and conventional and molecular methods of diagnosis of human pathogenic organisms and high complexity analysis and troubleshooting. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program. Co-Requisite Course: MDLS 5137 or approval of department head.

**MDLS 5244. Applications in Molecular Diagnostics I. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion of the theory and applications of molecular testing in microbiology, immunology, and pharmacogenomics. Methods discussed to include quantitative analysis, qualitative analysis, and methods of genotypic characterization.

**MDLS 5245. Applications in Molecular Diagnostics II. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion of the theory and applications of molecular testing in oncology and genetics. Topics to include diagnosis of leukemia/lymphomas, solid tumors, hereditary cancer syndromes, and other genetic disorders.

**MDLS 5246. Immunohematology II Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion of the principles of immunohematology in relation to transfusion and transplant medicine, donor processing, and component preparation and storage and high complexity analysis and troubleshooting. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program. Co-Requisite Course: MDLS 5147.

**MDLS 5272. Clinical Laboratory Administration. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Principles and practices of administration of the clinical laboratory. Emphasis is placed on administrative issues unique to the clinical laboratory including coding, billing, reimbursement, government regulation, accreditation and information management processes. Prerequisite: MDLS 5206.

**MDLS 5278. Clinical Chemistry II Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion and comparison of diagnostic methods employed in the clinical chemistry laboratory. Emphasis is placed on diagnostic metabolites, enzymology, endocrinology, tumor markers and high complexity analysis and troubleshooting. Normal physiology and biochemical manifestations of disease are discussed. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program. Co-Requisite Course: MDLS 5179.

**MDLS 5295. Clinical Cytogenetics Pract I. 2 Credit Hours (Lecture: 0 Hours, Lab: 13 Hours).**

Under the supervision and instruction of a clinical instructor in a hospital or reference laboratory setting, the student will have the opportunity to expand their knowledge of principles and techniques involved in the practice of cytogenetics that were introduced in the didactic portion of the curriculum. The student will gain experience in procedures related to karyotyping with an emphasis on peripheral blood specimens. Clinical correlations of the chromosomal findings are emphasized. Field assignment fee \$75. Grading in this course is satisfactory or unsatisfactory.

**MDLS 5296. Clinical Cytogenetics Pract II. 2 Credit Hours (Lecture: 0 Hours, Lab: 13 Hours).**

Under the supervision and instruction of a clinical instructor in a hospital or reference laboratory setting, the student will have the opportunity to expand their knowledge of principles and techniques involved in the practice of cytogenetics that were introduced in the didactic portion of the curriculum. The student will gain experience in procedures related to karyotyping with an emphasis on amniotic fluid, chorionic villi samples, bone marrow and solid tumor specimens. Clinical correlations of the chromosomal findings are emphasized. Field assignment fee \$75. Grading in this course is satisfactory or unsatisfactory.

**MDLS 5297. Clinical Cytogenetics Pract III. 2 Credit Hours (Lecture: 0 Hours, Lab: 13 Hours).**

Under the supervision and instruction of a clinical instructor in a hospital or reference laboratory setting, the student will have the opportunity to expand their knowledge of principles and techniques involved in the practice of cytogenetics that were introduced in the didactic portion of the curriculum. The student will gain experience in procedures related to karyotyping, FISH and molecular techniques. Clinical correlations of the chromosomal findings are emphasized. Field assignment fee \$75. Grading in this course is satisfactory or unsatisfactory.

**MDLS 5298. Statistical Methods for Healthcare Research. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Practical applications of general principles of descriptive and inferential statistics used in health care research. Skill development in use of statistical software as a tool to analyze health data available from national databases. Emphasis will be placed on the interpretation and communication of research results.

**MDLS 5325. Clinical Molecular Microbiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies of the genetics and physiology of microbes, including fundamental processes of gene regulation, genome structure, and protein synthesis and processing. Emphasis is placed on the clinical molecular identification of bacteria, viral, fungal and parasitic organisms including real-time PCR techniques, quality assurance practices, and interpretation of results in a clinical setting.

**MDLS 5330. Medical Biochemistry. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A review of the major biochemical processes in the human body, their physiology role and their relationship to human disease. Emphasis will be placed upon emerging diagnostic testing and clinical correlations in the areas of endocrinology, tumor biology, lipoprotein structure and function, diabetes case management, protein structure and function, and toxicology. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program.

**MDLS 5331. Molecular and Cellular Pathology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the molecular and cellular aspects of human disease. Emphasis will be placed on microarrays and other emerging diagnostic testing as applied to the regulation of the eukaryotic cell cycle, signal transduction pathways, molecular mechanisms, receptor/membrane function and their relationship to tumor biology, endocrine dysfunction, dyslipidemia and other pathophysiologic conditions. Prerequisites: BIOL 5309 or MDLS 5202.

**MDLS 5336. Medical Microbiology II Lecture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussion of advanced microbiological concepts including anaerobic bacteria, mycobacterium, antimicrobial susceptibility, mycology, virology, and infections by organ system. Emphasis is on epidemiology, pathogenesis, source of isolation, and conventional and molecular methods of diagnosis of human pathogenic organisms.

**MDLS 5340. Clinical and Anatomic Pathology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Clinical and anatomic pathology is focused on the development of pathophysiologic mechanisms underlying human disease. Students are introduced to basic etiologies and pathogenesis that underlie all diseases. More detailed discussions of pathologic mechanisms including structural lesions (morphology) and functional consequences (clinical presentation) will be discussed within specific diseases of organ systems. Applications of the clinical laboratory in disease diagnosis and management will also be included.

**MDLS 5355. Clinical Cytogenetics Techniques I. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

This course introduces all aspects of the modern cytogenetics laboratory including karyotyping and probe based assays including fluorescence in-situ hybridization (FISH). Quality assurance aspects of quality laboratory practices are introduced as well as regulatory issues. Course Fee \$30 Lab Fee \$30.

**MDLS 5356. Clinical Cytogenetics Techniques II. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

This course is a continuation of MDLS 5355 and provides more advanced practice in all aspects of the modern cytogenetics laboratory including karyotyping and fluorescence in-situ hybridization (FISH). Quality assurance aspects of quality laboratory practices are emphasized as well as regulatory issues. Lab fee \$2.

**MDLS 5378. Clinical Chemistry II Lecture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussion and comparison of diagnostic methods employed in the clinical chemistry laboratory. Emphasis is placed on diagnostic metabolites, enzymology, endocrinology, and tumor markers. Normal physiology and biochemical manifestations of disease are discussed.

**MDLS 5398. Statistical Methods Health Care Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Practical applications of general principles of descriptive and inferential statistics used in health care research. Skill development in use of statistical software as a tool to analyze health data available from national databases. Emphasis will be placed on the interpretation and communication of research results. Course Fee \$50.

**MDLS 5412. Clinical Cytogenetics. 4 Credit Hours (Lecture: 4 Hours, Lab: 0 Hours).**

This covers the history of cytogenetics, mechanisms of structural abnormalities, clinical correlation of autosomal and sex chromosome anomalies, cytogenetic syndromes, inheritance patterns and cancer genetics with a focus on correlation between the diagnosis and treatment of diseases associated with genetic abnormalities. Course Fee \$30.

**MDLS 5444. Immunohematology Lecture. 4 Credit Hours (Lecture: 4 Hours, Lab: 0 Hours).**

Discussion of the principles of immunohematology in relation to blood grouping, typing, compatibility testing, and antibody detection and identification, transfusion and transplant medicine, donor processing, and component preparation and storage.

**MDLS 5450. Molecular Diagnostics Techniques I. 4 Credit Hours (Lecture: 1 Hour, Lab: 9 Hours).**

This course provides an introduction to the basic genetic techniques used in a clinical molecular genetics laboratory. Laboratory technique instruction, skill development and practice in isolation of DNA and RNA from clinical samples, preparation of nucleic acid probes, molecular hybridization techniques, amplification techniques and hybridization analysis will be addressed. Emphasis will be placed on laboratory design issues, prevention of product contamination, quality assurance and regulatory issues, safety, and interpretation and application of test results.

**MDLS 5451. Molecular Diagnostics Techniques II. 4 Credit Hours (Lecture: 1 Hour, Lab: 9 Hours).**

This course provides a continuation of the basic genetic techniques covered in Molecular Diagnostics Techniques I, which may be used in a clinical molecular genetics laboratory. Laboratory technique instruction, skill development and practice in real-time PCR, reverse transcriptase PCR, nested PCR and single nucleotide polymorphism (SNP) detection will be emphasized. Emphasis will be placed on laboratory design issues, prevention of product contamination, quality assurance and regulatory issues, safety, and interpretation and application of test results. Prerequisite: MDLS 5450.

## Department of Social Work and Communication Disorders

Dr. Tiffany Wigington, MSW Program Director  
 Department of Social Work and Communication Disorders  
 Box T-0655  
 Stephenville, Texas 76402  
 254-968-9276  
 wigington@tarleton.edu  
 www.tarleton.edu/socialwork (<http://www.tarleton.edu/socialwork/>)

The Department of Social Work offers the Master of Social Work (MSW). The MSW is fully accredited by the Council on Social Work Education. No academic credit can be awarded for life experience.

### Advanced Standing

Advanced Standing students are those students who have a Bachelor of Social Work degree at the time of admission into the Master of Social Work program. These students' degree requirements are 30 hours for the one year degree.

### Foundation Sequence

Foundation Sequence students are those students who do not have a Bachelor of Social Work degree at the time of admission into the Master of Social Work program. The foundation sequence may also be required if the applicant graduated from a BSW program more than ten years ago. These students' degree requirements are 60 hours for the two year degree.

### Master of Social Work Degree

#### Required Courses

SOCW 5306	Integrative Capstone Seminar	3
SOCW 5362	Advanced Field Placement I	3
SOCW 5363	Advanced Field Placement II	3
SOCW 5373	DSM for Social Workers	3
SOCW 5374	Practice and Program Evaluation	3
SOCW 5376	Program Development/Intro to Grant Writing	3
SOCW 5390	Special Topics	3
SOCW 5390	Special Topics	3
Total Hours		24

#### Additional Required Courses for Concentrations

##### Advanced Direct Practice

SOCW 5371	Advanced Direct Practice I	3
SOCW 5372	Advanced Direct Practice II	3
Total Hours		6

##### Administration and Leadership

SOCW 5360	Administrative & Leadership Practice	3
SOCW 5316	Advanced Social Policy: Advocacy, Analysis & Practice	3
Total Hours		6

##### Foundation: Advanced Direct Practice

SOCW 5305	Foundations of Community & Organization Practice	3
SOCW 5310	Direct Practice – Individuals, Families, & Groups	3
SOCW 5315	Social Policy & Policy Analysis	3
SOCW 5321	Foundations of Social Work	3
SOCW 5322	Foundation Field Placement I	3
SOCW 5323	Foundation Field Placement II	3
SOCW 5325	Research I	3
SOCW 5330	Human Behavior in the Social Environment	3
SOCW 5340	Social Justice & Disparities	3
SOCW 5371	Advanced Direct Practice I	3
SOCW 5372	Advanced Direct Practice II	3
SOCW 5390	Special Topics <sup>1</sup>	3
Total Hours		36

##### Foundation: Administration and Leadership

SOCW 5305	Foundations of Community & Organization Practice	3
SOCW 5310	Direct Practice – Individuals, Families, & Groups	3
SOCW 5315	Social Policy & Policy Analysis	3
SOCW 5316	Advanced Social Policy: Advocacy, Analysis & Practice	3
SOCW 5321	Foundations of Social Work	3

SOCW 5322	Foundation Field Placement I	3
SOCW 5323	Foundation Field Placement II	3
SOCW 5325	Research I	3
SOCW 5330	Human Behavior in the Social Environment	3
SOCW 5340	Social Justice & Disparities	3
SOCW 5360	Administrative & Leadership Practice	3
SOCW 5390	Special Topics <sup>1</sup>	3
Total Hours		36

<sup>1</sup> Foundation Sequence students (students who do not have BSW degree at the time of admission) will be required to enroll in three SOCW 5390 Special Topics courses in each concentration. Advanced Standing students (students who have the BSW degree upon admission to the MSW program) will be required to enroll in two SOCW 5390 Special Topics courses in each concentration.

## Associate professor

- Loya, Melody Dr.

## Assistant professors

- Molina, Veronica Dr.
- Murray, Felicia Dr.
- Smith, Misty Dr.
- Wightington, Tiffany Dr.

## Communication Sciences and Disorders Courses

### Social Work Courses

#### **SOCW 5059. International Social Work. 3-6 Credit Hours (Lecture: 3-6 Hours, Lab: 0 Hours).**

Provides students with an understanding of social work practice and social welfare policies from an international perspective. The implications of globalization and its impact on social welfare policies and social work practice will be examined. Strategies for inter-cultural social work practice and methods of combating discrimination also will be examined. Students may have the opportunity to travel outside the U.S. in order to become familiar with social welfare policies and programs from an international perspective. Course is repeatable if focus of course or travel is different.

#### **SOCW 5086. Problems in Social Work. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Independent reading and research on various social work-related topics. Entry into the course will be arranged by Social Work Program Director.

#### **SOCW 5305. Foundations of Community & Organization Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides a review of community organization theory and practice at both the macro and micro levels. Basic models of community organization theory and practice are highlighted, including locality development, social planning, and social action as well as major policy issues that relate to communities. Special attention is given to the historical base of community organization in America, citizen/consumer participation, volunteerism, assessment of community needs, impact of racism, and community work and intervention techniques. Students will examine the range of social work roles and functioning in community organization practice from the personal individual participant perspective to the social worker/ professional organizer perspective, and as a policy-maker.

#### **SOCW 5306. Integrative Capstone Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The capstone is an integrative seminar at the end of the MSW program that will provide students the opportunity to demonstrate social work competencies at an advanced level in their area of concentration. Building on their application of advanced social work values, knowledge, and skills from coursework and internships, students will develop a professional paper that will reflect competency in the major themes, goals, and objectives of the social work program. Prerequisite: Completion of SOCW 5362 with a "B" or higher.

#### **SOCW 5310. Direct Practice – Individuals, Families, & Groups. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theory for social work practice is studied, using an integrated social systems and biopsychosocial-spiritual model. The student is introduced to the profession through its history, its conceptual development and through an examination of the values, knowledge and skills which characterize it. The course content focuses on the worker/client relationship and development of assessment, intervention and evaluation skills used in interventions with individual clients, families, and small groups. Appropriate worker intervention in individualized treatment planning and implementation and the dynamics of small group process are also examined.

#### **SOCW 5315. Social Policy & Policy Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Foundation course on social policy, policy practice and practice in communities and organizations. Surveys historical evolution of social welfare policy and contemporary provision of social welfare services, including the role of values in policy formulation and principles of social and economic justice. Introduces the social work role as change agent in legislative, community and organizational arenas.

#### **SOCW 5316. Advanced Social Policy: Advocacy, Analysis & Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides students with the theoretical and practical knowledge base and skills to analyze, formulate, and advocate for social policies that promote social justice and facilitate social change at multiple levels, including mezzo and macro. Students will gain an understanding of policy practice, theories, and skills as they relate to social, economic, political, and organizational systems and will apply this knowledge to facilitate change at the agency, community, and societal level. Content will focus on social, distributive, political, and economic justice.

#### **SOCW 5321. Foundations of Social Work. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides students a foundation in social work practice, including social work roles, functions, and tasks that social workers perform across settings. The course will also introduce social work values and ethics, theories, the generalist intervention model (GIM), diversity and inclusion, and licensing issues.

#### **SOCW 5322. Foundation Field Placement I. 3 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

This course the first foundation field course designed to provide application and integration of academic learning and development of skills within a field setting. Placement is arranged with the MSW Field Director prior to the beginning of the spring semester. A weekly integrative seminar is scheduled along with an agency placement. The total number of hours performed by the end of the semester for this foundation field course is 200 hours, completed over 15 weeks of field setting placement. The total number of hours for the graduate foundation field placement required by the Council on Social Work Education (CSWE) is 400 hours; this first course covers the first 200 of those required hours.

#### **SOCW 5323. Foundation Field Placement II. 3 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

This course the second foundation field course designed to provide application and integration of academic learning and development of skills within a field setting. Placement is arranged with the MSW Field Director prior to the beginning of the spring semester. A weekly integrative seminar is scheduled along with an agency placement. The total number of hours performed by the end of the semester for this foundation field course is 200 hours, completed over 15 weeks of field setting placement. The total number of hours for the graduate foundation field placement required by the Council on Social Work Education (CSWE) is 400 hours; this second course covers the final 200 of those required hours. Prerequisite: SOCW 5322.



**SOCW 5325. Research I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on foundation content in research design and methodology that can be used by social work practitioners to evaluate their individual practice, evaluate social programs, and advance practice knowledge. The major goals of the course are to enable students to develop a scientific perspective, to acquire an understanding of different research viewpoints that can be used to evaluate practice, and to incorporate that perspective and understanding into a broader conceptual base for social work practice. The course aids students in thinking critically about the methods and limitations of various systems of inquiry, and about society, people, and their problems.

**SOCW 5330. Human Behavior in the Social Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the life cycle of the individual from in utero through old age and death from a biopsychosocial-spiritual perspective via multiple theoretical frameworks. Individual growth and development is studied in the context of culture, race, ethnicity, social class, gender, families and other social systems. Attention is also given to the impact of trauma, loss, and environmental stressors on the individual and the family.

**SOCW 5340. Social Justice & Disparities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will introduce students to the importance of operating from a lens of equity by familiarizing students with culture and diversity within and between groups. Students will learn and apply an integral framework of equity using generalist practice skills at the micro, mezzo, and macro level to address social justice and disparity issues in society. Various diverse areas of age, gender, sexual orientation, race, religion, spirituality, physical and mental ability are explored with specific attention to the historical aspects of oppression and discrimination of each area. Students will also engage in critical self-exploration and self-awareness as it relates to each of the diverse areas taught in this course to advance his/her own self-identity.

**SOCW 5341. Perspectives on Loss & Grief. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Perspectives on Loss and Grief acquaints students with the issues surrounding loss and grief. Theoretical foundations will be explored as related to death and dying, but also other types of loss including divorce, adoption and foster care, symbolic loss, etc. Students will explore various counseling techniques, and will learn about developmental issues that impact grief reactions.

**SOCW 5342. Environmental Justice, Sustainability and Social Work Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on environmental justice and sustainability and the relationship to social justice within the context of social work practice. The course incorporates multiple environmental issues such as clean energy, single-use plastics, consumption and environmental issues with a focus on becoming more globally and environmentally competent.

**SOCW 5360. Administrative & Leadership Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course teaches theories and strategies for effective leadership in organizations and communities. The course examines strategies to combat marginalization and institutional oppression, as well as those that promote social and economic justice in organizations and community environments. Students will develop leadership skills in a variety of settings in both formal and informal capacities. Prerequisites: All Foundation courses or Admission to Advanced Standing Program.

**SOCW 5362. Advanced Field Placement I. 3 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

This course is the first advanced field course designed to provide application and integration of academic learning and development of skills within a field setting. Placement is arranged with the MSW Field Director prior to the beginning of the academic year. A weekly integrative seminar is scheduled along with an agency placement. The total number of hours performed by the end of the semester for this advanced field course is 250 hours, completed over 15 weeks of field setting placement. The total number of hours for the graduate advanced field placement required by the Council on Social Work Education (CSWE) is 500 hours; this first course covers the first 250 of those required hours.

**SOCW 5363. Advanced Field Placement II. 3 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

This course is the second advanced field course designed to provide application and integration of academic learning and development of skills within a field setting. Placement should be continued from the first field practicum course. A weekly integrative seminar is scheduled along with students completing hours in an agency placement. The total number of hours performed by the end of the semester for this advanced field course is 250 hours, completed over 15 weeks of field setting placement. The total number of hours for the graduate advanced field placement required by the Council on Social Work Education (CSWE) is 500 hours; this first course covers the second 250 of those required hours. Prerequisite: Completion of SOCW 5362 with a "B" or higher.

**SOCW 5365. Community Organizing & Engagement. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the challenges and benefits of constructively engaging diverse community groups toward a solution that encompasses the voices of relevant stakeholders. The course proposes that working toward social and economic justice means addressing root causes of social issues, such as poverty, and working to end oppression, rather than creating mechanisms that institutionalize marginalization. Students learn how to build communities by enhancing their capacity to solve problems and implement solutions through strategic partnerships that engage stakeholders in meaningful partnerships, mutual learning, shared responsibility, and collective action. Prerequisite: All Foundation courses or Admission to Advanced Standing Program.

**SOCW 5370. Community & Evaluation Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the ability to use research to address community and organizational problems. Both quantitative and qualitative methods will be taught and students will learn to develop community plans, develop programs, and submit grants based on research findings. The course includes content in advanced research design, implementation, methodology, and data analysis. The course will also explore time studies and policy research. Student will prepare a research proposal to be implemented in the Research Practicum. Prerequisite:..

**SOCW 5371. Advanced Direct Practice I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on critical analysis of traditional and emerging social work practice approaches, emphasizing the application of advanced theory and practice principles. Content focuses on providing competency in assessment and intervention strategies relevant to current social work practice with diverse populations in varied contexts. This course expands and builds upon the generalist practice model using evidence-based practices.

**SOCW 5372. Advanced Direct Practice II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course emphasizes the application of practice models in complex situations, particularly those involving populations at risk and diverse clients, including behaviors, strengths, needs and values. Specific advanced intervention models will be introduced with emphasis on theoretical knowledge as well as implications within each student's field of practice. Content focuses on building competency in intervention strategies and evaluation techniques that promote optimal functioning relevant to current social work practice with diverse populations in varied contexts. This course provides simulated opportunities for students to engage in critical thinking and practice that will prepare them for competent practice as they enter the workforce. Prerequisite: SOCW 5371.

**SOCW 5373. DSM for Social Workers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to various diagnostic codes of emotional and mental disorders categorized in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5 or the latest version) often experienced by individuals and families to help build students' knowledge about mental illness and its role in advanced social work practice. Through the use of various assessment tools, students will learn how to utilize assessments as part of the process for interventions with children and families. The pathology of persons suffering from the most common disorders is also explored with specific emphasis on documentation skills of assessment, interviewing, and treatment planning of clinical social workers.

**SOCW 5374. Practice and Program Evaluation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Practice and Program Evaluation is an in-depth research course highlighting the quantitative and qualitative evaluation of practice. Primary areas of focus include integrating research skills related to single subject research design, data collection, data analysis, measurement, and reporting. Practice informed research and research informed practice application is emphasized along with assessing student's critical consciousness and scholarly application of standardized and self-constructed measurement instruments as it relates to various modes of practice.

**SOCW 5375. Grant Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to provide students with knowledge and skills in program development, proposal writing and grant development. Prerequisite: All Foundation courses or Admission to Advanced Standing Program.

**SOCW 5376. Program Development/Intro to Grant Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides Advanced MSW students with the knowledge and skills to develop social service programs within existing agencies, with an emphasis on programs to serve vulnerable populations. Students will be introduced to grant writing, including how to search for grants and the basic foundations of writing a grant. Students will be introduced to Logic Models.

**SOCW 5385. Research Practicum. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is the second part of SOCW 5370 Community & Evaluation Research. Students will use the proposal developed in that course to implement their research plan, analyze results, and develop recommendations and program/ grant ideas based on the research findings. This course focuses on the ability to use research to address community and organizational problems and the research will be conducted in the community and a professional presentation of results is expected in a community venue. Students will learn to write up results using scientific language. Students will also be encouraged to consider writing for publication and/ or presenting findings at professional conferences. Prerequisite: All Foundation courses or Admission to Advanced Standing Program and completion of SOCW 5370.

**SOCW 5386. Group Work. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course builds on the foundational courses of practice skills and relates those skills to group work, group development, and group types (psychoeducational, support, task-oriented, therapeutic). Students will learn and apply the facilitation of groups in various agency and community based settings with culturally diverse groups and situations. The course will also provide additional knowledge about assessment of group dynamics to assist students in determining appropriate intervention skills within groups.

**SOCW 5390. Special Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of different topics each semester with a focus on contemporary issues in Social Work. This course may be repeated for credit as the topic changes.

## School of Nursing

School of Nursing  
10850 Texas Rider Drive  
Crowley, Texas 76036  
tarleton.edu/nursing (<http://tarleton.edu/nursing/>)

The School of Nursing

Tarleton State University School of Nursing (SON) includes the Department of Pre Licensure Nursing and the Department of Post Licensure and Graduate Nursing Programs. The Tarleton State University School of Nursing began in 1976 as a Division of Nursing and has since grown to offer multiple entry points for students to begin a career in nursing or advance their career at three different campuses by earning one of two degrees: the Bachelor of Science in Nursing (BSN) or Master of Science in Nursing (MSN). For further information on the BSN program, see the undergraduate section of this catalog.

Tarleton MSN students are challenged to acquire evidence-based, value-driven knowledge, skills, and attitudes essential to expand their professional nursing careers. Two pathways, depending upon the student's career goals and objectives, support the achievement of the MSN: 1) Administration, for those who wish to become advancing leaders in health care, 2) Education, for those who wish to advance in a nursing education role. Both MSN pathways provide the graduate with the academic and professional opportunities necessary to compete in the current health care employment market and to be a life-long, ongoing contributor to the nursing profession. The faculties deliver quality online instruction from the Tarleton campus in Ft. Worth, Texas, and facilitate experiential learning in a broad variety of settings.

### Leadership

- Dr. Sally Lewis
- Dr. Jennifer Mundine
- Dr. Keisha Davis

### Professor

- Dr. Susan Rugari

### Associate professor

- Dr. Jennifer Yeager

### Assistant professors

- Dr. Keisha Davis
- Dr. Zelda Gibbs
- Dr. Jennifer Mundine
- Dr. Martha Smith

## Courses

**NURS 5086. Problems in Nursing. 6 Credit Hours (Lecture: 0-6 Hours, Lab: 0-6 Hours).**

Independent study focused on an area in nursing. Together with the faculty, the student formulates learning objectives and a plan for the course. May be repeated for credit as topics vary. Prerequisites: Admission to the MSN program and approval of the Department Head.

**NURS 5300. Nursing Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explores the relationships among theory, knowledge, science, and evidence-based nursing practice. The student will develop an appreciation of the process of theory development in nursing, compare and contrast various theoretical perspectives, and apply nursing theory. Course Fee \$50.

**NURS 5301. Organizational Behavior and Human Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course explores organizational behavior by investigating characteristics of employees, leaders, groups (including teams), and culture. Practical strategies to manage human resources are identified, investigated, and discussed. Opportunities for self-exploration are present. Prerequisite: Admission to the MSN program.

**NURS 5303. Advanced Nursing Role Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Course introduces development in the areas of healthcare policy, politics, and issues; leadership; team building; and written and oral communication. Self-awareness and communication techniques will be emphasized. Students are expected to incorporate the values of lifelong learning and professional development. Prerequisite: Admission to the MSN program.

**NURS 5306. Nursing Informatics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explores nursing informatics, its value, impact, and application to nursing practice, research, and education. Advances in information technology, healthcare information systems, and tele-health are expanded.

**NURS 5310. Leadership Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will examine the dimensions of the leadership role; identification of attributes, knowledge and skill required to fulfill the role; and the distinctions between management and leadership. Opportunities for self-awareness are provided in the course. Leadership is explored through the process of developing oneself as a leader. Prerequisite: Admission to the MSN program.

**NURS 5312. Advanced Health Assessment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on enhancing previously learned nursing skills and techniques used in comprehensive health assessment. Facilitates the development of critical thinking and advanced communication skills using various modalities. Course Fee \$50.

**NURS 5314. Advanced Pharmacology and Pathophysiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Dual focus on the role of the nurse in management of pharmacotherapeutics across the lifespan and the analysis and evaluation of physiologic and pathologic changes.

**NURS 5320. Healthcare Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Offers an introduction to decision making in healthcare settings using accounting and finance theories, principles, concepts and techniques most important to managers. Course Fee \$50.

**NURS 5322. Healthcare Change and Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines change theory, team building, negotiation, and managing conflict in the healthcare habitat. Also addresses foundational principles of strategic planning. Evidence-based communication processes and orchestrating change in complex healthcare systems will be discussed. Course Fee \$50.

**NURS 5324. Outcomes & Eval Healthcare. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on healthcare outcomes management and planning using the biopsychosocial spiritual approach of healthcare delivery. The course will also examine a number of different measuring methodologies and their strengths and weaknesses as they apply to healthcare outcomes management and planning.

**NURS 5328. Administrator Role I. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Course is an applied synthesis of concepts, theories, processes, and roles learned in previous and concurrent core and administration courses. Students are actively engaged with faculty and practicum preceptor to plan experiences to meet course objectives. Students will gain firsthand experience with the operational, administrative, and strategic issues of concern to middle management. 60 hour practicum experience with preceptor. Prerequisite: Admission to the MSN Program.

**NURS 5329. Administrator Role II. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Continuation course of applied synthesis of concepts, theories, processes, and roles learned in previous and concurrent core and administration courses. Students are actively engaged with faculty and practicum preceptor to plan experiences to meet course objectives. Students will gain firsthand experience with the operational, administrative, and strategic issues of concern to executive management. 60 hour practicum experience with preceptor. Prerequisite: Admission to the MSN Program.

**NURS 5330. Instructional Methods and Strategies for Adult Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focus is on teaching and learning theories, characteristics of the learner and instructor, and diverse learning designs and environments. Legal and ethical aspects will be covered. Prerequisite: Admission to the MSN Program.

**NURS 5332. Curriculum Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on curriculum development in nursing education and practice settings. Includes curriculum leader, faculty, and staff development, assessment of contextual factors, and curriculum design and process. Course Fee \$50.

**NURS 5334. Outcomes and Evaluation Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Course describes assessment, outcomes, and evaluation in nursing education; the process for collecting data and making decisions; and how to construct meaningful evaluation instruments. Social, ethical, and legal responsibilities and implications of decisions are presented. Course Fee \$50.

**NURS 5338. Clinical Focus Role. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Course begins with a discussion between the student and faculty and then student and preceptor to design an individualized experience to meet the course objectives. During this supervised practicum experience, the student will integrate advanced nursing knowledge to implement nursing interventions that influence healthcare outcomes for individuals, populations or systems. 60 hour practicum experience with preceptor. Prerequisite: Admission to the MSN Program.

**NURS 5339. Educator Role. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Course is an applied synthesis of concepts, theories, processes, and roles learned in prior and concurrent education and core courses. Students are actively engaged with faculty and practicum preceptor to plan experiences to meet course objectives. 60 hour practicum experience with preceptor. Prerequisite: Admission to the MSN Program.

**NURS 5373. Nursing Administration Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students are expected to synthesize the concepts, theories principles, roles, and skills earned in this graduate program. Focus is on development of a scholarly product for dissemination. Course must be completed in one semester.

**NURS 5380. Completion Project. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focus is implementation of approved project proposal. Students are expected to synthesize the concepts, theories, principles, roles, and skills learned in this graduate program. Course must be repeated for project completion. Student will receive pass/fail credit in the course during the semester the project is completed.

**NURS 5383. Nursing Education Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students are expected to synthesize the concepts, theories principles, roles, and skills earned in this graduate program. Focus is on development of a scholarly product for dissemination. Course must be completed in one semester.

**NURS 5388. Thesis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin thesis. No credit until thesis is complete. Thesis will be completed following the guidelines from the College of Graduate Studies. Prerequisites: NURS 5398 and approval of Thesis Chair or Department Head.

**NURS 5398. Nursing Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Prepares students to explore, appraise, synthesize, and utilize appropriate research findings to address nursing problems and improve outcomes. Introduces research and knowledge generation in nursing. Course Fee \$50.

## Graduate Nursing

The Department of Post Licensure and Graduate Nursing in the School of Nursing offers the Master of Science in Nursing (MSN) degree with a major in nursing administration or nursing education. The MSN in nursing administration prepares nurses for unit, department, service line, or system-level leadership. The MSN in nursing education prepares nurses to teach patients, families, healthcare consumers, nurses, and nursing students.

### Mission

The School of Nursing provides student-focused academically and clinically challenging programs that engage students in acquiring evidence-based, value-driven knowledge, skills, and attitudes essential for professional nursing careers, responsible citizenship, and leadership.

### Values

The Tarleton Nursing Program core values guide the working, teaching, and learning environment. These values include altruism, autonomy, excellence, human dignity, integrity, leadership, service, social justice, civility, and tradition.

- Altruism is the concern and advocacy for the well-being of others. This is reflected by the faculty and students' regard for the welfare and well-being of each other, our constituents, and public at large.
- Autonomy is the right to self-determination demonstrated through respect of patients, nurses, students, and faculty's rights to independent, informed, and supportive decision making.
- Excellence is not perfection. Excellence occurs when each person works to exceed one's own expectations and supports others in their quest to do the same.
- Respect for the inherent worth and uniqueness of individuals and populations, including patients, faculty, administration, students, and other constituents. Human dignity embraces civility, kindness, and inclusion by valuing others and expecting better of ourselves.
- Quality of high moral character that includes honesty, fairness, trustworthiness, and stewardship. Integrity is putting one's moral compass into action congruent with an appropriate code of ethics and standards of practice.
- Leadership is the ability to utilize interpersonal skills, theoretical knowledge, self-awareness, flexibility, critical thinking, and influence to promote quality outcomes in health care and nursing education.
- Commitment to the common good and being a responsible citizen. Service broadens perspective and deepens understanding by reaching out to improve well-being of local and global communities.
- Acting in accordance with fair treatment and civility of all humans, including a commitment to the health of vulnerable populations and the elimination of health disparities. In nursing education, social justice is exhibited toward students, faculty, administration, and other constituents.
- Imparting values and beliefs from generation to generation fueled by legacy inherited from the past and created for the future. Our traditions such as convocation and pinning are a source of pride and common identity. New traditions will emerge through exposure to the rich history and metamorphosis of nursing, education, and health care.

### MSN Program Outcomes for the Administration Major (or Concentration)

At the end of the program, the graduate nurse will be able to:

1. Integrate findings and theories from nursing science and related disciplines to lead the continued improvement of nursing care across diverse settings.
2. Provide flexible leadership and inter/intra professional collaboration in a complex and ever changing healthcare delivery system to safely achieve quality patient-centered care.
3. Ethically conduct and/or use research which contributes to the development of nursing science.
4. Analyze current and emerging information and health technologies to communicate, manage knowledge, mitigate error, and support decision making to improve patient care outcomes.
5. Advocate for policies to promote health, shape healthcare delivery, defend social justice, and advance the profession of nursing.
6. Synthesize population health concepts to affect appropriate health interventions, to prevent disease, reduce risks, and promote health and wellness in diverse populations.

### MSN Program Outcomes for the Education Major (or Concentration)

At the end of the program, the graduate nurse will be able to:

1. Integrate findings and theories from nursing science and related disciplines to lead the continued improvement of nursing care across diverse settings.
2. Provide flexible leadership and inter/intra professional collaboration in complex and ever changing healthcare and educational systems to safely achieve quality education outcomes.
3. Ethically conduct and/or use research which contributes to the development of nursing science.
4. Effectively use technology, tools, assessment instruments, and other resources to improve educational outcomes.
5. Advocate for policies to promote health, shape healthcare delivery, defend social justice, and advance the profession of nursing.
6. Synthesize population health concepts to affect appropriate health interventions, to prevent disease, reduce risks, and promote health and wellness in diverse populations.

### Location

Coursework for the MSN program is offered online with practicum experiences.

### Course Delivery Method

Nursing courses in the MSN program are delivered online with practicum experiences.

### Practice Experience and Experiential Learning

Two courses in each major contain practicum experience hours. In the administration major or concentration, the courses are NURS 5328 Administrator Role I and NURS 5329 Administrator Role II. In the education major or concentration, the courses are NURS 5338 Clinical Focus Role and NURS 5339 Educator Role. Students work with their faculty and practicum experience preceptor to design practicum experiences to meet course objectives.

### Accreditation

The baccalaureate and master's degree program in nursing at Tarleton State University is accredited by the Commission on Collegiate Nursing Education, 655 K Street NW, Suite 750, Washington, DC 20001, 202-887-6791 and approved by the Texas Board of Nursing (<http://www.bon.texas.gov/>).

### Advising

Nursing faculty advise students.

### Admission Requirements and Process

The information on the admission requirements and process can be located at <https://www.tarleton.edu/nursing/msn.html>.

**Note:** The GRE is not required for admission into the MSN program.

**Applications are accepted year round beginning Spring 2020.**

### Immunizations and Health Requirements (All students)

For the health and safety of Tarleton State University nursing students and their patients and compliance with healthcare facility mandatory requirements, immunizations and health requirements is required for all nursing students. Records will be kept through a clinical compliance software. All documentation requirements must be met at all times during any course with a clinical requirement. All documentation in the clinical compliance software must be updated and accurate at all times.

*Notice:*

1. In obtaining vaccines it is important to note that all live vaccines (MMR, Varicella, LAIV (Nasal flu) have to be given on the same day or separated by 28 days.
2. If a student is getting a PPD (tuberculin skin test) and a live vaccine it has to be done on the same day or they have to be separated by 30 days. If done sooner, there is a potential for a false positive, resulting in increased cost, and/or treatment (chest-x-rays) when not needed.

**If admitted to the nursing program, the mandatory requirements must be submitted by deadline. Students who do not upload all compliance documents in the clinical compliance software will not be allowed to begin classes until completed and compliant with all requirements.**

## 1. TB Skin Test

- PPD (reported in mm) OR
- Quantiferon (QFT) serum test OR
- If New +TB Test results then Follow/Up by healthcare provider (chest X-ray, symptoms check and possible treatment,) may need to complete health questionnaire OR
- If History of +TB results then provide proof of chest X-ray and submit negative symptom check from health care provider in past 12 months OR
- If no proof of +TB Test available, then chest X-ray OR
- If History of BCG vaccination then 2-Step TB Test or QFT OR
- If history of +TB Test and +chest X-ray and symptoms: must see healthcare provider for treatment before school entry

## 2. Hepatitis B

- 3 doses, initial dose followed by 2<sup>nd</sup> dose 4 weeks later followed by 3<sup>rd</sup> dose 6 months later OR
- A titer showing immunity OR
- Signed waiver for students who decline vaccination

## 3. MMR (Measles, Mumps, Rubella)

- Proof of vaccination (2 doses) OR
- Proof of immunity by titer to all three (MMR)

## 4. Varicella (Chicken Pox)

- One dose if received 1<sup>st</sup> dose before age 12. If not, 2 doses with 2nd dose at least 4 weeks after 1st dose OR
- Proof of immunity by titer.

## 5. Tetanus, Diphtheria, Pertussis

- Tdap within last 10 years required one time at admission

## 6. CPR

- Health provider level (adult, infant, child, AED) by the American Heart Association Healthcare Provider CPR

## 7. Influenza

- Proof of annual vaccination(s)
- Note: the flu vaccination may be delayed until after program admission if admission occurs before the vaccine is available

## 8. Completed Urine Drug Screen -Additional drug screens may be required by clinical agencies, randomly, and/or for cause.

## 9. Proof of Personal Health Insurance Coverage

**Ongoing Requirements That Must Be Updated During the Nursing Program:**

## 1. TB Skin Test

- New one-step PPD (reported in MM) OR
- New Quantiferon Serum Test OR
- If New + TB Test results# Follow/Up with healthcare provider, chest X-ray, & symptom check OR
- Known +TB skin results and prior negative chest X-ray results: submit annual symptom check from healthcare provider

## 2. CPR

- Health provider level (adult, infant, child, AED)

## 3. Influenza vaccination

## 4. Proof of Personal Health Insurance Coverage

## 5. All immunizations that expire during enrollment in the nursing program.

**Overview of Curriculum**

The MSN curriculum consists of courses in the core (identified in the table as field of study courses), each major (identified in the table as concentrations), and degree completion options. All students take the core courses. Concurrently, students complete the courses in their selected major. Following completion of core 12 credit hours in the program, students select a degree completion option. The capstone completion option is available in both options. A thesis completion option is a research project in which the student works closely with a faculty advisor to plan, conduct, analyze, and report on a research question related to the major. Both degree completion options are a synthesis of the concepts, theories, principles, roles, and skills learned in the MSN program and satisfy the College of Graduate Studies requirement for a comprehensive assessment.

**The Master of Science in Nursing Administration****Required Courses**

NURS 5300	Nursing Theory	3
NURS 5301	Organizational Behavior and Human Resources	3
NURS 5303	Advanced Nursing Role Development	3
NURS 5306	Nursing Informatics	3
NURS 5310	Leadership Development	3

NURS 5320	Healthcare Finance	3
NURS 5322	Healthcare Change and Communication	3
NURS 5324	Outcomes & Eval Healthcare	3
NURS 5328	Administrator Role I	3
NURS 5329	Administrator Role II	3
NURS 5398	Nursing Research	3
Total Hours		33

### Additional Required Courses for Concentrations

#### Capstone

NURS 5373	Nursing Administration Capstone	3
Total Hours		3

#### Thesis

NURS 5388	Thesis	3
NURS 5388	Thesis	3
Total Hours		6

### The Master of Science in Nursing Education

#### Required Courses

NURS 5300	Nursing Theory	3
NURS 5303	Advanced Nursing Role Development	3
NURS 5306	Nursing Informatics	3
NURS 5312	Advanced Health Assessment	3
NURS 5314	Advanced Pharmacology and Pathophysiology	3
NURS 5330	Instructional Methods and Strategies for Adult Learners	3
NURS 5332	Curriculum Development	3
NURS 5334	Outcomes and Evaluation Education	3
NURS 5338	Clinical Focus Role	3
NURS 5339	Educator Role	3
NURS 5398	Nursing Research	3
Total Hours		33

### Additional Required Courses for Concentrations

#### Capstone

NURS 5383	Nursing Education Capstone	3
Total Hours		3

#### Thesis

NURS 5388	Thesis	3
NURS 5388	Thesis	3
Total Hours		6

### Courses

#### **NURS 5086. Problems in Nursing. 6 Credit Hours (Lecture: 0-6 Hours, Lab: 0-6 Hours).**

Independent study focused on an area in nursing. Together with the faculty, the student formulates learning objectives and a plan for the course. May be repeated for credit as topics vary. Prerequisites: Admission to the MSN program and approval of the Department Head.

#### **NURS 5300. Nursing Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explores the relationships among theory, knowledge, science, and evidence-based nursing practice. The student will develop an appreciation of the process of theory development in nursing, compare and contrast various theoretical perspectives, and apply nursing theory. Course Fee \$50.

#### **NURS 5301. Organizational Behavior and Human Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course explores organizational behavior by investigating characteristics of employees, leaders, groups (including teams), and culture. Practical strategies to manage human resources are identified, investigated, and discussed. Opportunities for self-exploration are present. Prerequisite: Admission to the MSN program.

#### **NURS 5303. Advanced Nursing Role Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Course introduces development in the areas of healthcare policy, politics, and issues; leadership; team building; and written and oral communication. Self-awareness and communication techniques will be emphasized. Students are expected to incorporate the values of lifelong learning and professional development. Prerequisite: Admission to the MSN program.

#### **NURS 5306. Nursing Informatics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explores nursing informatics, its value, impact, and application to nursing practice, research, and education. Advances in information technology, healthcare information systems, and tele-health are expanded.

#### **NURS 5310. Leadership Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will examine the dimensions of the leadership role; identification of attributes, knowledge and skill required to fulfill the role; and the distinctions between management and leadership. Opportunities for self-awareness are provided in the course. Leadership is explored through the process of developing oneself as a leader. Prerequisite: Admission to the MSN program.

#### **NURS 5312. Advanced Health Assessment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on enhancing previously learned nursing skills and techniques used in comprehensive health assessment. Facilitates the development of critical thinking and advanced communication skills using various modalities. Course Fee \$50.

**NURS 5314. Advanced Pharmacology and Pathophysiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Dual focus on the role of the nurse in management of pharmacotherapeutics across the lifespan and the analysis and evaluation of physiologic and pathologic changes.

**NURS 5320. Healthcare Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Offers an introduction to decision making in healthcare settings using accounting and finance theories, principles, concepts and techniques most important to managers. Course Fee \$50.

**NURS 5322. Healthcare Change and Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines change theory, team building, negotiation, and managing conflict in the healthcare habitat. Also addresses foundational principles of strategic planning. Evidence-based communication processes and orchestrating change in complex healthcare systems will be discussed. Course Fee \$50.

**NURS 5324. Outcomes & Eval Healthcare. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on healthcare outcomes management and planning using the biopsychosocial spiritual approach of healthcare delivery. The course will also examine a number of different measuring methodologies and their strengths and weaknesses as they apply to healthcare outcomes management and planning.

**NURS 5328. Administrator Role I. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Course is an applied synthesis of concepts, theories, processes, and roles learned in previous and concurrent core and administration courses. Students are actively engaged with faculty and practicum preceptor to plan experiences to meet course objectives. Students will gain firsthand experience with the operational, administrative, and strategic issues of concern to middle management. 60 hour practicum experience with preceptor. Prerequisite: Admission to the MSN Program.

**NURS 5329. Administrator Role II. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Continuation course of applied synthesis of concepts, theories, processes, and roles learned in previous and concurrent core and administration courses. Students are actively engaged with faculty and practicum preceptor to plan experiences to meet course objectives. Students will gain firsthand experience with the operational, administrative, and strategic issues of concern to executive management. 60 hour practicum experience with preceptor. Prerequisite: Admission to the MSN Program.

**NURS 5330. Instructional Methods and Strategies for Adult Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focus is on teaching and learning theories, characteristics of the learner and instructor, and diverse learning designs and environments. Legal and ethical aspects will be covered. Prerequisite: Admission to the MSN Program.

**NURS 5332. Curriculum Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on curriculum development in nursing education and practice settings. Includes curriculum leader, faculty, and staff development, assessment of contextual factors, and curriculum design and process. Course Fee \$50.

**NURS 5334. Outcomes and Evaluation Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Course describes assessment, outcomes, and evaluation in nursing education; the process for collecting data and making decisions; and how to construct meaningful evaluation instruments. Social, ethical, and legal responsibilities and implications of decisions are presented. Course Fee \$50.

**NURS 5338. Clinical Focus Role. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Course begins with a discussion between the student and faculty and then student and preceptor to design an individualized experience to meet the course objectives. During this supervised practicum experience, the student will integrate advanced nursing knowledge to implement nursing interventions that influence healthcare outcomes for individuals, populations or systems. 60 hour practicum experience with preceptor. Prerequisite: Admission to the MSN Program.

**NURS 5339. Educator Role. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Course is an applied synthesis of concepts, theories, processes, and roles learned in prior and concurrent education and core courses. Students are actively engaged with faculty and practicum preceptor to plan experiences to meet course objectives. 60 hour practicum experience with preceptor. Prerequisite: Admission to the MSN Program.

**NURS 5373. Nursing Administration Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students are expected to synthesize the concepts, theories principles, roles, and skills earned in this graduate program. Focus is on development of a scholarly product for dissemination. Course must be completed in one semester.

**NURS 5380. Completion Project. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focus is implementation of approved project proposal. Students are expected to synthesize the concepts, theories, principles, roles, and skills learned in this graduate program. Course must be repeated for project completion. Student will receive pass/fail credit in the course during the semester the project is completed.

**NURS 5383. Nursing Education Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students are expected to synthesize the concepts, theories principles, roles, and skills earned in this graduate program. Focus is on development of a scholarly product for dissemination. Course must be completed in one semester.

**NURS 5388. Thesis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin thesis. No credit until thesis is complete. Thesis will be completed following the guidelines from the College of Graduate Studies. Prerequisites: NURS 5398 and approval of Thesis Chair or Department Head.

**NURS 5398. Nursing Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Prepares students to explore, appraise, synthesize, and utilize appropriate research findings to address nursing problems and improve outcomes. Introduces research and knowledge generation in nursing. Course Fee \$50.

## Liberal & Fine Arts

### LIBERAL & FINE ARTS

#### COLFA Mission Statement

The earliest academies advanced human knowledge through philosophy, critical thinking, and debate. Now, over two millennia later, these methods remain at the core of today's universities and in the curriculum of the College of Liberal and Fine Arts. We align ourselves with Tarleton State University's mission to provide an academically challenging education through exemplary teaching, significant research, and inspired creativity. To this end, the College mission is:

- To achieve the highest levels of academic rigor by challenging students to develop and employ higher-order thinking skills as they clearly and effectively communicate and debate their ideas with others;
- To support and enhance the student-centered mission of Tarleton State University through providing our students with a comprehensive general education curriculum of exceptional quality;
- To provide a globalized curriculum through study-abroad and study-away experiences, through interaction with a diversity of cultures, languages, and perspectives within and beyond America;
- To engage our quest for human knowledge through forward-thinking faculty research, publication, and student engagement as well as applied learning experiences beyond the classroom;
- To foster creative expression and artistic value through arts, performances, presentations, and activities;
- To encourage and prepare students to excel in their chosen professional fields and to contribute as leaders of integrity in human society;
- To integrate ourselves fully into our community, state and beyond through programming, service, cultural offerings, the arts, and global outreach.

#### Master's Degree Programs Offered

**Communication Studies** - The Master of Arts in Communication Studies prepares students to excel as high-integrity business leaders, marketing professionals, and public relations professionals.

**Criminal Justice** - The on-line graduate program provides a broad-based education and is designed to provide the skills and knowledge required to successfully navigate the competitive process to advance career objectives. The degree plan is designed to be thesis or non-thesis track depending on the goal of the student.

**English and Languages** - The M.A. thesis track is designed for students who intend to pursue a PhD to teach at the college/university level and who intend to engage in scholarship beyond the M.A. A thesis is not mandatory for doctoral work, but is strongly encouraged. The M.A. non-thesis track is designed primarily for students planning to continue their teaching careers at the secondary level.

**Fine Arts** - The Master of Music in Music Education consists of two tracks, thesis or non-thesis. Since it is a completely online program, students can work around their schedule. Courses are 10 weeks long, instead of a full semester, so that the end-of-course papers, exams, and projects do not coincide and conflict with the end-of-semester programs and performances that are typically required of music educators.

## School of Criminology, Criminal Justice, and Public Administration

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School of Criminology, Criminal Justice, and Public Administration  
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Ms. Madison Marsh, Program Coordinator  
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The School of Criminology, Criminal Justice, and Public Administration includes the Department of Criminal Justice, the Department of Public Administration, the Institute for Predictive and Analytic Policing Science, and the Institute for Homeland Security, Cyber Crime and International Criminal Justice Studies. The mission of the School of Criminology, Criminal Justice, and Public Administration is to provide students in criminal justice with a quality education through academic and leadership experiences, as well as to provide service to the community and profession through research and scholarship.

Degree programs offered include the Bachelor of Science in Criminal Justice, the Bachelor of Applied Arts and Sciences in Criminal Justice Administration, the Master of Criminal Justice, the Doctor of Philosophy in Criminal Justice, the Bachelor of Science in Public Administration, and the Master of Public Administration. There are three graduate certificates offered through the School.

### Graduate Certificates

The three graduate certificates offered through the School are the Alternative Dispute Resolution Certificate, the Cybercrime Field Response Certificate, and the Homeland Security Certificate. Each certificate requires completion of 12 hours of graduate coursework. The certificates may be completed independently or as part of the MCJ program.

#### Alternative Dispute Resolution Certificate

The Alternative Dispute Resolution Certificate will allow students to learn the basic principles and methodologies involved with resolving conflict, as well as to implement their new found knowledge throughout the coursework.

#### Certificate in Alternative Dispute Resolution

##### Required Courses

Required Courses		9
ADRI 5341	Mediation-Methods of Dispute Resolution	
ADRI 5343	Advanced Mediation Strategies	
ADRI 5344	Effective Communication Skills for ADR Specialists	
Electives - Choose 1		3
ADRI 5345	Arbitration-Methods of Alternative Dispute Resolution	
ADRI 5346	Advanced Arbitration Theory and Methods	
ADRI 5347	Negotiations and Collective Bargaining	
ADRI 5384	Mediation Practicum/Internship	

Total Hours 12

#### Cybercrime Field Response Certificate

The purpose of the Cybercrime Field Response Certificate is to expose, familiarize, and train law enforcement practitioners with the information to combat and investigate cybercrimes. Students will gain hands on experience with various programs and techniques used to identify and investigate cybercrimes.

#### Certificate in Cybercrime Field Response

##### Required Courses

CRIJ 5353	Global Cyber-Security	3
CRIJ 5354	Introduction to Digital Forensics	3
CRIJ 5355	Cellular Forensics	3
CRIJ 5356	Digital Forensics Analysis	3

#### Homeland Security Certificate

The Homeland Security Certificate focuses on organization communications and the value of evidence-based policy and practice as well as cutting edge analytic strategies as a means to prepare future leaders in criminal justice and public policy.



## Certificate in Homeland Security

### Required Courses

Required Courses		6
CRIJ 5351	Terrorism	
CRIJ 5352	Homeland Security	
Electives - Choose 2		6
CRIJ 5353	Global Cyber-Security	
CRIJ 5317	Special Topics in Homeland Security	
CRIJ 5365	Intersection of Domestic and Military Policing	
CRIJ 5349	Transnational Trafficking	
Total Hours		12

### Associate Dean

- Alex del Carmen

### Head, Division of Public Administration

- Cohen, Dr. Galia

### Alternative Dispute Resolution Courses

#### ADRI 5341. Mediation-Methods of Dispute Resolution. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course is an introduction to the principles and methods of mediation and dispute resolution. Students will develop mediation skills and become familiar with the mediation process, the ethics of mediation, and various models of mediation.

#### ADRI 5343. Advanced Mediation Strategies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course is an advanced alternative dispute resolution principles and methods of mediation and dispute resolution. Students will develop mediation skills and become familiar with the mediation process, the ethics of mediation, and various models of mediation with a focus of family dynamics and the parent-child relationship. Prerequisite: ADRI 5341.

#### ADRI 5344. Effective Communication Skills for ADR Specialists. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course will develop the student's written and verbal skills which will be necessary for effective communication in the mediation and arbitration environment. The course includes document preparation, and interpretation, pre-mediation report evaluation, and effective internet and social media communication in the ADR (Alternative Dispute Resolution) environment.

#### ADRI 5345. Arbitration-Methods of Alternative Dispute Resolution. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Arbitration involves an impartial third party responsible for collecting facts, interviewing witnesses and parties, weighing evidence and arriving at a just and appropriate decision given all the circumstances and facts. Upon completion, individuals are certified as Qualified Arbitrators, and able to provide all arbitration services as recognized by the State Bar of Texas and other state and federal jurisdictions.

#### ADRI 5346. Advanced Arbitration Theory and Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Advanced Arbitration Theory and Methods will provide the student the opportunity to develop critical thinking skills and demonstrate competencies involved with complex legal issues as an impartial third party responsible for collecting facts, interviewing witnesses and parties, weighing evidence and arriving at a just and appropriate decision given all the circumstances and facts. Prerequisite: ADRI 5345.

#### ADRI 5347. Negotiations and Collective Bargaining. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

In this course students will examine the practical aspects of negotiations, collective bargaining, motives of participants, the labor contracts; strategy and tactics of bargaining as it applies to the world of Criminology and Criminal Justice. Emphasis will be on negotiations and collective bargaining in both unions and bargaining in the private sector and a special focus on Ethics. This course is intended to give students an understanding of why collective bargaining occurs, the nature and complexity of its operation, what effects it has on workers, organizations, and consumers, and how it fits into the American economic, political, and social systems. Credits will not be awarded for both ADRI 5347 and ADRI 6347. Prerequisite: ADRI 5341.

#### ADRI 5384. Mediation Practicum/Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course is an application of the skills learned in the Basic Mediation and Advanced Mediation courses. Students will participate in 'live' mediation settings to enhance their ability to conduct mediations and practice using the principles and methods of mediation. Students will be able to demonstrate and develop mediation skills and become familiar with the mediation process, the ethics of mediation, and various models of mediation. Credits will not be awarded for both ADRI 5384 and ADRI 6384. Prerequisites: ADRI 5341 and ADRI 5343.

#### ADRI 5390. Independent Study. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Specific topic and contents of the course will be determined by the student in consultation with the instructor, with whom the student meets regularly for supervision of the study. May be repeated to a maximum of six semester hours. Permission of the graduate advisor required. Prerequisite: Instructor permission.

#### ADRI 6341. Mediation-Methods of Dispute Resolution. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course is an introduction to the principles and methods of mediation and dispute resolution. Students will develop mediation skills and become familiar with the mediation process, the ethics of mediation, and various models of mediation. Credit will not be awarded for both ADRI 5341 and ADRI 6341.

#### ADRI 6343. Advanced Mediation Strategies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course is an advanced alternative dispute resolution principles and methods of mediation and dispute resolution. Students will develop mediation skills and become familiar with the mediation process, the ethics of mediation, and various models of mediation with a focus of family dynamics and the parent-child relationship. Credit will not be given for both ADRI 5343 and ADRI 6343. Prerequisites: ADRI 5341 or ADRI 6341.

#### ADRI 6344. Effective Communication Skills for ADR Specialists. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course will develop the student's written and verbal skills which will be necessary for effective communication in the mediation and arbitration environment. The course includes document preparation, and interpretation, pre-mediation report evaluation, and effective internet and social media communication in the ADR (Alternative Dispute Resolution) environment. Credit will not be allowed for both ADRI 5344 and ADRI 6344.

#### ADRI 6345. Arbitration-Method of Alternative Dispute Resolution. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Arbitration involves an impartial third party responsible for collecting facts, interviewing witnesses and parties, weighing evidence and arriving at a just and appropriate decision given all the circumstances and facts. Upon completion, individuals are certified as Qualified Arbitrators, and able to provide all arbitration services as recognized by the State Bar of Texas and other state and federal jurisdictions. Credit will not be awarded for both ADRI 5345 and ADRI 6345.

#### ADRI 6346. Advanced Arbitration Theory and Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Advanced Arbitration Theory and Methods will provide the student the opportunity to develop critical thinking skills and demonstrate competencies involved with complex legal issues as an impartial third party responsible for collecting facts, interviewing witnesses and parties, weighing evidence and arriving at a just and appropriate decision given all the circumstances and facts. Credit will not be awarded for both ADRI 6346 and ADRI 5346. Prerequisites: ADRI 5345 or ADRI 6345.

**ADRI 6347. Negotiations and Collective Bargaining. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In this course students will examine the practical aspects of negotiations, collective bargaining, motives of participants, the labor contracts; strategy and tactics of bargaining as it applies to the world of Criminology and Criminal Justice. Emphasis will be on negotiations and collective bargaining in both unions and bargaining in the private sector and a special focus on Ethics. This course is intended to give students an understanding of why collective bargaining occurs, the nature and complexity of its operation, what effects it has on workers, organizations, and consumers, and how it fits into the American economic, political, and social systems. Credit will not be allowed for both ADRI 5347 and ADRI 6347 Prerequisite: ADRI 5341 or ADRI 6341.

**ADRI 6384. Mediation Practicum/Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an application of the skills learned in the Basic Mediation and Advanced Mediation courses. Students will participate in 'live' mediation settings to enhance their ability to conduct mediations and practice using the principles and methods of mediation. Students will be able to demonstrate and develop mediation skills and become familiar with the mediation process, the ethics of mediation, and various models of mediation. Credit will not be awarded for both ADRI 6384 and ADRI 5384. Prerequisites: ADRI 5341 or ADRI 6351 and ADRI 5343 or ADRI 6343.

**Criminal Justice Courses****CRIJ 5086. Problems in Criminal Justice. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Independent reading, research, and discussion. Entry into this course will be arranged with the department head. Students may repeat this course for a total of 6 hours credit.

**CRIJ 5097. Thesis. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

The completion and defense of the Thesis. The student must be registered in thesis hours the semester in which he/she receives his/her master's degree. Students must enroll in thesis hours every semester (except summer) for at least 1 credit hour until graduation. Prerequisite: Approval of graduate program director.

**CRIJ 5300. Statistical Methods for Criminal Justice I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of basic and advanced descriptive and inferential statistics, with an emphasis on applications in the criminal justice system. Credit will not be awarded for both CRIJ 5300 and CRIJ 6300. Prerequisite: CRIJ 5398.

**CRIJ 5301. Foundations of Criminological Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In-depth examination of major theoretical perspectives of crime and deviancy. Theories will be analyzed for their logical and empirical adequacy in light of what is known about the distribution of crime and deviant behavior. Credit will not be awarded for both CRIJ 5301 and CRIJ 6301.

**CRIJ 5304. The American Judiciary. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A critical evaluation of the role courts play in the American criminal justice system. Topics include the structure, function, and operations of the courts at the state and federal level. Credit will not be awarded for both CRIJ 5304 and CRIJ 6304.

**CRIJ 5305. The Juvenile Justice System. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A critical analysis of the policies and practices of the juvenile justice system.

**CRIJ 5308. Corrections. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A critical analysis of the issues, problems, trends, and prospects faced by the administration of the American correctional system to include the impact of legal and social change on the correctional agencies and an evaluation of current research in the field.

**CRIJ 5309. Victimology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to the field of victimology. General topics covered in this course will include, but are not limited to: an analysis of the characteristics of crime victims; victim reporting and non-reporting patterns; the treatment of victims by the various segments of the criminal justice system; victim assistance programs; and the issue of compensation and/or restitution for victims of crime.

**CRIJ 5310. The Criminal Justice System. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the criminal justice system in the United States. This course includes a systems approach to the study of criminal justice and the interrelationships of the various components. The social and political issues related to the criminal justice system are examined in depth.

**CRIJ 5314. Directed Study in Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Demonstration of competency in a specialized area of criminal justice through the completion of a substantial research project incorporating independent study and critical analysis of the topic area. May be repeated one time for credit as topic varies. Prerequisite: Departmental permission is required.

**CRIJ 5315. Special Topics in Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of selected topic(s) directly related to criminal justice. May be repeated for credit as topic varies. (Course will be offered not more than one semester each year.)

**CRIJ 5316. Special Topics in Criminology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of selected topic(s) directly related to criminology. May be repeated for credit as topic varies (Course will be offered not more than one semester each year).

**CRIJ 5317. Special Topics in Homeland Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of selected topics within the field of homeland security. May be repeated for credit when the topics vary.

**CRIJ 5320. Policing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in depth study of the philosophical, operational, and social aspects of law enforcement.

**CRIJ 5321. Management of Criminal Justice Personnel. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An investigation of the personnel decision-making process used within criminal justice agencies. Areas to be investigated include recruitment, training, continuing education requirements, performance evaluation, fair employment practices, termination, and allocation of personnel. Credit will not be awarded for both CRIJ 5321 and CRIJ 6321.

**CRIJ 5322. Advanced Criminal Justice Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The practical implications of moral philosophy and ethics in a free society during the day-to-day administration of a criminal justice agency will be discussed. Credit will not be awarded for both CRIJ 5322 and CRIJ 6322.

**CRIJ 5323. Organizational Communications in Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the study of organizational skills in criminal justice systems. Student cannot receive credit for both CRIJ 5323 and CRIJ 6323.

**CRIJ 5330. Criminal Justice in a Diverse Society. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a study of the complex interrelations of crime, justice, and social diversity in a free society. The effect of justice system policy on social inequality is studied, and theories of social and economic justice are presented in terms of their effect on crime and criminal justice.

**CRIJ 5335. Gender, Crime and Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an overview of issues related to women as victims, offenders, and professionals in the criminal justice system.

**CRIJ 5340. Legal Aspects of Criminal Justice Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A consideration of the major legal issues of criminal justice management and the effect of constitutional provisions, statutes, ordinances, and judicial decisions in justice administrations. A discussion of the legal aspects of selection, promotion, assignment, and termination of justice employees. Emphasis is on the possible liabilities of managers and agencies for failure to adhere to legal requirements. Credit will not be awarded for both CRIJ 5340 and CRIJ 6340.

**CRIJ 5343. Grant Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to provide students with the knowledge and skills to perform one of the most critical functions for any public or nonprofit sector agency today: gaining funds through proposals. Students learn how to find a funding source among various public and private sources and how to plan and write a proposal.

**CRIJ 5344. Grant Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Designed for grant management for public agencies and nonprofit organizations. Understanding budget development, accepting and managing grant and contract awards, grants-management system(s), reporting, record keeping, and accountability, audit requirements, ethics in the grants environment, and program evaluation.

**CRIJ 5345. Program Evaluation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Describes the theory and methodology for the design of social research and demonstration projects and the application of analytic and statistical methods for evaluating public programs. Focus is on the application of evaluation methods and techniques of data interpretation. Report preparation is emphasized.

**CRIJ 5346. Advanced Program Evaluation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In this course, students will design and carry out an evaluation of a program that incorporates current evaluation methods and principles derived from research, theory, practice wisdom, and their own experience. These occur within a field placement agency or their own workplace agency. Prerequisite: CRIJ 4345 Program Evaluation.

**CRIJ 5349. Transnational Trafficking. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine transnational trafficking issues such as human trafficking, drug trafficking, illegal arms trafficking, and other trafficking of illicit substances. The course will explore: key theories, domestic and international policy, enforcement strategies and the role of non-governmental organizations. Students may not receive credit for both CRIJ 5349 and CRIJ 6349.

**CRIJ 5351. Terrorism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the origins, nature, and operational characteristics of terrorist groups. Students are exposed to topics ranging from the definition of "terrorism" to the unique characteristics of terrorist cells in the United States and abroad. Particular emphasis is on historical and contemporary terrorist attacks against the United States. Students may not receive credit for both CRIJ 5351 and CRIJ 6351.

**CRIJ 5352. Homeland Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines principles and practices associated with the emerging discipline of homeland security, including key policies, directives, national plans, and legislation that shape and homeland security. Students may not receive credit for both CRIJ 5352 and CRIJ 6352.

**CRIJ 5353. Global Cyber-Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course presents a conceptual overview of information security and its impact on the global stage. Topics include: current trends and over all landscape in information warfare, cybercrime techniques, cyber-terrorism, and information security fundamentals. Included is an emphasis on policy implications for law enforcement at the national level. Student will not be awarded credit for both CRIJ 5353 and CRIJ 6353.

**CRIJ 5354. Introduction to Digital Forensics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the study of digital and computer forensic evidence, search and seizure, chain of custody, and digital storage devices.

**CRIJ 5355. Cellular Forensics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of collection and preservation of digital evidence derived from cellular technologies in a laboratory environment. This study will include the use of hardware and software needed to perform cellular and mobile device forensic investigations including MPE+ and associated connectivity kits. Prerequisite: CRIJ 5354.

**CRIJ 5356. Digital Forensics Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of evidence collection through a laboratory environment. The course presents students with the working knowledge of the collection, preservation, presentation, and reporting of evidence obtained in a digital investigation. The topics also include encryption techniques and common issues with storage mediums. The course will make use of industry standard software including EnCase and FTK. Prerequisite: CRIJ 5353.

**CRIJ 5363. Introduction to Crime Mapping. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course provides the conceptual knowledge and practical skills to design and implement GIS based analysis of community crime problems. This course introduces major approaches to spatial analysis of crime and teaches students how to make effective crime maps.

**CRIJ 5364. Introduction to Crime Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course provides advanced skills needed for efficient data management of crime-related data. Students learn how to extract, convert, manipulate and query large datasets to accomplish data-driven management and support intelligence-led policing. No prerequisites. Student cannot receive credit in both CRIJ 5364 and CRIJ 6364.

**CRIJ 5365. Intersection of Domestic and Military Policing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the comparative study and analysis of domestic and military policing. Student cannot receive credit for both CRIJ 5365 and CRIJ 6365.

**CRIJ 5366. Crime and Violence Prevention and Intervention. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines crime prevention and intervention as a potential alternative or complement to traditional criminal justice system responses to crime. Student cannot receive credit for both CRIJ 5366 and CRIJ 6366. Prerequisite: CRIJ 5301.

**CRIJ 5375. Executive Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the governing principles of organizational leadership within criminal justice and related organizations. Topics will include leadership theory, ethics of leadership, and the role of leadership in garnering public trust. Students may not receive credit for both CRIJ 5375 and CRIJ 6375.

**CRIJ 5382. Seminar: Study Away/Study Abroad. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course subject will vary in topics dependent upon the location of travel and subject material offered in the course. The study away occurs when students travel outside of Texas, but remain within the United States. Study abroad involves travel outside of the United States. Students will need to obtain all necessary travel documents, including appropriate passport, prior to the travel date.

**CRIJ 5390. Independent Study. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Specific topic and contents of the course will be determined by the student in consultation with the instructor, with whom the student meets regularly for supervision of the study. May be repeated to a maximum of six semester hours. Permission of the graduate advisor required. Prerequisites: Instructor permission.

**CRIJ 5398. Research Methods I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of scientific research methods used in the criminal justice system. Includes a review and critique of research on crime causation, law enforcement, courts, and corrections. Emphasis will be place on quantitative research methods. Credit will not be awarded for both CRIJ 5398 and CRIJ 6398.

**CRIJ 5399. Practicum, Field Problems, Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised professional activities in public service professions. Major emphasis is placed on the student's involvement in successful practices in the area of professional interest. Field experience fee \$50.

**CRIJ 6300. Statistical Methods for Criminal Justice I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of basic and advanced descriptive and inferential statistics, with an emphasis on applications in the criminal justice system. Credit will not be awarded for both CRIJ 5300 and CRIJ 6300. Prerequisites: CRIJ 5398 or CRIJ 6398.

**CRIJ 6301. Foundations of Criminological Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In-depth examination of major theoretical perspectives of crime and deviancy. Theories will be analyzed for their logical and empirical adequacy in light of what is known about the distribution of crime and deviant behavior. Credit will not be awarded for CRIJ 5301 and CRIJ 6301.

**CRIJ 6302. Statistical Methods for Criminal Justice II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of advanced inferential statistics, with an emphasis on applications in the criminal justice system. Emphasis will be placed on multivariate regression analysis. Prerequisite: CRIJ 5300, CRIJ 6300, or equivalent.

**CRIJ 6303. Advanced Criminological Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In-depth examination of contemporary theoretical perspectives of crime and deviancy. Theories will be analyzed for their logical and empirical adequacy in light of what is known about the distribution of crime and deviant behavior. Emphasis will be placed on integrated theories and theory construction.

**CRIJ 6304. The American Judiciary. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A critical evaluation of the role courts play in the American criminal justice system. Topics include the structure, function, and operations of the courts at the state and federal level. Credit will not be awarded for both CRIJ 5304 and CRIJ 6304.

**CRIJ 6308. Corrections. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A critical analysis of the issues, problems, trends, and prospects faced by the administration of the American correctional system to include the impact of legal and social change on the correctional agencies and an evaluation of current research in the field. Credit will not be awarded for CRIJ 5308 and CRIJ 6308.

**CRIJ 6309. Victimology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to the field of victimology. General topics covered in this course will include, but are not limited to: an analysis of the characteristics of crime victims; victim reporting and non-reporting patterns; the treatment of victims by the various segments of the criminal justice system; victim assistance programs; and the issue of compensation and/or restitution for victims of crime. Credit will not be awarded for CRIJ 5309 and CRIJ 6309.

**CRIJ 6310. The Criminal Justice System. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the criminal justice system in the United States. This course includes a systems approach to the study of criminal justice and the interrelationships of the various components. The social and political issues related to the criminal justice system are examined in depth. Credit will not be awarded for CRIJ 5310 and CRIJ 6310.

**CRIJ 6315. Special Topics in Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of selected topic(s) directly related to criminal justice. May be repeated for credit as topic varies.

**CRIJ 6316. Special Topics in Criminology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of selected topic(s) directly related to criminology. May be repeated for credit as topic varies. This course may be repeated for a maximum credit of up to 9 hours.

**CRIJ 6321. Management of Criminal Justice Personnel. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An investigation of the personnel decision-making process used within criminal justice agencies. Areas to be investigated include recruitment, training, continuing education requirements, performance evaluation, fair employment practices, termination, and allocation of personnel. Credit will not be awarded for both CRIJ 5321 and CRIJ 6321.

**CRIJ 6322. Advanced Criminal Justice Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The practical implications of moral philosophy and ethics in a free society during the day-to-day administration of a criminal justice agency will be discussed. Credit will not be awarded for both CRIJ 5322 and CRIJ 6322.

**CRIJ 6323. Organizational Communication in Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the study of organizational skills in criminal justice systems. Students cannot receive credit for both CRIJ 5323 and CRIJ 6323.

**CRIJ 6330. Criminal Justice in a Diverse Society. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a study of the complex interrelations of crime, justice, and social diversity in a free society. The effect of justice system policy on social inequality is studied, and theories of social and economic justice are presented in terms of their effect on crime and criminal justice. Credit will not be awarded for both CRIJ 5330 and CRIJ 6330.

**CRIJ 6335. Gender, Crime and Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an overview of issues related to women as victims, offenders, and professionals in the criminal justice system. Credit will not be awarded for both CRIJ 5335 and CRIJ 6335.

**CRIJ 6340. Legal Aspects of Criminal Justice Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A consideration of the major legal issues of criminal justice management and the effect of constitutional provisions, statutes, ordinances, and judicial decisions in justice administrations. A discussion of the legal aspects of selection, promotion, assignment, and termination of justice employees. Emphasis is on the possible liabilities of managers and agencies for failure to adhere to legal requirements. Credit will not be awarded for both CRIJ 5340 and CRIJ 6340.

**CRIJ 6342. Crime and Public Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the process by which criminal justice policies are implemented at the local, state, and federal levels. Attention will be given to the impact of public opinion, the media, and politics on policy creation and the challenge of developing effective crime control policies.

**CRIJ 6349. Transnational Trafficking. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine transnational trafficking issues such as human trafficking, drug trafficking, illegal arms trafficking, and other trafficking of illicit substances. The course will explore: key theories, domestic and international policy, enforcement strategies and the role of non-governmental organizations. Students may not receive credit for both CRIJ 5349 and CRIJ 6349.

**CRIJ 6350. Comparative Criminal Justice Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course surveys the criminal justice system and its institutions comparatively across the world to give students a global perspective of the similarities and differences of different criminal justice systems.

**CRIJ 6351. Terrorism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the origins, nature, and operational characteristics of terrorist groups. Students are exposed to topics ranging from the definition of "terrorism" to the unique characteristics of terrorist cells in the United States and abroad. Particular emphasis is on historical and contemporary terrorist attacks against the United States. Students may not receive credit for both CRIJ 5351 and CRIJ 6351.

**CRIJ 6352. Homeland Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines principles and practices associated with the emerging discipline of homeland security, including key policies, directives, national plans, and legislation that shape and homeland security. Students may not receive credit for both CRIJ 5352 and CRIJ 6352.

**CRIJ 6353. Global Cyber-Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course presents a conceptual overview of information security and its impact on the global stage. Topics include: current trends and over all landscape in information warfare, cybercrime techniques, cyber-terrorism, and information security fundamentals. Included is an emphasis on policy implications for law enforcement at the national level. Student will not be awarded credit for both CRIJ 5353 and CRIJ 6353.

**CRIJ 6354. Introduction to Digital Forensics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the study of digital and computer forensic evidence, search and seizure, chain of custody, and digital storage devices. Student cannot receive credit for both CRCJ 5354 and CRCJ 6354.

**CRIJ 6355. Cellular Forensics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of collection and preservation of digital evidence derived from cellular technologies in a laboratory environment. This study will include the use of hardware and software needed to perform cellular and mobile device forensic investigations including MPE+ and associated connectivity kits. Student cannot receive credit for both CRIJ 5355 and CRIJ 6355. Prerequisites: CRIJ 6353 and CRIJ 5354.

**CRIJ 6356. Digital Forensics Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of evidence collection through a laboratory environment. The course presents students with the working knowledge of the collection, preservation, presentation, and reporting of evidence obtained in a digital investigation. The topics also include encryption techniques and common issues with storage mediums. The course will make use of industry standard software including EnCase and FTK. Student cannot receive credit for both CRIJ 5356 and CRIJ 6356. Prerequisites: CRIJ 5353 or CRIJ 6353.

**CRIJ 6360. Evaluation Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the application of criminal justice research methods to develop and/or evaluate or assess a program or policy. Topics include conceptual, methodological, bureaucratic, political, and organization factors in the evaluation process as well as specific program evaluation research techniques.

**CRIJ 6361. Communities and Crime. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Provides students with an overview of issues related to communities and crime. Examines community context, behavior, and functioning, and how communities are implicated in both crime-generating and crime-preventing processes. Familiarizes students with historical and contemporary literature surrounding the communities and crime relationship.

**CRIJ 6362. Current Issues in Law Enforcement. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In-depth analysis of historical, current, and future issues in law enforcement. Emphasis will be placed on the role of police in society, police-citizen relationships, and empirical evaluations of police effectiveness, police behavior, and programs and strategies.

**CRIJ 6363. Forecasting and Data Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an overview of that analytic methods used in forecasting and predictive policing.

**CRIJ 6364. Introduction to Crime Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An introduction to the study and application of crime analysis techniques. Student cannot receive credit for CRIJ 5364 and CRIJ 6364.

**CRIJ 6365. Intersections of Domestic and Military Policing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the comparative study and analysis of domestic and military policing. Student cannot receive credit for both CRIJ 5365 and CRIJ 6365.

**CRIJ 6366. Crime and Violence Prevention and Intervention. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines crime prevention and intervention as a potential alternative or complement to traditional criminal justice system responses to crime. Students cannot be awarded credit for both CRIJ 5366 and CRIJ 6366. Prerequisite: CRIJ 5301 or CRIJ 6301.

**CRIJ 6367. Predictive Policing Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of predictive policing methods, approaches, implementation and legal issues associated with them. At the end of the course, successful students will: gain a basic understanding of major predictive technology on forecasting crimes, places and individuals involved in criminal offending; be able to discuss major steps, advantages and disadvantages in implementing selective methods of predictive policing in a law enforcement organization; explain legal, ethical and sociological ramifications of implementing methods of predictive policing; and discuss public policy decision-making process as it relates to predictive policing implementation.

**CRIJ 6370. Legal Aspects of Evidence. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An exploration of the procedural and substantive rules regarding evidence in criminal proceedings. Topics may include the admission and exclusion of evidence, burden of proof, and best evidence rules.

**CRIJ 6371. Forensic Expert Testimony. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course considers the role of criminal justice professions in provide expert testimony in court. Topics covered will include the ethics of testimony, qualifications for testimony, presentation of evidence and opinion, as well as behavioral aspects of testifying.

**CRIJ 6372. Law and Forensic Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An analysis of the intersection of science and the law with an emphasis on the law affecting forensic science in the criminal justice system. Topics may include the role of experts in both criminal and civil law, ethical issues related to forensic evidence, and wrongful convictions.

**CRIJ 6375. Executive Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the governing principles of organizational leadership within criminal justice and related organizations. Topics will include leadership theory, ethics of leadership, and the role of leadership in garnering public trust. Students may not receive credit for both CRIJ 5375 and CRIJ 6375.

**CRIJ 6380. Proseminar in Criminology and Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides students with a broad overview of important topics and contemporary issues in criminal justice. This course explores the history and role of criminal justice as an academic discipline and as an institutional system in American society. Particular emphasis is given to acquainting students with the research strengths of the department, individual faculty members' research agendas, and identifying and coordinating potential opportunities for joint research and scholarship among faculty and students.

**CRIJ 6381. Supervised Teaching. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A practicum with the student in teaching, guided by an experienced teacher with whom the student meets from time to time for discussion of readings and classroom experiences. This course is an introduction to basic college level teaching methods. Course content will include methods of instruction, testing and other assessment techniques, use of technology, classroom management, and course development.

**CRIJ 6382. Academic Scholarship and Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides students with the key training needed to engage in the professional activities central to a successful scholarly career in criminology. Emphasis will be placed on preparation of a research project for submission for presentation at a professional conference and submission for publication. Prerequisite: Permission of graduate advisor.

**CRIJ 6390. Independent Study. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Specific topic and contents of the course will be determined by the student in consultation with the instructor, with whom the student meets regularly for supervision of the study. May be repeated to a maximum of six semester hours. Prerequisite: Permission of the instructor.

**CRIJ 6391. Preliminary Doctoral Examination. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

During this course the student will prepare and complete the doctoral comprehensive examinations. Prerequisite: Approval of the graduate coordinator with the advice of the graduate faculty.

**CRIJ 6396. Survey Research Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will provide a comprehensive review of survey research methods, and prepare students in the fundamental skill areas necessary to design and conduct quality survey research projects for theory driven or applied research. These areas include: survey method design; sampling strategies and power analysis; questionnaire construction; survey administration/data collection; calculation of response, cooperation, refusal, and contact rates; data coding and entry; verification and quality control; and sources of error in survey research.

**CRIJ 6397. Research Design and Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course includes an overview of descriptive, inferential, and multivariate statistics employed in criminal justice research and an overview of methods of criminological and criminal justice research, with emphasis on research ethics, research design, and methods of data analysis. Prerequisite: n/a.

**CRIJ 6398. Research Methods I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of scientific research methods used in the criminal justice system. Includes a review and critique of research on crime causation, law enforcement, courts, and corrections. Emphasis will be placed on quantitative research methods. Credit will not be awarded for both CRIJ 5398 and CRIJ 6398.

**CRIJ 6399. Research Methods II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will familiarize students with the nature and utility of qualitative, quantitative, and mixed methods research as applicable various areas of criminological studies. Topics may include field work, interviews, and content analysis as well as a range of quantitative and mixed methods. Prerequisite: CRIJ 6397.

**CRIJ 7090. Dissertation. 1-9 Credit Hours (Lecture: 1-9 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thorough and scholarly investigation of a topic acceptable to the dissertation committee. The dissertation must provide evidence that the candidate has pursued a coherent program of research related to the student's area(s) of academic specialization, the results of which reveal academic excellence and which make an original contribution to the discipline. Graded on a satisfactory (S) or unsatisfactory (U) basis. Course may be repeated as necessary, but credit will not be awarded for more than 9 credit hours. Prerequisite: Doctoral Standing and successful completion of the doctoral qualifying examination.

**Public Administration Courses****MAPA 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thorough and scholarly investigation of a topic acceptable to the thesis committee. The thesis must provide evidence that the candidate has pursued a coherent program of research related to the student's area(s) of specialization, the results of which reveal academic excellence and which make an original contribution to the discipline. Prerequisite: Student must successfully complete the MPA comprehensive examinations and all preliminary coursework. Project must have approval of major professor.

**MAPA 5300. Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This is an introductory, survey course designed to give students an understanding of public administration as a scientific discipline applied to professional practice within the context of American government at the local, state and federal level. Topics include a master's level survey of the major theories of public administration and governance, interagency and intergovernmental relations, agency reform, ethics of public service, organizational dynamics and behavior, human resource issues, and public budgeting and finance.

**MAPA 5301. Organizational Behavior in the Public Sector. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Behavioral theory in organizational context for the public sector. A study of individual and group dynamics in the business environments. Specific emphasis is given to leadership, motivation, communication, employee supervision, and morale in all organizational settings.

**MAPA 5302. Human Resource Management in the Public Sector. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Presents the fundamental principles and techniques of personnel management and examines the management of human resources from the point of view of the personnel officer, the operational manager and the employee for the public sector. Examines the responsibilities of organizational leadership for incorporating human resource issues in strategic planning and initiatives. Emphasis is placed on current legal considerations, issues and research.

**MAPA 5303. Public Sector and Non-Profit Marketing and Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine the role and application of marketing in public and nonprofit settings. The course focuses on a conceptual understanding of the marketing discipline and marketing processes and shows how basic concepts and principles of marketing are applicable to public and nonprofit organizations.

**MAPA 5304. Legal Aspects for Public Managers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A critical evaluation of the role courts play in American public administration. Topics include the structure, function, and operations of the courts at the state and federal level.

**MAPA 5307. Statistical Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of basic and advanced descriptive and inferential statistics, with an emphasis on applications in public administration. Credit will not be awarded for both MAPA 5307 and CRIJ 5300. Prerequisite: MAPA 5398 or CRIJ 5398.

**MAPA 5310. Introduction to Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview of the history and intellectual foundation of public administration including the major ideas, developments, theories, concepts, and contributors to the growth of public administration and its practice in the United States. Credit will not be given for both MAPA 5300 and MAPA 5310.

**MAPA 5311. Intergovernmental Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course is a study of the interrelationship of local, state, and federal government entities with emphasis on intergovernmental relations on administration, planning, budgeting, and policy making.

**MAPA 5315. Budgeting and Financial Management for Public and Nonprofit Organizations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a master's level introduction to the principles of planning, budgeting and budget administration as applied to the unique requirements of local, state, and federal government agencies. Although strongly based in budgeting theory, the major course goal is to provide students with the basic skills needed to effectively work as an effective team member with agency professionals and external consultants to create and administer public agency budgets.

**MAPA 5320. Management and Strategic Planning for State and Municipal Government. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

State and local governments within the context of the American governmental system. Special emphasis on federalism, the constitutional/legal relationships between state and local governments, and the institutions, organizational forms, and political processes in American state and local government especially related evolving governance models, such as new public management, new public service and other models.

**MAPA 5322. Ethics in Public Service. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the moral and ethical issues surrounding public administration and governance in an environment of socially responsible public service. This course will expose students to the underlying themes that will prepare them for situations they are likely to confront in the field of public administration, which includes the non-profit and non-governmental organization (NGO) environments.

**MAPA 5323. Program Evaluation and Assessment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course aims to teach students the skills to conduct program evaluations and assessments, research efforts that determine if a public program is working as intended (processes) and achieving the objectives for which it was designed, goals known in program evaluation as outcomes. Students will learn the components of an evaluation, how to craft a logic model that illustrates the processes of a program and intended outcomes as well.

**MAPA 5330. Advanced Public Budgeting and Financial Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an in-depth study of the budgeting and financial management of government agencies. Topics include taxation, bonds, special issues in administering matching funds, grants and grant administration, revenue flow, contracts, and fiscal problems of local and state governments including maintenance of services during revenue shortfalls. Prerequisite: MAPA 5320 Public Budgeting and ACCT 5307 Governmental and Not-For-Profit Accounting or permission of instructor.

**MAPA 5331. Public Policy Formulation and Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Course provides broad exposure to the fundamental tools of policy formulation, negotiation, implementation and analysis. While competitive markets are often efficient, there are many barriers to perfectly functioning markets, such as market failure(s), that lead to the need for public policy. Ultimately, the goal of the course is to lead students to appreciate the method of thought and processes associated with allocation of resources at their disposal as seems "best" to them — and how this method can be a widely useful tool for assessing the need for and impact of public policy.

**MAPA 5335. Diversity Management in the Public Sector. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to the study of diversity management in the public sector. Understanding diversity and learning how to manage it is among the most important challenges public managers are facing today. The purpose of this class is to provide students with the knowledge and understanding required to meet the challenges presented by our increasingly diverse society. Students will examine the need for diversity and cultural competency in the workplace and the roles that public institutions play in defining inclusions, differences and identities. The course covers key dimensions of diversity such as strategic race/ethnicity, sexual orientation, religion, skill level, physical ability, communication styles, and multi-generations in the workplace.

**MAPA 5340. Critical Incident Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a graduate level introduction to crisis planning and management for mass casualty and high profile events. Topics include agency roles natural and man-made disasters, terrorism and other major criminal events, and other high profile incidents. Emphasis will be placed in inter-agency cooperation and interfacing in planning, event management, and long-term, post-event management.

**MAPA 5343. Public Health Economics and Budgetary Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This three-credit graduate level course provides a comprehensive introduction to the multiple systems that define, describe, and shape the health care budgeting and public funding in the United States. The course provides opportunities to examine the historic, social, political, philosophical, and economic factors that shape the U.S. health care system. Topics include the components of the health care system such as public health budgeting, organizational structures, multi-organizational systems and networks, financing, access and quality improvement, cost containment, ethics, technology, communication, and leadership. The course focuses on the administration of public provision of care and public funding of health care, such as the Affordable Care Act and the health care exchanges, Medicare, Medicaid, S-CHIP, Tri-Care. The government has a large role in both the funding of health care and the provision of care with the goals of increasing access, increasing equity, and increasing quality of care. The role of public health care administration and how public sector health care systems are budgeted will be stressed, along with public sector economic and fiscal impacts, which effect public service and the communities they serve.

**MAPA 5345. Managing Critical Social Problems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide students with an overview of the contemporary social issues and the role of government in management or mitigation of those issues. Topics include crime, employment, health care, neighborhood stability, gentrification and community regeneration, and their effects on community residents.

**MAPA 5350. Public Administration Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course requires demonstration of competency in public management through completion of a substantial research project incorporating independent study and critical analysis of a specialized area of the field. This is the capstone course for the Master of Public Administration Program. Prerequisite: completion of all other course work required for the Master of Public Administration degree, including core courses and emphasis area courses, unless an exception is approved by the major professor.

**MAPA 5363. Leadership in Public and Non-profit Organizations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to help students understand how nonprofits and public organizations exercise leadership. Students will examine the theory, issues, and skills associated with leadership and management of nonprofit and public organizations. Students will also understand the concept of public ownership of nonprofit organizations and how it imbues specific ethical and legal responsibilities beyond what is standard for private sector organizations.

**MAPA 5370. Public Health Services Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide students an overview of the United States public health and healthcare system. This will be an introduction to a complex healthcare system that is currently undergoing systematic change. This is a discussion course in which text books, lectures, discussion, and outside reading will be used. Comparisons to health care systems in other countries will be made. At the conclusion of the course, students will have a comprehensive awareness of factual information, data, and statistics unique to the United States public health and healthcare delivery system. This is an advanced level graduate course.

**MAPA 5380. Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course gives students the opportunity to integrate the more theoretical aspects of their coursework with participant observation of the operations of a government agency closely related to the student's area of specialization. The experience will utilize a series of work assignments within the agency to give students a range of experiences to enhance their understanding of professional, public administration. Students will document their experience for presentation as determined through consultation with their major professor who will arrange placements with agency mentors. Prerequisite: Approval of major professor.

**MAPA 5385. Seminar in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will allow for flexible topic choice related to current and future trends in public administration. Topics such as comparable and futures studies in public administration along with other evolving and emerging issues in public administration can be further explored via this course.

**MAPA 5390. Independent Study. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This is an independent research course requiring development of a literature review, methodology, and/or data collection in collaboration with the supervising professor. Prerequisite: Approval of MPA graduate advisor.

**MAPA 5398. Research Methods in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will introduce students to multiple research methods, specifically applied in the fields of public administration, in particular to public, non-profit and non-governmental organizations, and policy evaluation. This course will assist the student in understanding the role of research and evaluation in public programs. Credit will not be awarded for CRIJ 5398 and MAPA 5398.

**Public Administration Courses****Department of Criminal Justice**

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In addition to adhering to the graduate school's requirements to enter a graduate program at Tarleton State University, prospective students entering the Master's Program in Criminal Justice must submit (at the time of their general application to the Graduate College) 2 letters of reference to the Criminal Justice Program via email at [cjmasters@tarleton.edu](mailto:cjmasters@tarleton.edu). Each applicant will be contacted for an interview and advising information.

**Master of Criminal Justice**

The Master of Criminal Justice with an emphasis in Criminal Justice Administration prepares students for administrative positions in the police, corrections, juvenile, and judicial systems. The objectives of the program are based upon the assumption that criminal justice decision and policy making in society require broad academic experience, innovative thinking, understanding of the theoretical foundations of the field, knowledge of appropriate research methods, and principles of administration. The major focus is to demonstrate that criminal justice in the United States and the problems associated with crime and delinquency must be viewed within the context of the larger society rather than as an isolated system. The program includes analysis of the major elements within criminal justice as related elements in a system in which decisions regarding crime and justice in one sphere may have consequences in other spheres.

Graduates are expected to be:

1. conversant with the theoretical and legal principles implicit in criminal justice administration;
2. knowledgeable about essential research contributions in the field;
3. capable of research analysis appropriate to the field; and
4. competent to assume administrative responsibilities involving decision making in one of the areas of criminal justice administration.

The non-thesis track of the Master of Criminal Justice degree may be completed online or face to face. The thesis track of the Master of Criminal Justice degree is offered face to face only. Face to face classes are offered in Fort Worth in both traditional and cohort formats. The MCJ cohort program begins each Fall semester and is designed for criminal justice professionals, with courses offered Monday and Wednesday evenings at the Fort Worth campus.

## Master of Criminal Justice

### Required Courses

#### Criminal Justice Core Courses

CRIJ 5300	Statistical Methods for Criminal Justice I	3
CRIJ 5301	Foundations of Criminological Theory	3
CRIJ 5310	The Criminal Justice System	3
CRIJ 5321	Management of Criminal Justice Personnel	3
or CRIJ 5322	Advanced Criminal Justice Ethics	
CRIJ 5340	Legal Aspects of Criminal Justice Administration	3
CRIJ 5398	Research Methods I	3
Total Hours		18

### Additional Required Courses for Concentrations

#### Non-Thesis Track Plan

Electives (Any six 5000 level CRIJ or ADRI courses)	18
Total Hours	18

#### Professional Track Plan

Electives (Any four 5000 level CRIJ or ADRI courses)	12
Total Hours	12

#### Thesis Track Plan

CRIJ 5097	Thesis (Students must take 2 semesters in order to fulfill the 6 hour requirement for graduation)	3
CRIJ 5097	Thesis	3
Electives (Any four 5000 level CRIJ or ADRI courses)	12	
Total Hours	18	

## Non-thesis

Students on the non-thesis plan are required to successfully pass a comprehensive examination covering three areas: (1) criminological theory, (2) research methods and statistics, and (3) criminal justice policy. For the schedule of the exam and rules regarding eligibility to take the exam, students can contact the graduate advisor.

## Thesis

Students on the thesis plan are required to successfully defend both a thesis proposal and a final thesis. Students will choose a major professor to guide their thesis project.

## Graduate Certificate in Crime Analysis

Students in the Master's program pursue a Certificate in Crime Analysis as part of their degree plan. The Certificate is awarded on completion of the Master's degree.

### Certificate in Crime Analysis

#### Required Courses

CRIJ 5300	Statistical Methods for Criminal Justice I	3
CRIJ 5364	Introduction to Crime Analysis	3
CRIJ 5363	Introduction to Crime Mapping	3
CRIJ 5398	Research Methods I	3
Total Hours		12

## Doctor of Philosophy in Criminal Justice

The School of Criminology, Criminal Justice and Strategic Studies at Tarleton State University offers coursework and research leading to a Doctor of Philosophy in criminal justice. The program prepares students to face the growing complexities of the criminal justice system and to join the ranks of educated criminal justice professionals with advanced analytical, critical thinking and leadership skills.

Classes are offered face to face in a cohort format and feature vigorous interaction with criminal justice professionals. The Ph.D. program culminates in an applied dissertation project with practical implications to the practice of criminal justice.

The curriculum is designed with working professionals in mind. All classes are face to face and meet Saturdays at the Fort Worth campus.

### Application Process for Ph.D.

Submit application packet

- Personal statement
- GRE scores
- 3 letters of recommendation
- Professional resume
- Thesis/Graduate writing sample
- Interview with admissions committee



## Admission Requirements for Ph.D.

- Master's in criminal justice, criminology or related discipline
- GPA of 3.3 or higher on all completed mater's coursework
- GRE scores above the 50th percentile on all sections (quantitative, verbal, and analytical)

## Doctor of Philosophy in Criminal Justice

### Required Courses

CRIJ 6301	Foundations of Criminological Theory	3
CRIJ 6302	Statistical Methods for Criminal Justice II	3
CRIJ 6303	Advanced Criminological Theory	3
CRIJ 6330	Criminal Justice in a Diverse Society	3
or CRIJ 6335	Gender, Crime and Justice	
CRIJ 6362	Current Issues in Law Enforcement	3
CRIJ 6367	Predictive Policing Seminar	3
CRIJ 6380	Proseminar in Criminology and Criminal Justice	3
CRIJ 6396	Survey Research Methods	3
CRIJ 6397	Research Design and Analysis	3
CRIJ 6399	Research Methods II	3
CRIJ 6391	Preliminary Doctoral Examination	3
CRIJ 7090	Dissertation	9
Electives - 15 hours 6000 level CRIJ courses		15
Total Hours		57

### Professors

- del Carmen, Alex
- Eichenberg, George
- Shelley, Tara

### Associate professors

- Dobbs, Rhonda
- Hankhouse, Shannon
- Semukhina, Olga
- Styron, Kelli

### Assistant professors

- Copeland, Chris
- Glassner, Steven
- Morrow, Rebecca
- O, SooHyun

### Professional Associate Professor

- Brown, Katherine
- Rodriguez, Brittany

### Lecturer

- Heath, Casey

### Visiting Assistant Professor

- Petrowski, Thomas

### Courses

#### CRIJ 5086. Problems in Criminal Justice. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).

Independent reading, research, and discussion. Entry into this course will be arranged with the department head. Students may repeat this course for a total of 6 hours credit.

#### CRIJ 5097. Thesis. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).

The completion and defense of the Thesis. The student must be registered in thesis hours the semester in which he/she receives his/her master's degree. Students must enroll in thesis hours every semester (except summer) for at least 1 credit hour until graduation. Prerequisite: Approval of graduate program director.

#### CRIJ 5300. Statistical Methods for Criminal Justice I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

The study of basic and advanced descriptive and inferential statistics, with an emphasis on applications in the criminal justice system. Credit will not be awarded for both CRIJ 5300 and CRIJ 6300. Prerequisite: CRIJ 5398.

#### CRIJ 5301. Foundations of Criminological Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

In-depth examination of major theoretical perspectives of crime and deviancy. Theories will be analyzed for their logical and empirical adequacy in light of what is known about the distribution of crime and deviant behavior. Credit will not be awarded for both CRIJ 5301 and CRIJ 6301.

#### CRIJ 5304. The American Judiciary. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A critical evaluation of the role courts play in the American criminal justice system. Topics include the structure, function, and operations of the courts at the state and federal level. Credit will not be awarded for both CRIJ 5304 and CRIJ 6304.

#### CRIJ 5305. The Juvenile Justice System. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A critical analysis of the policies and practices of the juvenile justice system.

**CRIJ 5308. Corrections. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A critical analysis of the issues, problems, trends, and prospects faced by the administration of the American correctional system to include the impact of legal and social change on the correctional agencies and an evaluation of current research in the field.

**CRIJ 5309. Victimology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to the field of victimology. General topics covered in this course will include, but are not limited to: an analysis of the characteristics of crime victims; victim reporting and non-reporting patterns; the treatment of victims by the various segments of the criminal justice system; victim assistance programs; and the issue of compensation and/or restitution for victims of crime.

**CRIJ 5310. The Criminal Justice System. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the criminal justice system in the United States. This course includes a systems approach to the study of criminal justice and the interrelationships of the various components. The social and political issues related to the criminal justice system are examined in depth.

**CRIJ 5314. Directed Study in Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Demonstration of competency in a specialized area of criminal justice through the completion of a substantial research project incorporating independent study and critical analysis of the topic area. May be repeated one time for credit as topic varies. Prerequisite: Departmental permission is required.

**CRIJ 5315. Special Topics in Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of selected topic(s) directly related to criminal justice. May be repeated for credit as topic varies. (Course will be offered not more than one semester each year.).

**CRIJ 5316. Special Topics in Criminology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of selected topic(s) directly related to criminology. May be repeated for credit as topic varies (Course will be offered not more than one semester each year).

**CRIJ 5317. Special Topics in Homeland Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of selected topics within the field of homeland security. May be repeated for credit when the topics vary.

**CRIJ 5320. Policing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in depth study of the philosophical, operational, and social aspects of law enforcement.

**CRIJ 5321. Management of Criminal Justice Personnel. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An investigation of the personnel decision-making process used within criminal justice agencies. Areas to be investigated include recruitment, training, continuing education requirements, performance evaluation, fair employment practices, termination, and allocation of personnel. Credit will not be awarded for both CRIJ 5321 and CRIJ 6321.

**CRIJ 5322. Advanced Criminal Justice Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The practical implications of moral philosophy and ethics in a free society during the day-to-day administration of a criminal justice agency will be discussed. Credit will not be awarded for both CRIJ 5322 and CRIJ 6322.

**CRIJ 5323. Organizational Communications in Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the study of organizational skills in criminal justice systems. Student cannot receive credit for both CRIJ 5323 and CRIJ 6323.

**CRIJ 5330. Criminal Justice in a Diverse Society. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a study of the complex interrelations of crime, justice, and social diversity in a free society. The effect of justice system policy on social inequality is studied, and theories of social and economic justice are presented in terms of their effect on crime and criminal justice.

**CRIJ 5335. Gender, Crime and Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an overview of issues related to women as victims, offenders, and professionals in the criminal justice system.

**CRIJ 5340. Legal Aspects of Criminal Justice Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A consideration of the major legal issues of criminal justice management and the effect of constitutional provisions, statutes, ordinances, and judicial decisions in justice administrations. A discussion of the legal aspects of selection, promotion, assignment, and termination of justice employees. Emphasis is on the possible liabilities of managers and agencies for failure to adhere to legal requirements. Credit will not be awarded for both CRIJ 5340 and CRIJ 6340.

**CRIJ 5343. Grant Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to provide students with the knowledge and skills to perform one of the most critical functions for any public or nonprofit sector agency today: gaining funds through proposals. Students learn how to find a funding source among various public and private sources and how to plan and write a proposal.

**CRIJ 5344. Grant Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Designed for grant management for public agencies and nonprofit organizations. Understanding budget development, accepting and managing grant and contract awards, grants-management system(s), reporting, record keeping, and accountability, audit requirements, ethics in the grants environment, and program evaluation.

**CRIJ 5345. Program Evaluation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Describes the theory and methodology for the design of social research and demonstration projects and the application of analytic and statistical methods for evaluating public programs. Focus is on the application of evaluation methods and techniques of data interpretation. Report preparation is emphasized.

**CRIJ 5346. Advanced Program Evaluation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In this course, students will design and carry out an evaluation of a program that incorporates current evaluation methods and principles derived from research, theory, practice wisdom, and their own experience. These occur within a field placement agency or their own workplace agency. Prerequisite: CRIJ 4345 Program Evaluation.

**CRIJ 5349. Transnational Trafficking. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine transnational trafficking issues such as human trafficking, drug trafficking, illegal arms trafficking, and other trafficking of illicit substances. The course will explore: key theories, domestic and international policy, enforcement strategies and the role of non-governmental organizations. Students may not receive credit for both CRIJ 5349 and CRIJ 6349.

**CRIJ 5351. Terrorism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the origins, nature, and operational characteristics of terrorist groups. Students are exposed to topics ranging from the definition of "terrorism" to the unique characteristics of terrorist cells in the United States and abroad. Particular emphasis is on historical and contemporary terrorist attacks against the United States. Students may not receive credit for both CRIJ 5351 and CRIJ 6351.

**CRIJ 5352. Homeland Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines principles and practices associated with the emerging discipline of homeland security, including key policies, directives, national plans, and legislation that shape and homeland security. Students may not receive credit for both CRIJ 5352 and CRIJ 6352.

**CRIJ 5353. Global Cyber-Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course presents a conceptual overview of information security and its impact on the global stage. Topics include: current trends and over all landscape in information warfare, cybercrime techniques, cyber-terrorism, and information security fundamentals. Included is an emphasis on policy implications for law enforcement at the national level. Student will not be awarded credit for both CRIJ 5353 and CRIJ 6353.

**CRIJ 5354. Introduction to Digital Forensics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the study of digital and computer forensic evidence, search and seizure, chain of custody, and digital storage devices.

**CRIJ 5355. Cellular Forensics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of collection and preservation of digital evidence derived from cellular technologies in a laboratory environment. This study will include the use of hardware and software needed to perform cellular and mobile device forensic investigations including MPE+ and associated connectivity kits. Prerequisite: CRIJ 5354.

**CRIJ 5356. Digital Forensics Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of evidence collection through a laboratory environment. The course presents students with the working knowledge of the collection, preservation, presentation, and reporting of evidence obtained in a digital investigation. The topics also include encryption techniques and common issues with storage mediums. The course will make use of industry standard software including EnCase and FTK. Prerequisite: CRIJ 5353.

**CRIJ 5363. Introduction to Crime Mapping. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course provides the conceptual knowledge and practical skills to design and implement GIS based analysis of community crime problems. This course introduces major approaches to spatial analysis of crime and teaches students how to make effective crime maps.

**CRIJ 5364. Introduction to Crime Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course provides advanced skills needed for efficient data management of crime-related data. Students learn how to extract, convert, manipulate and query large datasets to accomplish data-driven management and support intelligence-led policing. No prerequisites. Student cannot receive credit in both CRIJ 5364 and CRIJ 6364.

**CRIJ 5365. Intersection of Domestic and Military Policing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the comparative study and analysis of domestic and military policing. Student cannot receive credit for both CRIJ 5365 and CRIJ 6365.

**CRIJ 5366. Crime and Violence Prevention and Intervention. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines crime prevention and intervention as a potential alternative or complement to traditional criminal justice system responses to crime. Student cannot receive credit for both CRIJ 5366 and CRIJ 6366. Prerequisite: CRIJ 5301.

**CRIJ 5375. Executive Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the governing principles of organizational leadership within criminal justice and related organizations. Topics will include leadership theory, ethics of leadership, and the role of leadership in garnering public trust. Students may not receive credit for both CRIJ 5375 and CRIJ 6375.

**CRIJ 5382. Seminar: Study Away/Study Abroad. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course subject will vary in topics dependent upon the location of travel and subject material offered in the course. The study away occurs when students travel outside of Texas, but remain within the United States. Study abroad involves travel outside of the United States. Students will need to obtain all necessary travel documents, including appropriate passport, prior to the travel date.

**CRIJ 5390. Independent Study. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Specific topic and contents of the course will be determined by the student in consultation with the instructor, with whom the student meets regularly for supervision of the study. May be repeated to a maximum of six semester hours. Permission of the graduate advisor required. Prerequisites: Instructor permission.

**CRIJ 5398. Research Methods I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of scientific research methods used in the criminal justice system. Includes a review and critique of research on crime causation, law enforcement, courts, and corrections. Emphasis will be placed on quantitative research methods. Credit will not be awarded for both CRIJ 5398 and CRIJ 6398.

**CRIJ 5399. Practicum, Field Problems, Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised professional activities in public service professions. Major emphasis is placed on the student's involvement in successful practices in the area of professional interest. Field experience fee \$50.

**CRIJ 6300. Statistical Methods for Criminal Justice I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of basic and advanced descriptive and inferential statistics, with an emphasis on applications in the criminal justice system. Credit will not be awarded for both CRIJ 5300 and CRIJ 6300. Prerequisites: CRIJ 5398 or CRIJ 6398.

**CRIJ 6301. Foundations of Criminological Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In-depth examination of major theoretical perspectives of crime and deviancy. Theories will be analyzed for their logical and empirical adequacy in light of what is known about the distribution of crime and deviant behavior. Credit will not be awarded for CRIJ 5301 and CRIJ 6301.

**CRIJ 6302. Statistical Methods for Criminal Justice II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of advanced inferential statistics, with an emphasis on applications in the criminal justice system. Emphasis will be placed on multivariate regression analysis. Prerequisite: CRIJ 5300, CRIJ 6300, or equivalent.

**CRIJ 6303. Advanced Criminological Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In-depth examination of contemporary theoretical perspectives of crime and deviancy. Theories will be analyzed for their logical and empirical adequacy in light of what is known about the distribution of crime and deviant behavior. Emphasis will be placed on integrated theories and theory construction.

**CRIJ 6304. The American Judiciary. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A critical evaluation of the role courts play in the American criminal justice system. Topics include the structure, function, and operations of the courts at the state and federal level. Credit will not be awarded for both CRIJ 5304 and CRIJ 6304.

**CRIJ 6308. Corrections. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A critical analysis of the issues, problems, trends, and prospects faced by the administration of the American correctional system to include the impact of legal and social change on the correctional agencies and an evaluation of current research in the field. Credit will not be awarded for CRIJ 5308 and CRIJ 6308.

**CRIJ 6309. Victimology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to the field of victimology. General topics covered in this course will include, but are not limited to: an analysis of the characteristics of crime victims; victim reporting and non-reporting patterns; the treatment of victims by the various segments of the criminal justice system; victim assistance programs; and the issue of compensation and/or restitution for victims of crime. Credit will not be awarded for CRIJ 5309 and CRIJ 6309.

**CRIJ 6310. The Criminal Justice System. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the criminal justice system in the United States. This course includes a systems approach to the study of criminal justice and the interrelationships of the various components. The social and political issues related to the criminal justice system are examined in depth. Credit will not be awarded for CRIJ 5310 and CRIJ 6310.

**CRIJ 6315. Special Topics in Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of selected topic(s) directly related to criminal justice. May be repeated for credit as topic varies.

**CRIJ 6316. Special Topics in Criminology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of selected topic(s) directly related to criminology. May be repeated for credit as topic varies. This course may be repeated for a maximum credit of up to 9 hours.

**CRIJ 6321. Management of Criminal Justice Personnel. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An investigation of the personnel decision-making process used within criminal justice agencies. Areas to be investigated include recruitment, training, continuing education requirements, performance evaluation, fair employment practices, termination, and allocation of personnel. Credit will not be awarded for both CRIJ 5321 and CRIJ 6321.

**CRIJ 6322. Advanced Criminal Justice Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The practical implications of moral philosophy and ethics in a free society during the day-to-day administration of a criminal justice agency will be discussed. Credit will not be awarded for both CRIJ 5322 and CRIJ 6322.

**CRIJ 6323. Organizational Communication in Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the study of organizational skills in criminal justice systems. Students cannot receive credit for both CRIJ 5323 and CRIJ 6323.

**CRIJ 6330. Criminal Justice in a Diverse Society. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a study of the complex interrelations of crime, justice, and social diversity in a free society. The effect of justice system policy on social inequality is studied, and theories of social and economic justice are presented in terms of their effect on crime and criminal justice. Credit will not be awarded for both CRIJ 5330 and CRIJ 6330.

**CRIJ 6335. Gender, Crime and Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an overview of issues related to women as victims, offenders, and professionals in the criminal justice system. Credit will not be awarded for both CRIJ 5335 and CRIJ 6335.

**CRIJ 6340. Legal Aspects of Criminal Justice Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A consideration of the major legal issues of criminal justice management and the effect of constitutional provisions, statutes, ordinances, and judicial decisions in justice administrations. A discussion of the legal aspects of selection, promotion, assignment, and termination of justice employees. Emphasis is on the possible liabilities of managers and agencies for failure to adhere to legal requirements. Credit will not be awarded for both CRIJ 5340 and CRIJ 6340.

**CRIJ 6342. Crime and Public Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the process by which criminal justice policies are implemented at the local, state, and federal levels. Attention will be given to the impact of public opinion, the media, and politics on policy creation and the challenge of developing effective crime control policies.

**CRIJ 6349. Transnational Trafficking. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine transnational trafficking issues such as human trafficking, drug trafficking, illegal arms trafficking, and other trafficking of illicit substances. The course will explore: key theories, domestic and international policy, enforcement strategies and the role of non-governmental organizations. Students may not receive credit for both CRIJ 5349 and CRIJ 6349.

**CRIJ 6350. Comparative Criminal Justice Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course surveys the criminal justice system and its institutions comparatively across the world to give students a global perspective of the similarities and differences of different criminal justice systems.

**CRIJ 6351. Terrorism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the origins, nature, and operational characteristics of terrorist groups. Students are exposed to topics ranging from the definition of "terrorism" to the unique characteristics of terrorist cells in the United States and abroad. Particular emphasis is on historical and contemporary terrorist attacks against the United States. Students may not receive credit for both CRIJ 5351 and CRIJ 6351.

**CRIJ 6352. Homeland Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines principles and practices associated with the emerging discipline of homeland security, including key policies, directives, national plans, and legislation that shape and homeland security. Students may not receive credit for both CRIJ 5352 and CRIJ 6352.

**CRIJ 6353. Global Cyber-Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course presents a conceptual overview of information security and its impact on the global stage. Topics include: current trends and over all landscape in information warfare, cybercrime techniques, cyber-terrorism, and information security fundamentals. Included is an emphasis on policy implications for law enforcement at the national level. Student will not be awarded credit for both CRIJ 5353 and CRIJ 6353.

**CRIJ 6354. Introduction to Digital Forensics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the study of digital and computer forensic evidence, search and seizure, chain of custody, and digital storage devices. Student cannot receive credit for both CRCJ 5354 and CRCJ 6354.

**CRIJ 6355. Cellular Forensics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of collection and preservation of digital evidence derived from cellular technologies in a laboratory environment. This study will include the use of hardware and software needed to perform cellular and mobile device forensic investigations including MPE+ and associated connectivity kits. Student cannot receive credit for both CRIJ 5355 and CRIJ 6355. Prerequisites: CRIJ 6353 and CRIJ 5354.

**CRIJ 6356. Digital Forensics Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of evidence collection through a laboratory environment. The course presents students with the working knowledge of the collection, preservation, presentation, and reporting of evidence obtained in a digital investigation. The topics also include encryption techniques and common issues with storage mediums. The course will make use of industry standard software including EnCase and FTK. Student cannot receive credit for both CRIJ 5356 and CRIJ 6356. Prerequisites: CRIJ 5353 or CRIJ 6353.

**CRIJ 6360. Evaluation Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the application of criminal justice research methods to develop and/or evaluate or assess a program or policy. Topics include conceptual, methodological, bureaucratic, political, and organization factors in the evaluation process as well as specific program evaluation research techniques.

**CRIJ 6361. Communities and Crime. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Provides students with an overview of issues related to communities and crime. Examines community context, behavior, and functioning, and how communities are implicated in both crime-generating and crime-preventing processes. Familiarizes students with historical and contemporary literature surrounding the communities and crime relationship.

**CRIJ 6362. Current Issues in Law Enforcement. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In-depth analysis of historical, current, and future issues in law enforcement. Emphasis will be placed on the role of police in society, police-citizen relationships, and empirical evaluations of police effectiveness, police behavior, and programs and strategies.

**CRIJ 6363. Forecasting and Data Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an overview of that analytic methods used in forecasting and predictive policing.

**CRIJ 6364. Introduction to Crime Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An introduction to the study and application of crime analysis techniques. Student cannot receive credit for CRIJ 5364 and CRIJ 6364.

**CRIJ 6365. Intersections of Domestic and Military Policing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the comparative study and analysis of domestic and military policing. Student cannot receive credit for both CRIJ 5365 and CRIJ 6365.

**CRIJ 6366. Crime and Violence Prevention and Intervention. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines crime prevention and intervention as a potential alternative or complement to traditional criminal justice system responses to crime. Students cannot be awarded credit for both CRIJ 5366 and CRIJ 6366. Prerequisite: CRIJ 5301 or CRIJ 6301.

**CRIJ 6367. Predictive Policing Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of predictive policing methods, approaches, implementation and legal issues associated with them. At the end of the course, successful students will: gain a basic understanding of major predictive technology on forecasting crimes, places and individuals involved in criminal offending; be able to discuss major steps, advantages and disadvantages in implementing selective methods of predictive policing in a law enforcement organization; explain legal, ethical and sociological ramifications of implementing methods of predictive policing; and discuss public policy decision-making process as it relates to predictive policing implementation.

**CRIJ 6370. Legal Aspects of Evidence. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An exploration of the procedural and substantive rules regarding evidence in criminal proceedings. Topics may include the admission and exclusion of evidence, burden of proof, and best evidence rules.

**CRIJ 6371. Forensic Expert Testimony. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course considers the role of criminal justice professions in provide expert testimony in court. Topics covered will include the ethics of testimony, qualifications for testimony, presentation of evidence and opinion, as well as behavioral aspects of testifying.

**CRIJ 6372. Law and Forensic Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An analysis of the intersection of science and the law with an emphasis on the law affecting forensic science in the criminal justice system. Topics may include the role of experts in both criminal and civil law, ethical issues related to forensic evidence, and wrongful convictions.

**CRIJ 6375. Executive Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the governing principles of organizational leadership within criminal justice and related organizations. Topics will include leadership theory, ethics of leadership, and the role of leadership in garnering public trust. Students may not receive credit for both CRIJ 5375 and CRIJ 6375.

**CRIJ 6380. Proseminar in Criminology and Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides students with a broad overview of important topics and contemporary issues in criminal justice. This course explores the history and role of criminal justice as an academic discipline and as an institutional system in American society. Particular emphasis is given to acquainting students with the research strengths of the department, individual faculty members' research agendas, and identifying and coordinating potential opportunities for joint research and scholarship among faculty and students.

**CRIJ 6381. Supervised Teaching. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A practicum with the student in teaching, guided by an experienced teacher with whom the student meets from time to time for discussion of readings and classroom experiences. This course is an introduction to basic college level teaching methods. Course content will include methods of instruction, testing and other assessment techniques, use of technology, classroom management, and course development.

**CRIJ 6382. Academic Scholarship and Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides students with the key training needed to engage in the professional activities central to a successful scholarly career in criminology. Emphasis will be placed on preparation of a research project for submission for presentation at a professional conference and submission for publication. Prerequisite: Permission of graduate advisor.

**CRIJ 6390. Independent Study. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Specific topic and contents of the course will be determined by the student in consultation with the instructor, with whom the student meets regularly for supervision of the study. May be repeated to a maximum of six semester hours. Prerequisite: Permission of the instructor.

**CRIJ 6391. Preliminary Doctoral Examination. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

During this course the student will prepare and complete the doctoral comprehensive examinations. Prerequisite: Approval of the graduate coordinator with the advice of the graduate faculty.

**CRIJ 6396. Survey Research Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will provide a comprehensive review of survey research methods, and prepare students in the fundamental skill areas necessary to design and conduct quality survey research projects for theory driven or applied research. These areas include: survey method design; sampling strategies and power analysis; questionnaire construction; survey administration/data collection; calculation of response, cooperation, refusal, and contact rates; data coding and entry; verification and quality control; and sources of error in survey research.

**CRIJ 6397. Research Design and Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course includes an overview of descriptive, inferential, and multivariate statistics employed in criminal justice research and an overview of methods of criminological and criminal justice research, with emphasis on research ethics, research design, and methods of data analysis. Prerequisite: n/a.

**CRIJ 6398. Research Methods I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of scientific research methods used in the criminal justice system. Includes a review and critique of research on crime causation, law enforcement, courts, and corrections. Emphasis will be place on quantitative research methods. Credit will not be awarded for both CRIJ 5398 and CRIJ 6398.

**CRIJ 6399. Research Methods II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will familiarize students with the nature and utility of qualitative, quantitative, and mixed methods research as applicable various areas of criminological studies. Topics may include field work, interviews, and content analysis as well as a range of quantitative and mixed methods. Prerequisite: CRIJ 6397.

**CRIJ 7090. Dissertation. 1-9 Credit Hours (Lecture: 1-9 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thorough and scholarly investigation of a topic acceptable to the dissertation committee. The dissertation must provide evidence that the candidate has pursued a coherent program of research related to the student's area(s) of academic specialization, the results of which reveal academic excellence and which make an original contribution to the discipline. Graded on a satisfactory (S) or unsatisfactory (U) basis. Course may be repeated as necessary, but credit will not be awarded for more than 9 credit hours. Prerequisite: Doctoral Standing and successful completion of the doctoral qualifying examination.

## Department of Public Administration

Dr. Galia Cohen, Director  
 Department of Public Administration  
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 Stephenville, TX - Texas 76402  
 2549689106  
 cohen@tarleton.edu

### Master of Public Administration

The MPA is offered as a thesis or non-thesis track program. This interdisciplinary program is designed to offer students a broad-based educational experience in the public administration field.

### Master of Public Administration

#### Required Courses

MAPA Core Courses		
MAPA 5300	Public Administration	3
MAPA 5301	Organizational Behavior	3
MAPA 5302	Human Resource Management	3
MAPA 5307	Statistical Methods	3
MAPA 5311	Intergovernmental Relations	3
MAPA 5315	Public Budgeting	3
MAPA 5322	Advanced Ethics	3
MAPA 5331	Public Policy	3
MAPA 5350	Public Administration Capstone	3

MAPA 5398	Research Methods	3
Total Hours		30

## Additional Required Courses for Concentrations

### Non-Thesis Track

Electives - Choose 2 of the following:		6
MAPA 5303	NonProfit & Public Sector Marketing	
MAPA 5304	Legal Aspects	
MAPA 5310	Introduction to Public Administration	
MAPA 5320	State and Local Government	
MAPA 5330	Advanced Public Budgeting and Financial Management	
MAPA 5340	Critical Incident Management	
MAPA 5345	Managing Critical Social Problems	
MAPA 5380	Internship	
MAPA 5385	Seminar in Public Administration	
MAPA 5390	Independent Study	
Total Hours		6

### Thesis Track

MAPA 5088	Thesis	1-6
Total Hours		6

## Courses

### MAPA 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).

Scheduled when the student is ready to begin the thorough and scholarly investigation of a topic acceptable to the thesis committee. The thesis must provide evidence that the candidate has pursued a coherent program of research related to the student's area(s) of specialization, the results of which reveal academic excellence and which make an original contribution to the discipline. Prerequisite: Student must successfully complete the MPA comprehensive examinations and all preliminary coursework. Project must have approval of major professor.

### MAPA 5300. Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).

This is an introductory, survey course designed to give students an understanding of public administration as a scientific discipline applied to professional practice within the context of American government at the local, state and federal level. Topics include a master's level survey of the major theories of public administration and governance, interagency and intergovernmental relations, agency reform, ethics of public service, organizational dynamics and behavior, human resource issues, and public budgeting and finance.

### MAPA 5301. Organizational Behavior in the Public Sector. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Behavioral theory in organizational context for the public sector. A study of individual and group dynamics in the business environments. Specific emphasis is given to leadership, motivation, communication, employee supervision, and morale in all organizational settings.

### MAPA 5302. Human Resource Management in the Public Sector. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Presents the fundamental principles and techniques of personnel management and examines the management of human resources from the point of view of the personnel officer, the operational manager and the employee for the public sector. Examines the responsibilities of organizational leadership for incorporating human resource issues in strategic planning and initiatives. Emphasis is placed on current legal considerations, issues and research.

### MAPA 5303. Public Sector and Non-Profit Marketing and Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course will examine the role and application of marketing in public and nonprofit settings. The course focuses on a conceptual understanding of the marketing discipline and marketing processes and shows how basic concepts and principles of marketing are applicable to public and nonprofit organizations.

### MAPA 5304. Legal Aspects for Public Managers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A critical evaluation of the role courts play in American public administration. Topics include the structure, function, and operations of the courts at the state and federal level.

### MAPA 5307. Statistical Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

The study of basic and advanced descriptive and inferential statistics, with an emphasis on applications in public administration. Credit will not be awarded for both MAPA 5307 and CRIJ 5300. Prerequisite: MAPA 5398 or CRIJ 5398.

### MAPA 5310. Introduction to Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

An overview of the history and intellectual foundation of public administration including the major ideas, developments, theories, concepts, and contributors to the growth of public administration and its practice in the United States. Credit will not be given for both MAPA 5300 and MAPA 5310.

### MAPA 5311. Intergovernmental Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).

This course is a study of the interrelationship of local, state, and federal government entities with emphasis on intergovernmental relations on administration, planning, budgeting, and policy making.

### MAPA 5315. Budgeting and Financial Management for Public and Nonprofit Organizations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course is a master's level introduction to the principles of planning, budgeting and budget administration as applied to the unique requirements of local, state, and federal government agencies. Although strongly based in budgeting theory, the major course goal is to provide students with the basic skills needed to effectively work as an effective team member with agency professionals and external consultants to create and administer public agency budgets.

### MAPA 5320. Management and Strategic Planning for State and Municipal Government. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

State and local governments within the context of the American governmental system. Special emphasis on federalism, the constitutional/legal relationships between state and local governments, and the institutions, organizational forms, and political processes in American state and local government especially related evolving governance models, such as new public management, new public service and other models.

### MAPA 5322. Ethics in Public Service. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course focuses on the moral and ethical issues surrounding public administration and governance in an environment of socially responsible public service. This course will expose students to the underlying themes that will prepare them for situations they are likely to confront in the field of public administration, which includes the non-profit and none-governmental organization (NGO) environments.

### MAPA 5323. Program Evaluation and Assessment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course aims to teach students the skills to conduct program evaluations and assessments, research efforts that determine if a public program is working as intended (processes) and achieving the objectives for which it was designed, goals known in program evaluation as outcomes. Students will learn the components of an evaluation, how to craft a logic model that illustrates the processes of a program and intended outcomes as well.

**MAPA 5330. Advanced Public Budgeting and Financial Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an in-depth study of the budgeting and financial management of government agencies. Topics include taxation, bonds, special issues in administering matching funds, grants and grant administration, revenue flow, contracts, and fiscal problems of local and state governments including maintenance of services during revenue shortfalls. Prerequisite: MAPA 5320 Public Budgeting and ACCT 5307 Governmental and Not-For-Profit Accounting or permission of instructor.

**MAPA 5331. Public Policy Formulation and Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Course provides broad exposure to the fundamental tools of policy formulation, negotiation, implementation and analysis. While competitive markets are often efficient, there are many barriers to perfectly functioning markets, such as market failure(s), that lead to the need for public policy. Ultimately, the goal of the course is to lead students to appreciate the method of thought and processes associated with allocation of resources at their disposal as seems "best" to them — and how this method can be a widely useful tool for assessing the need for and impact of public policy.

**MAPA 5335. Diversity Management in the Public Sector. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to the study of diversity management in the public sector. Understanding diversity and learning how to manage it is among the most important challenges public managers are facing today. The purpose of this class is to provide students with the knowledge and understanding required to meet the challenges presented by our increasingly diverse society. Students will examine the need for diversity and cultural competency in the workplace and the roles that public institutions play in defining inclusions, differences and identities. The course covers key dimensions of diversity such as strategic race/ethnicity, sexual orientation, religion, skill level, physical ability, communication styles, and multi-generations in the workplace.

**MAPA 5340. Critical Incident Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a graduate level introduction to crisis planning and management for mass casualty and high profile events. Topics include agency roles natural and man-made disasters, terrorism and other major criminal events, and other high profile incidents. Emphasis will be placed in inter-agency cooperation and interfacing in planning, event management, and long-term, post-event management.

**MAPA 5343. Public Health Economics and Budgetary Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This three-credit graduate level course provides a comprehensive introduction to the multiple systems that define, describe, and shape the health care budgeting and public funding in the United States. The course provides opportunities to examine the historic, social, political, philosophical, and economic factors that shape the U.S. health care system. Topics include the components of the health care system such as public health budgeting, organizational structures, multi-organizational systems and networks, financing, access and quality improvement, cost containment, ethics, technology, communication, and leadership. The course focuses on the administration of public provision of care and public funding of health care, such as the Affordable Care Act and the health care exchanges, Medicare, Medicaid, S-CHIP, Tri-Care. The government has a large role in both the funding of health care and the provision of care with the goals of increasing access, increasing equity, and increasing quality of care. The role of public health care administration and how public sector health care systems are budgeted will be stressed, along with public sector economic and fiscal impacts, which effect public service and the communities they serve.

**MAPA 5345. Managing Critical Social Problems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide students with an overview of the contemporary social issues and the role of government in management or mitigation of those issues. Topics include crime, employment, health care, neighborhood stability, gentrification and community regeneration, and their effects on community residents.

**MAPA 5350. Public Administration Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course requires demonstration of competency in public management through completion of a substantial research project incorporating independent study and critical analysis of a specialized area of the field. This is the capstone course for the Master of Public Administration Program. Prerequisite: completion of all other course work required for the Master of Public Administration degree, including core courses and emphasis area courses, unless an exception is approved by the major professor.

**MAPA 5363. Leadership in Public and Non-profit Organizations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to help students understand how nonprofits and public organizations exercise leadership. Students will examine the theory, issues, and skills associated with leadership and management of nonprofit and public organizations. Students will also understand the concept of public ownership of nonprofit organizations and how it imbues specific ethical and legal responsibilities beyond what is standard for private sector organizations.

**MAPA 5370. Public Health Services Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide graduate students an overview of the United States public health and healthcare system. This will be an introduction to a complex healthcare system that is currently undergoing systematic change. This is a discussion course in which text books, lectures, discussion, and outside reading will be used. Comparisons to health care systems in other countries will be made. At the conclusion of the course, students will have a comprehensive awareness of factual information, data, and statistics unique to the United States public health and healthcare delivery system. This is an advanced level graduate course.

**MAPA 5380. Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course gives students the opportunity to integrate the more theoretical aspects of their coursework with participant observation of the operations of a government agency closely related to the student's area of specialization. The experience will utilize a series of work assignments within the agency to give students a range of experiences to enhance their understanding of professional, public administration. Students will document their experience for presentation as determined through consultation with their major professor who will arrange placements with agency mentors. Prerequisite: Approval of major professor.

**MAPA 5385. Seminar in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will allow for flexible topic choice related to current and future trends in public administration. Topics such as comparable and futures studies in public administration along with other evolving and emerging issues in public administration can be further explored via this course.

**MAPA 5390. Independent Study. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This is an independent research course requiring development of a literature review, methodology, and/or data collection in collaboration with the supervising professor. Prerequisite: Approval of MPA graduate advisor.

**MAPA 5398. Research Methods in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will introduce students to multiple research methods, specifically applied in the fields of public administration, in particular to public, non-profit and non-governmental organizations, and policy evaluation. This course will assist the student in understanding the role of research and evaluation in public programs. Credit will not be awarded for CRJ 5398 and MAPA 5398.

## Communication Studies

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 Grant 394-D  
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The Master of Arts in Communication Studies (MA) in the Department of Communication Studies prepares students to excel as business leaders, marketing professionals, communication managers, and public relations practitioners. Students in this program learn social media tools and analytics, applied communication theory, and innovative communication strategies. This program is only offered at the Fort Worth campus and includes a mix of course delivery formats including face-to-face and online courses

Students who complete the degree requirements will also receive certificates in Organizational Communication and Social Media Strategy.

## Master of Arts in Communication Studies

### Required Courses

COMM 5304	Organizational Communication Theory	3
COMM 5310	New Communication Technology	3
COMM 5311	Social Media Marketing and Management	3
COMM 5312	Computer-Mediated Communication	3
COMM 5313	Social Media Analytics	3
COMM 5320	Communication Ethics	3
COMM 5321	Survey of Communication Research	3
COMM 5352	Communication Theory	3
Electives		6
Total Hours		30

In addition to the master's degree graduates will also receive certificates in Social Media and Organizational Communication.

## Certificate in Organizational Communication

### Required Courses

COMM 5304	Organizational Communication Theory	3
COMM 5320	Communication Ethics	3
COMM 5352	Communication Theory	3
Total Hours		9

## Certificate in Social Media Strategy

### Required Courses

COMM 5310	New Communication Technology	3
COMM 5311	Social Media Campaigns	3
COMM 5313	Social Media Analytics	3
Total Hours		9

## Graduate Faculty

- Gearhart, Christopher
- Edwards, Jennifer
- Helvie-Mason, Lora
- Maben, Sarah
- Stafford, Paul

## Courses

### COMM 5086. Special Problems. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).

Conference course. Directed independent study under supervision of a senior faculty member.

### COMM 5200. Communication Pedagogy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Students will explore teaching and learning strategies for higher education courses in communication. Students will learn lesson planning, classroom management, contemporary teaching strategies, and methods for assessing learning outcomes. Some course elements will also focus on teaching social media for collegiate and professional settings.

### COMM 5304. Organizational Communication Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course is an advanced study of communication as it takes place in business, industrial, and non-profit settings. Special attention is given to managerial communication, communicator styles, channels and networks, and organizational communication consulting.

### COMM 5310. New Communication Technology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This graduate course provides a historical foundation focused on new communication technology. This course also incorporates communication theories while focusing on the benefits and disadvantages of new communication technology. Students will also explore the ways these technologies are positively and negatively influenced by national/international: cultures, economies, intellectual capital, and politics.

### COMM 5311. Social Media Campaigns. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This graduate course is designed to introduce students to key concepts of social networking websites/applications, enable students to interact with others through hands-on experiences on social networking websites/applications, and provide students with experiences to critically analyze the positive and negative aspects of communicating (interpersonal, small group, organizational, etc.) with others through social networking.

### COMM 5312. Computer-Mediated Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This graduate course provides a historical and futuristic perspective on the creation of the internet and computer-mediated communication. Students in the course will examine and critique scholarly research articles focused on a variety of computer-mediated communication contexts (i.e. - blogs, social networking websites, video chat, etc.).

### COMM 5313. Social Media Analytics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This graduate course is designed to introduce students to key concepts of measurement of social networking websites/applications and web analytics. The course will enable students to interact with actual measurement techniques for social networking websites/applications, and provide students with experiences to critically analyze social networking. This course explores how basic statistics can be used to answer questions about social media outlets posed by a business or user.

### COMM 5320. Communication Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This graduate course provides perspectives on communication ethics, from historical underpinnings to theory to professional ethical codes to decision-making structures weighing values, principles and stakeholders. Students in the course will examine and critique ethical factors and decision-making with communication case studies.

### COMM 5321. Survey of Communication Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This graduate course is a study of cornerstone and current communication research. Research articles and projects with varying methodologies will be analyzed for the big-picture perspective on communication scholarship. Students in the course will examine and critique communication research, its context, methodological strengths and weaknesses, and its value and impact on professional communication roles.



**COMM 5323. Small Group Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This advanced course explores the concepts, models, and theories of group interaction and teamwork as it applies to group communication. Special attention is paid to the processes of decision making and problem solving within organizational groups as well examining case studies of group processes and outcomes.

**COMM 5340. Environmental Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the role human communication plays in creating and sustaining relationship with nature. Topics can include: Public Participation, Environmental Conflict, promoting environmental sustainability, etc. Prerequisite: Graduate standing.

**COMM 5352. Communication Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an advanced study of communication theory exploring the concepts, models, and theories of human communication. Prerequisite: Graduate Standing.

**COMM 5385. Special Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Content varies according to the needs and desires of the students. When topic varies, course may be taken for credit more than once. Open to students of graduate classification.

## English and Languages

Dr. Cynthia McPherson  
Department of English & Languages  
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mcpheasantarleton.edu

### Master of Arts in English

Graduate studies in English are designed to continue, enrich, and enhance education in literature, rhetoric, technical communication, and language. The Department of English and Languages offers the Master of Arts with a choice of concentrations in either Literature or Technical Communication and Rhetoric, both of which include a thesis and a non-thesis track. The Literature concentration is primarily designed for students planning to continue careers in education, including the teaching of dual-credit high school/college courses and the pursuit of doctoral studies in English. This concentration also prepares students for careers in writing and publishing. The Technical Communication and Rhetoric concentration is primarily focused towards students preparing for careers in the fields of technical and professional writing. Students should choose between these two concentrations according to their individual needs and goals.

To gain full admission to a master's program in English, students should have an undergraduate major in English and a minimum of 12 undergraduate hours (or the equivalent) in one foreign language. Those who lack the necessary background will be required to complete appropriate undergraduate leveling work. The departmental graduate admissions committee reviews transcripts and determines the nature and amount of leveling required. Students should take no more than six hours of graduate classes before completing leveling requirements.

Prospective students entering the Master's Program in English must submit (at the time of their general application to the College of Graduate Studies) to the English Department the following: a 10-15-page MLA, APA, or LSA scholarly research paper and three letters of recommendation. A minimum GPA of 3.0 during the student's last 60 hours of undergraduate course work is required for admission to the program.

The Director of Graduate Studies in English will assist students in choosing a concentration, selecting courses, establishing a graduate committee, and deciding between the thesis and non-thesis tracks. Once the student has selected a committee made up of three departmental graduate faculty members, the committee head will serve as the student's graduate advisor. The advisor will assist the student in developing a degree plan and will oversee the thesis (for thesis track) or directed reading (for non-thesis track). Students choosing the thesis track must also receive approval from the graduate admissions committee.

### Master of Arts in English

#### Required Courses

ENGL 5086	Special Problems (Directed Readings)	3
Total Hours		3

#### Additional Required Courses for Concentrations

##### Technical Communication and Rhetoric

###### THESIS Track

ENGL 5088	Thesis	6
ENGL 5320	Studies in the English Language	3
ENGL 5331	History of Rhetoric I	3
ENGL 5335	Seminar in Professional Writing	3
ENGL 5338	Technical Editing: Practice and Theory	3
ENGL 5396	Digital Humanities	3
or ENGL 5398	Methods of Bibliography and Research Analysis	
Advised Electives (5000 Level) from Literature (only 6 hours will be counted from Literature), Technical Communication, Rhetoric, or as advised		12

**THESIS Track Total Hours 36**

###### NON-THESIS Track

ENGL 5320	Studies in the English Language	3
ENGL 5331	History of Rhetoric I	3
ENGL 5335	Seminar in Professional Writing	3
ENGL 5338	Technical Editing: Practice and Theory	3
ENGL 5396	Digital Humanities	3
or ENGL 5398	Methods of Bibliography and Research Analysis	
Advised Electives (5000 Level) from Literature (only 6 hours will be counted from Literature), Technical Communication, Rhetoric, or as advised		18

**NON-THESIS Track Total Hours 36**

##### Literature

###### THESIS Track

ENGL 5088	Thesis	1-6
ENGL 5398	Methods of Bibliography and Research Analysis	3
or ENGL 5396	Digital Humanities	

American Literature	3	
British Literature	3	
Advised Electives (5000 Level) from Literature, Technical Communication, Rhetoric, and Linguistics, or as advised	18	
<b>THESIS Track Total Hours</b>	<b>36</b>	
<b>NON-THESIS Track</b>		
ENGL 5380	Studies in the Teaching of Composition	3
ENGL 5398 or ENGL 5396	Methods of Bibliography and Research Analysis Digital Humanities	3
American Literature	3	
British Literature	3	
Advised Electives (5000 Level) from Literature, Technical Communication, Rhetoric, and Linguistics, or as advised	21	
<b>NON-THESIS Track Total Hours</b>	<b>36</b>	

## Master of Arts in English with TMATE Certification

### Field of Study Courses

Choose 1 of the following:	3	
Rhetoric and Composition:		
ENGL 5330	Studies in Rhetoric	
ENGL 5331	History of Rhetoric I	
ENGL 5332	History of Rhetoric II	
ENGL 5333	Rhetorical Criticism	
ENGL 5334	Introduction to Visual Rhetoric	
ENGL 5335	Seminar in Professional Writing	
ENGL 5336	Grant and Proposal Writing	
ENGL 5337	Intercultural Technical and Professional Writing	
Choose 1 of the following:	3	
British Literature:		
ENGL 5340	Studies in British Literature	
ENGL 5350	Studies in Literature Before 1500	
ENGL 5360	Modern American and British Poetry	
Choose 1 of the following:	3	
American Literature:		
ENGL 5310	Studies in American Literature	
ENGL 5340	Studies in British Literature	
ENGL 5360	Modern American and British Poetry	
Choose 1 of the following:	3	
Other:		
ENGL 5320	Studies in the English Language	
ENGL 5370	Studies in Comparative Literature	
Choose an additional 3 hours from the options above	3	
<b>Other Required Courses</b>		
<b>TMATE Courses</b>		<b>18</b>
ENGL 5398 or ENGL 5396	Methods of Bibliography and Research Analysis Digital Humanities	3
ENGL 5380	Studies in the Teaching of Composition	3
Total Hours		39

## English Courses

### ENGL 5085. English Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).

Content varies according to the needs and desires of the students. When topic varies, course may be taken for credit more than once. Open to students of graduate classification.

### ENGL 5086. Special Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).

Conference course. Directed independent study under supervision of a senior faculty member.

### ENGL 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).

Scheduled when student is ready to begin thesis. No credit until thesis is accepted. Prerequisites: 24 hours of graduate credit, including ENGL 5398, and prior approval of department head.

### ENGL 5310. Studies in American Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Focuses on restricted periods in American literary history. Examples include colonial American literature, the American Renaissance, American literary naturalism, post-World War II American literature, and minority literature in America. May be repeated for credit when topics vary.

### ENGL 5312. Studies in British Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Exploration of topics in British literature. Major and minor authors, single or multiple genres, and various themes may be covered, depending on instructor's choice of topic. May be repeated once for course credit when topics vary.

### ENGL 5314. Literary Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

The focus of this course is to introduce students to literary theory, either via a broad diachronic study or by examining a particular critical approach as it applies to literary texts, depending on instructor's choice of topic. May be repeated for course credit when the topic varies.

**ENGL 5315. The Graphic Novel. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students in this class will study the graphic narrative: the combination of images and text to convey meaning. While the graphic novel is the primary genre explored, other related forms and genres such as comics, comic strips, and web-comics could also be utilized as supplemental material especially for comparative purposes. In this course students will analyze the formal structures of, diverse uses of, or applications of the graphic novel. Note: The course content will vary depending on the instructor teaching; focus of the course for the semester will be made clear in the course schedule for the given term. Prerequisites: Graduate Standing.

**ENGL 5316. African-American Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to African-American literature, either via a broad diachronic study or by examining a particular theme, depending on instructor's choice of topic.

**ENGL 5317. Folklore. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the connections between folklore, its occurrence in daily life, and the scholarly analysis of its use in culture from varied times and societies. Students will examine how folklore may potentially shape individual or group attitudes, values and beliefs on varied topics. Students will reflect on their actual belief systems and how those systems develop and inform other aspects of their lives and the lives of others. As a graduate course, students will learn appropriate research methodologies common to the study of folklore. Note: The course content will vary depending on the instructor teaching; focus of the course for the semester will be made clear in the course schedule for the given term. Prerequisites: Graduate Standing.

**ENGL 5318. Women's Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to explore the literary works of women writers, their contributions to the greater literary tradition, and the social commentaries that emerge from the texts. Students will also be expected to recognize the ways in which women writers respond to traditional literary discourse. Specific topics, eras, and genres will vary with the instructor.

**ENGL 5319. Beat and Hippie Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of this course is to immerse students in the movements, themes, trends, tropes, and innovations that constitute a beginning grasp of both the Beat and the Hippie Movements as they pertain to literature and by extension American culture. Beginning in post-war America and moving through the 1960s, the seminal texts of these two similar but different eras convey, initially, the disillusionment with and rebellion to the burgeoning American consumerism and conservatism of the Eisenhower years, the emergence of a national counter culture seeking universal truths outside of Western mythologies, the advent of drugs along with the widening celebration of first jazz (bebop) and then rock 'n roll, and then move on to vehement protests of the disastrous war in Vietnam, the changing mores of sexuality in America, and the consequent Generation Gap.

**ENGL 5320. Studies in the English Language. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on historical and/or linguistic study of the English language. Topics will vary. Examples include history of the English language and the English language in America. May be repeated for credit when topics vary.

**ENGL 5321. Psycholinguistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Deals with a variety of formal cognitive mechanisms that are relevant to the knowledge and use of natural languages. Primary emphasis is on the modular view of the mind and its consequences for both L1 and L2 language acquisition.

**ENGL 5327. Executive Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the challenges that executives face in advancing their organization's success through the texts that they write. It considers the top-down nature of communication from executive levels, explores typical executive-level genres such as strategy and management plans and guidance documents, and presents techniques for developing documents that convey information accurately while meeting the needs of stakeholders inside and outside the organization and supporting the goals of the organization.

**ENGL 5328. Ethics in Technical and Professional Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the professional ethics of professional and technical writers; addresses the ethical issues associated with the design, use, and propagation of technology; and other ethical and rhetorical challenges for technical communicators. At virtually all stages of development and use, any technology can carry with it ethical dilemmas for both creators and users. Of particular interest is how such dilemmas are resolved (or complicated) according to how effectively they are communicated to stakeholders. By exploring historical and present-day case studies related to such topics as the environment, research and development, safety, corporate responsibility, and whistle blowing, students will analyze and practice various forms of technical communication. Prerequisites: Graduate standing.

**ENGL 5330. Studies in Rhetoric. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of written language theories. Course contents include readings from a wide spectrum including classical Greece and Rome, the European enlightenment, nineteenth century America, and modern and post-modern periods. May be retaken for credit when topics vary.

**ENGL 5331. History of Rhetoric I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The Classical Era through the Enlightenment – A survey of the early history of rhetorical study. Course contents include readings from classical Greece and Rome as well as significant eras such as the Medieval period, the Renaissance, and the European Enlightenment.

**ENGL 5332. History of Rhetoric II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Continuation of the study of rhetorical history. Course contents include readings from the nineteenth century as well as modern and postmodern rhetorical studies. The course places a particular emphasis on discourse analysis and contemporary application of rhetorical theory.

**ENGL 5333. Rhetorical Criticism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explores the principles of rhetorical theory and criticism for writing studies and technical communication. Analysis of a variety of popular and political and persuasive messages, which may include political speeches, commercial advertising, artwork, song lyrics, scientific articles for popular audiences and within science communities, workplace writing, writing for social media, and other forms of purposeful presentation of argument.

**ENGL 5334. Introduction to Visual Rhetoric. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduces theories of visual rhetoric and visual design, especially as applied to instructions and presentation of technical and scientific content.

**ENGL 5335. Seminar in Professional Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This class studies the theory and practical applications at work in the production of technical and professional documents. Students will study and produce written documents for a variety of audiences and fields.

**ENGL 5336. Grant and Proposal Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles and practice in writing grant applications and proposals, including finding grants. May include a service learning project.

**ENGL 5337. Intercultural Technical and Professional Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Considers the implications of communicating scientific and technical content and information to many cultures. Looks at technical communication in light of cultural values and cultural mores.

**ENGL 5338. Technical Editing: Practice and Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explores the practices and processes of technical, professional, and workplace editing and the theories that support those practices. Covers hand and electronic markup and editing as applied to text, document design, and information architecture. Students complete an editing project from analysis to delivery.

**ENGL 5339. Studies in Disability Rhetoric. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course offers advanced study in the theory, nature, and practice of discourse. In this course we will explore aspects of discourse of and about disability: how we identify and define it, how we perceive and respond to it, and mostly, how we communicate about it (verbally, through written texts, and otherwise).

**ENGL 5340. Studies in Modern Fiction. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An evaluation of English and American short stories, novels, and related criticism. Topics will vary and will include study of themes and development of the genre. May be repeated for credit when topics vary.

**ENGL 5345. Film Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The focus of this course is to introduce students to film as a literary medium. Through a focused study of films and varied film industries, students will examine the narrative qualities central to the filmic experience. Students will also explore genre theory and the formulas of genre.

**ENGL 5350. Studies in Literature Before 1500. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of representative types of pre-1500 literature in English. Topics may vary. May be repeated for credit when topics vary.

**ENGL 5360. Modern American and British Poetry. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of representative themes in the development of American and English poetry. Related critical readings will be studied. Topics will vary. May be repeated for credit when topics vary.

**ENGL 5370. Studies in Comparative Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A comparative study of great literature in the world in translation. Topics may vary and may include examination of theme, technique, and type. May be repeated for credit when topics vary.

**ENGL 5371. Scholarly Writing in Health. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Intensive scholarly writing in the health sciences and related fields emphasizing elements and techniques of credible, scholarly writing and critical thinking. This course utilizes American Psychological Association (APA) format and style. Student evolution in writing will be developed through sequential papers and faculty/peer feedback.

**ENGL 5380. Studies in the Teaching of Composition. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is devoted to the study of the aims, skills, materials, and practices of composition teaching at college and junior college levels. May be repeated for credit when topics vary.

**ENGL 5396. Digital Humanities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course brings students to the intersection of humanities research and the digital age, as they explore methods of research, presentation and communication within the field. We will trace the advent of digital scholarship at the end of the 20th century and confront the multiple forms of publication open to scholars in the 21st. While recognizing that hard copy research and writing will never be removed from the fields of scholarship, we must accept that humanities research has begun to move and continues to move forward via online and electronic formats. Students will learn how to conduct research using digitized texts and manuscripts and will create their own portfolios, demonstrating different methods of digital communication for a single topic. In addition to reading some of the major innovators in the area of digital humanities, students will also work with programs to create visual and audio components of their research.

**ENGL 5397. Internship. 3 Credit Hours (Lecture: 1 Hour, Lab: 7 Hours).**

Supervised professional activities in the college composition classroom including presentations, evaluation, and conferences. May be repeated once for credit. Field experience fee \$50.

**ENGL 5398. Methods of Bibliography and Research Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to methods of research and effective utilization of library resources. May include analytical bibliography, enumerative bibliography, and textual criticism.

## Foreign Language Courses

### French Courses

### German Courses

### Spanish Courses

## Fine Arts

Dr. Vicky V. Johnson, Department Head  
Department of Fine Arts  
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Stephenville, Texas 76402  
(254) 968-9245  
vjohnson@tarleton.edu  
[www.tarleton.edu/degrees/masters/mm-music-education/index.html](http://www.tarleton.edu/degrees/masters/mm-music-education/index.html) (<http://www.tarleton.edu/degrees/masters/mm-music-education/>)

The Master of Music in Music Education (<https://www.tarleton.edu/degrees/masters/mm-music-education/>) at Tarleton provides working practitioners the opportunity to earn an online degree in music education with a faculty representing diverse areas of experience and expertise; prepares students for further graduate study at the doctoral level and/or careers in music education; challenges students to increase their knowledge of theory, history and aesthetics of music; equips students with analytical, conceptual, historical, technical and pedagogical skills to be successful in their chosen field; and facilitates students' growth and development as leaders in the profession of music education and as contributors, through research, to the profession and discipline of music education.

Candidates applying for admission to the Master of Music in Music Education degree are required to meet Tarleton State University's general admission requirements for all graduate students. The GRE is not required. Candidates will have completed an undergraduate degree in Music Education or a comparable degree. Applicants must demonstrate at least baccalaureate-level competence in music theory and music history/literature. The department head in consultation with the graduate music faculty will review the student's transcript to determine the nature and amount of leveling work if necessary.

Additional information about this totally online program is available in the form of Frequently Asked Questions (<http://www.vickyjohnson.altervista.org/MMFAQ.htm>).

The degree consists of 36 hours and students may choose one of three tracks: 1) General: 36 hours of coursework; 2) Thesis: 30 hours of coursework and 6 hours of thesis; 3) Curriculum project: 30 hours of coursework and 6 hours of curriculum project.

## Master of Music in Music Education

### Required Courses

#### Music Core Courses <sup>1</sup>

MUSI 5330	Analytical Techniques	3
MUSI 5331	Advanced Scoring and Arranging	3
MUSI 5353	Ethnomusicology	3
or MUSI 5357	Seminar in Music of the United States	
or MUSI 5354	Topics in Musicology	

#### Music Education Core Courses <sup>1</sup>

MUSI 5340	Foundations of Music Education	3
MUSI 5341	Research in Music Education I	3

MUSI 5342	Research in Music Education II	3
MUSI 5343	Advanced Elementary Music Pedagogy	3
or MUSI 5344	Advanced Secondary Music Pedagogy	
<b>Elective Options <sup>1</sup></b>		<b>9</b>
MUSI 5343	Advanced Elementary Music Pedagogy	
or MUSI 5344	Advanced Secondary Music Pedagogy	
MUSI 5346	Marching Band Methods	
MUSI 5350	Technology in the Music Classroom	
MUSI 5353	Ethnomusicology	
MUSI 5355	Psychology of Music	
MUSI 5390	Selected Tpcs in Musc Educ	
MUSI 5391	Music Administration	
MUSI 5354	Topics in Musicology	
MUSI 5351	Music Theory Pedagogy for the K-12 Educator	
MUSI 5086	Graduate Music Problems	
MUSI 5361	Acoustics of Music	
MUSI 5360	Measurement for Music Researchers	
MUSI 5363	Audio Production	
MUSI 5357	Seminar in Music of the United States	
Total Hours		30

### Additional Required Courses for Concentrations

#### Curriculum Project

MUSI 5345	Curriculum Project	3
MUSI 5345	Curriculum Project	3
Total Hours		6

#### General Music Education

<b>MUSI Electives <sup>1</sup></b>		<b>6</b>
MUSI 5343	Advanced Elementary Music Pedagogy	
or MUSI 5344	Advanced Secondary Music Pedagogy	
MUSI 5346	Marching Band Methods	
MUSI 5350	Technology in the Music Classroom	
MUSI 5353	Ethnomusicology	
or MUSI 5357	Seminar in Music of the United States	
MUSI 5355	Psychology of Music	
MUSI 5390	Selected Tpcs in Musc Educ	
MUSI 5086	Graduate Music Problems	
MUSI 5351	Music Theory Pedagogy for the K-12 Educator	
MUSI 5354	Topics in Musicology	
MUSI 5360	Measurement for Music Researchers	
MUSI 5361	Acoustics of Music	
MUSI 5391	Music Administration	
Additional elective options as determined by department		
Total Hours		6

#### Thesis

MUSI 5388	Thesis <sup>2</sup>	3
MUSI 5388	Thesis <sup>2</sup>	3
Total Hours		6

<sup>1</sup> Students need to select elective courses that have not previously been taken.

<sup>2</sup> The course is for the thesis option, a student must enroll in Thesis for at least 2 semesters for a total of 6 hours of credit.

### Courses

#### **MUSI 5086. Graduate Music Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

A directed study of selected problems in the graduate study of music.

#### **MUSI 5330. Analytical Techniques. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In-depth analysis of common-practice repertoire through multiple techniques. Prerequisite: Admission to the graduate program.

#### **MUSI 5331. Advanced Scoring and Arranging. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced study of scoring music for various instrumental and choral groups. Projects in adapting music from a variety of sources. An emphasis on independent needs are also addressed as they relate to the working music educator. Prerequisite: Admission to the graduate program.

#### **MUSI 5340. Foundations of Music Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An investigation of historical and philosophical principles that provide the context for contemporary music education. The course focuses on developing a vision of music education for the future. Topics include philosophical principles of music education, psychological theories relevant to music teaching, and practical application of these principles through the National Standards for Music. Prerequisites: Admission to the graduate program.

#### **MUSI 5341. Research in Music Education I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An exploration of methods and materials of research in music, including styles of writing and proper documentation of sources with an emphasis on developing strategies for organization and information access. Prerequisite: Admission to the College of Graduate Studies.

**MUSI 5342. Research in Music Education II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Overview of music education research. Research design and methodology to include an introduction to the component parts of research and the different types of research. Prerequisite: Admission to the College of Graduate Studies.

**MUSI 5343. Advanced Elementary Music Pedagogy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A graduate course exploring multiple pedagogies in elementary music. Prerequisite: Admission to the graduate program.

**MUSI 5344. Advanced Secondary Music Pedagogy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A comprehensive overview of current methods and materials used in teaching music at the secondary level, grades 7-12. Prerequisite: Admission to the graduate program.

**MUSI 5345. Curriculum Project. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The final project for students in the Master of Music Education degree that will serve as a culminating example of work performed at the master's level. Prerequisite: Successful completion of all coursework required for the Master of Music in Music Education and/or permission from the instructor is required.

**MUSI 5346. Marching Band Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Marching Band Methods teaches music education majors how to administer a marching band program. Areas of administration are: show design, scheduling, programming, competition. Students will use software to learn to design marching band shows, and review other software useful in administering a marching band program. Prerequisite: Admission to the graduate program.

**MUSI 5350. Technology in the Music Classroom. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Development of concepts and skills related to current computer technology in music. Applications of technology in the music classroom will aid in students' acquisition of musical knowledge and skills, and will assist with time-management and organization for the music educator. Prerequisite: Admission to the College of Graduate Studies.

**MUSI 5351. Music Theory Pedagogy for the K-12 Educator. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to develop and implement strategies to incorporate music theory pedagogy in the classroom for the K-12 educator. Students will also develop a comprehensive music theory program for K-12. In addition, AP Music Theory teaching strategies will be addressed.

**MUSI 5353. Ethnomusicology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examination of the formation of the discipline of ethnomusicology through a survey of its history, theories, and methodologies. Includes basic ethnomusicological concepts, such as organology, music ritual, notation and transcription, and aspects of field research. Research and writing of papers on selected topics.

**MUSI 5354. Topics in Musicology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of selected topics within musicology with a focus on areas relevant to music educators. Course may be repeated for credit as the topic changes, for a maximum of six hours.

**MUSI 5355. Psychology of Music. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A critical examination of questions, designs, and conclusions of previous research in a variety of areas related to the acoustical and psychological aspects of music and how these areas relate to music education. Prerequisite: Admission to the graduate program.

**MUSI 5357. Seminar in Music of the United States. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Music of the United States from the colonists to the present. Selected and significant works will be studied through analysis and performance practice, and in historical context. The diversity of sources and styles include European, African American, Native American, and Spanish-Mexican.

**MUSI 5360. Measurement for Music Researchers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An exploration of statistics, measurement and evaluation in music education, and the methods and materials of research in music, organize and interpret data, and apply results of published research in music. A variety of research methodology is studied and utilized. It is recommended that students complete MUSI 5341 – Research in Music Education I and MUSI 5342 – Research in Music Education II prior to enrolling into this course.

**MUSI 5361. Acoustics of Music. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the physiological properties of sound, the ear and its perception of sounds; the effect of acoustical environment; the acoustical behavior of musical instruments; and the various applications of electronics and computers to the production, reproduction, and composition of music.

**MUSI 5363. Audio Production. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will complete coursework permitting them to test for Pro Tools 101 and 110 user certification. Topics will include techniques for recording in studio and other settings, hardware and software selection and setup, microphone selection and use, working with analog and digital audio, working with MIDI, virtual and electronic instruments, working with various audio file types, mixing and editing in post-production; enhancing audio using effects and automations; using groups and similar tools within the software; mastering; and distributing audio. Students will complete a significant individual recording project during the class and those already holding Pro Tools certification will also find it useful. This class will focus on industry-standard software, Pro Tools.

**MUSI 5388. Thesis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin thesis. No credit until thesis is completed. Prerequisites: Successful completion of all coursework required for the Master of Music in Music Education and/or permission from the instructor is required.

**MUSI 5390. Selected Tpcs in Musc Educ. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of different topics with a focus on contemporary issues in Music Education. This course may be repeated for credit as the topic changes, for a maximum of six hours. Prerequisite: Approval of Department Head.

**MUSI 5391. Music Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced study of the knowledge and skills required to administer an elementary, middle, or high school music program.

## Science & Technology

The College of Science and Technology has three primary missions: first, to provide the courses in mathematics and natural and physical sciences that form an essential part of the general education requirement required of all University students; second, to provide supporting courses for students in other academic areas, such as education, business, and agriculture; and third, to provide the opportunity for students to concentrate their study in a major field of science, technology, or engineering. The College is strongly committed to excellence in teaching, research, and service to the University and to society.

Faculty in the College of Science and Technology are actively engaged in scholarly activities related to their disciplines. We have active research programs in the Biological Sciences, in the Physical Sciences including Chemistry, Geosciences, Physics, and Astronomy, in Mathematics including Data Mining, and in the applied areas of Engineering, Technology.

Degree programs available in the College of Science and Technology feature considerable variety at both the undergraduate and graduate levels. The range of programs includes mathematics, the natural sciences, engineering, computer science, and engineering technology. The college also offers programs that provide the foundation required for professional fields such as medicine, dentistry, optometry, and pharmacy.

The college offers master's degrees in the following four areas:

1. Biology
2. Environmental Science
3. Mathematics
4. Quality and Engineering Management

The College of Science and Technology is also home to the School of Engineering, established in January 2018, which brings together the professional programs from engineering, engineering technology and computer science.

The School of Engineering consists of:

- Engineering and Computer Science Department
- Engineering Technology Department

## School of Engineering

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The School of Engineering was established in January 2018 and brings together a breadth of related professional programs from engineering, engineering technology and computer science, supporting collaborations and synergies for continued growth. The goals of the School of Engineering are to promote academic rigor and excellence, including accreditations where applicable, facilitate growth of research and industry collaborations and increase Tarleton's capacity to meet the needs for highly skilled engineering and technology professionals in Texas and beyond.

The Department of Engineering Technology has one Masters Degree, the MS in Quality and Engineering Management.

## Department of Computer Science and Electrical Engineering

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### Master of Science in Computer Engineering Description

The Master's degree in Computer Engineering is designed to prepare students for career advancement, or for further studies at the doctoral level. It has two options, thesis and professional (non-thesis). It is a research-based program of study, requiring students to complete independent research that culminates in several projects, and, in one of the options, with a thesis project. Either option includes rigorous curriculum and allows students to concentrate their program in the following specialized areas: Computer Architecture and Distributed Computing; Advanced Computer Networks; VLSI Circuit Design; Robotics, Artificial Intelligence, and Machine Learning.

Admission to the program requires a Bachelor's degree in computer engineering, electrical engineering or computer science from an accredited institution. Students not meeting this requirement will be considered for admission on an individual basis and may be admitted subject to the completion of appropriate undergraduate leveling courses to remove any deficiencies in preparation; in this case the department will recommend leveling courses, depending on the student's transcript.

Students must maintain a GPA of 3.0 or better, and make grades of C or better in all courses on the degree plan. No undergraduate courses can be counted towards this Master's degree. A maximum of 12 graduate credit hours may be transferred.

### Master of Science in Computer Engineering

#### Master of Science in Computer Engineering

##### Required Courses

CPEN 5341	Advanced Algorithms	3
CPEN 5343	Advanced Computer Architecture	3
CPEN 5351	Introduction to Convex Optimization	3
CPEN 5355	VLSI Architectures	3
CPEN 5378	Advanced Computer Networks	3
CPEN Electives		6
Total Hours		21

#### Additional Required Courses for Concentrations

##### Thesis

Electives - 5000-level: ELEN, COSC, MATH, or BCIS		6
CPEN 5099	Thesis Research	6
Total Hours		12

##### Professional (non-thesis)

CPEN Electives		6
Electives - 5000-level: ELEN, COSC, MATH, or BCIS		9
Total Hours		15

### Computer Engineering Courses

**CPEN 5099. Thesis Research. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**  
Research for Master's thesis in Computer Engineering Prerequisites: Graduate standing.

**CPEN 5341. Advanced Algorithms. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Amortized analysis, graph, network flow, string matching, matrix and polynomial algorithms, linear programming, NP-completeness, approximation algorithms, and an introduction to parallel algorithms. Prior knowledge or experience in data structures and algorithms recommended. Prerequisite: Approval of department head.

**CPEN 5342. Parallel Computing and Algorithms. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Taxonomy of parallel computers, shared-memory and message-passing architectures, theoretical models; patterns and strategies for designing parallel algorithms; parallel data structures; automatic parallelization of sequential programs; communication; synchronization and granularity; applications. Prior knowledge or experience in Computer Architecture is recommended.

**CPEN 5343. Advanced Computer Architecture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is structured around the three primary building blocks of general-purpose computing systems: processors, memories, and networks. Topics include the limitations of scalar pipelines, superscalar execution, out-of-order execution, register renaming, memory disambiguation, branch prediction, and speculative execution; multithreaded, VLIW, and SIMD processors; non-blocking cache memories, and memory synchronization, consistency, and coherence; multi-core, shared-memory architectures. The course also covers techniques for quantitative analysis of computer systems, to understand and compare alternative design choices. Prior knowledge or experience in Computer Architecture is recommended. Prerequisite: Approval of department head.

**CPEN 5348. Advanced VLSI Circuit Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analysis and design of key analog and mixed-signal IC blocks: analog switches, sampling circuits, switched-capacitor filters, ADCs, DACs, PLLs. Low-power design techniques and machine learning applications for analog and mixed-signal ICs. Prior knowledge or experience in Electronics II and Digital Signal Processing is recommended. Prerequisite: Approval of department head.

**CPEN 5351. Introduction to Convex Optimization. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces convex optimization problems, the basics of convex analysis, algorithms for convex optimization and their complexities, and applications of convex optimization. The course also trains students to recognize convex optimization problems that arise in scientific and engineering applications, and to use software tools to solve convex optimization problems. Prior knowledge or experience in Calculus III and Matrix Algebra is recommended. Prerequisite: Approval of department head.

**CPEN 5355. VLSI Architectures. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course covers the most important methodologies for designing custom or semi-custom VLSI systems for typical signal processing and communications applications. Techniques for the inner and outer receiver, mapping of algorithms onto array structures, digital signal processing (DSP) systems, and field programmable gate arrays (FPGAs), programmable signal processors. Prior knowledge or experience in Computer Architecture is recommended. Prerequisite: Approval of department head.

**CPEN 5361. Deep Neural Networks. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the principles and theory of neural networks, with emphasis on deep neural networks. Topics include convolutional networks, recurrent and LSTM networks, reinforcement learning, preprocessing, regularization, tuning and optimization, as well as mathematical and programming tools. Applications to classification, image recognition, autonomous vehicles. Prior knowledge or experience in Data Science, Machine Learning is recommended. Prerequisite: Approval of department head.

**CPEN 5366. Robot Vision. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course aims at bridging the gap between computer vision and deep learning. It covers topics such as object detection and recognition, machine learning algorithms for computer vision, and advanced techniques for 3D computer vision. Real world applications and projects will be implemented in the areas of autonomous vehicles and robotics. Prior knowledge or experience in Computer Vision, Python, and C/C++ programming is recommended. Prerequisite: Approval of department head.

**CPEN 5377. Wireless and Mobile Communication Networks. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced architectures for wireless communication networks; advanced wireless technologies; challenges and issues in designing such networks; queueing theory and other stochastic models. Prior knowledge or experience in Computer Networks or Communication Systems Theory, Probability, one semester of programming is recommended. Prerequisite: Approval of department head.

**CPEN 5378. Advanced Computer Networks. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course concentrates on routing and inter-networking in IP networks, while addressing contemporary topics like wireless networks, security, voice and video over IP, the Internet of Things (IoT), software-defined networking, and network virtualization. Prior knowledge or experience in Computer Networks is recommended. Prerequisite: Approval of department head.

**CPEN 5379. Performance of Computer and Communication Networks. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Application of probability, Markov chains, and queueing theory to the analysis and design of computer and communication networks. Case studies in traffic shaping and multiplexing, static routing, dynamic routing, and peer-to-peer file sharing systems. Both continuous-time and discrete-time models are explored. Prior knowledge or experience in Computer Networks or Communication Systems Theory, Probability is recommended. Prerequisite: Approval of department head.

## Computer Science Courses

**COSC 5330. Simulation. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduction to simulation with emphasis on simulation methodology, random number generation, time flow mechanisms, sampling techniques, and validation and analysis of simulation models and results. Simulation languages and their applications will be investigated. Prerequisites: MATH 1342, COSC 2341, and Graduate standing. Lab fee \$15.

**COSC 5360. Artificial Intelligence. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduces representations, algorithms and architectures used to build intelligent systems. Predicate calculus, state-space representation and search, heuristic search, knowledge-based problem-solving, symbol-based and connectionist machine learning, intelligent agents, robotics. Prerequisites: MATH 1342, COSC 2341. Lab fee \$15.

## Electrical Engineering Courses

# Department of Mechanical, Environmental, and Civil Engineering

## Master of Science in Mechanical Engineering Description

The Master of Science in Mechanical Engineering program is an industry-focused, practice-oriented degree that will deepen mechanical engineering skills in design, manufacturing, controls, robotics, energy, sustainability, and much more. What sets our program apart is its strong emphasis on integrating applied mechanics, computer simulations, design, and energy science and technology. The graduate program provides a strengthened technical background for mechanical engineering and other multidisciplinary problems that we intend to us as a thread in the curriculum.

Admission to the master's mechanical engineering program requires a bachelor's degree in mechanical engineering or related field of study from an accredited institution. Students not meeting this requirement will be considered for admission on an individual basis and may be admitted subject to the completion of appropriate undergraduate courses to remove any deficiencies in preparation.

Students must maintain a GPA of 3.0 or better, and make grades of C or better in all courses on the degree plan. Grades for courses completed at other institutions, or at Tarleton before the start of the master's degree, are not included in the degree plan GPA, but they are still subject to the requirement of C or better. No undergraduate courses can be counted towards the master's degree (Tarleton rule). A maximum of 12 graduate credit hours may be transferred.



## Master of Science in Mechanical Engineering

### Master of Science in Mechanical Engineering

#### Required Courses

Required Courses		
MEEN 5310	Advanced Solid Mechanics	3
MEEN 5320	Optimization of Engineering Systems	3
MEEN 5330	Mechanics of Viscous Flow	3
MEEN 5333	Advanced Engineering Thermodynamics	3
MEEN 5332	Advanced heat transfer	3
MEEN 5360	Introduction to Robotics	3
Choose one from the following:		3
MATH 5305	Statistical Models	
MATH 5306	Dynamical Systems	
MATH 5330	Mathematical Modeling	
MATH 5360	Numerical Analysis	
MEEN 5390	Advanced Engineering Mathematics	
Any other approved 5000 level course in MATH		
Total hours		21

#### Additional Required Courses for Concentrations

##### Thesis

Choose one from the following:		3
MEEN 5311	Finite Element Analysis: Theory and Practice	
MEEN 5331	Computational Methods for Fluid Mechanics and Heat Transfer	
Choose one from the following:		3
MEEN 5321	Lean Six Sigma	
MEEN 5340	Advanced Energy Systems	
MEEN 5088	Master's Thesis	6
Total Hours		12

##### Professional (non-thesis)

MEEN 5311	Finite Element Analysis: Theory and Practice	3
MEEN 5321	Lean Six Sigma	3
MEEN 5331	Computational Methods for Fluid Mechanics and Heat Transfer	3
MEEN 5340	Advanced Energy Systems	3
Total Hours		12

- 1 Admission to the MEEN-MS program requires a Bachelor's degree in mechanical engineering from an accredited institution, with a GPA of 3.0 or better. Students not meeting this requirement will be considered for admission on an individual basis and may be admitted subject to the completion of appropriate undergraduate courses to remove any deficiencies in preparation.
- 2 After receiving admission to graduate studies, the student choosing thesis option will consult with the **graduate program coordinator** concerning appointment of the chair of their **advisory committee**. The chair, in consultation with the student, will select the remainder of the committee, which will consist of no fewer than three members of the graduate faculty. The chair of the committee must be from the ENCS department, and at least one member must have an appointment to a department other than ENCS. The duties of the graduate program coordinator include responsibility for the proposed degree plan, the research proposal, the thesis and the final examination. In addition, the graduate program coordinator is responsible for advising the student on all academic matters, and, in the case of academic deficiency, initiating recommendations to the Office of Graduate Studies.
- 3 The student's **graduate program coordinator**, in consultation with the student, will develop the **degree plan**, which must specify the thesis or non-thesis option. The degree plan may include additional coursework, if it is deemed necessary by the graduate faculty in order to address **deficiencies**. The degree plan must be completed and filed in accordance with Tarleton office of graduate studies requirements.
- 4 For the thesis option, the student must prepare a thesis proposal for approval by the advisory committee and the head of the ENCS department. The **Thesis Manual**, which contains details regarding the preparation and submission of a thesis for approval, is available on the Graduate College website. Students who plan to pursue a thesis should obtain a copy of this manual early in their graduate program. A thesis proposal must be submitted to the Graduate Office at least one semester prior to a thesis submission. Preparation and submission of thesis must be in accordance with Tarleton office of graduate studies requirements.
- 5 Courses used toward any degree at Tarleton or another institution may not be applied for graduate credit. If the course to be transferred was taken prior to the conferral of a degree at another institution, a letter from the registrar at that institution, stating that the course was not applied for credit toward the degree, must be submitted to the Office of Graduate Studies. A maximum of **12 credit hours** may be transferred.

#### Civil Engineering Courses

CVEN 22325. DO NOT USE. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).

#### Engineering Courses

##### Environmental Engineering Courses

ENVE 5088. Master's Thesis. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).

Required each semester in which a student is working and receiving direction on a master's thesis in ENVE-MS. Minimum two semesters (6 hours) required for master's thesis option. Prerequisites: graduate standing.

ENVE 5302. Atmospheric Systems and Air Pollution Control. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Study of atmospheric impact on air pollution. Study of sources of air pollution and their control to include gases and particulate matter. Study of air pollution regulations and air pollution modeling. Design of systems to control and abate air pollution. Study and design of sampling systems to monitor air pollution.

Prerequisite: CHEM 1409; ENGR 2322;.

**ENVE 5310. Water Resources Engineering. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Fundamentals of hydraulics applicable to open channel flow, natural streams and waterways; irrigation flow characteristics; hydrologic analysis; fluid measurement methods; introduction to hydraulic models including HEC-RAS; and economic aspects of water resources. Prerequisite: ENVE 3300 or consent of instructor.

**ENVE 5319. Physical Operations in Water and Wastewater Treatment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Physical operations in water and wastewater treatment are covered in this course. These include the design of lift stations and gravity sewers, screens, sedimentation tanks, clarifiers and holding basins. Prerequisite: ENVE 3000.

**ENVE 5320. Chemical and Biological Processes in Water and Wastewater Treatment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers processes associated with water and wastewater treatment that are mediated chemically or using biological means as well as the design of systems that use such mechanisms. Design of secondary treatment systems, removal of nutrients and design of tertiary treatment systems are covered. Prerequisite: CHEM 2323 (coreq); ENVE 3350 (coreq);.

**ENVE 5322. Surface Water Hydrology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced study of the hydrologic cycle, including rainfall-runoff mechanisms, hydrographs, reservoir and channel routing and the application of modeling software in watershed analysis. Prerequisite: ENVE 3300 or consent of instructor.

**ENVE 5323. Ground Water Hydrology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Groundwater flow, well hydraulics, the exploration and management of groundwater resources, modelling of subsurface flow with software and the design of well fields. Prerequisite: ENVE 3300 or consent of instructor.

**ENVE 5324. Surface water quality modeling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Coverage of fate and transport of contaminants in surface water. The course includes modelling of occurrence and transport of dissolved oxygen, chemicals and other substances in surface water as well as the interphase movement of chemicals between water and sediments. Prerequisite: ENVE 3300 or consent of instructor.

**ENVE 5325. Environmental Monitoring and Measurements. 3 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

Studying and analyzing environmental engineering processes and systems through appropriate experimental methods. The course will include sampling, protocol development and design of experiments, relevant measurement techniques and experimental methods. Emphasis on quality control, calibration, documentation and interpretation of results facilitating the development of best practice approaches for experimental design and analysis. Prerequisite: ENVE 3350 (coreq); ENVE 4320 (coreq) Lab fee: \$2.

**ENVE 5350. Solid and Hazardous Waste Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to provide students with the necessary background and knowledge pertaining to the engineering design of solid and hazardous waste management and disposal. Topics covered include landfill design, resource conservation recovery and reuse, hazardous waste management.

**ENVE 5351. Environmental Biology and Bioremediation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course presents information on the role of microorganisms in the design of treatment processes and explores the factors affecting biologically-mediated treatment of wastes in the surface and subsurface environments.

**ENVE 5352. Green Engineering. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the design and use of non-traditional, greener alternatives in the treatment of wastes in various environmental media as well as the theoretical, practical and regulatory implications of such design.

**ENVE 5353. Environmental Case Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Through case studies rooted in environmental issues, this course offers a cross-disciplinary introduction to environmental studies. Environmental inquiry on political ecology, earth science, energy, economics, eco-literature, public health, ecological design, sustainability, policy, and environmental justice. Basic concepts—such as thermodynamics, biodiversity, cost-benefit analysis, contamination, governance, the Anthropocene, and the commons—are variously defined and employed within specific explorations of environmental challenges in the modern world.

**ENVE 5357. Environmental Bioprocess Technology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will cover principles of microbiological, biochemical, and biophysical processes used in environmental waste treatment and remediation processes. Enzyme kinetics, fermentation and other engineering applications with particular emphasis on water quality control processes.

## Mechanical Engineering Courses

**MEEN 5088. Master's Thesis. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).**

Required each semester in which a student is working and receiving direction on a master's thesis in MEEN-MS. Minimum two semesters (6 hours) required for master's thesis option. Prerequisites: Graduate standing.

**MEEN 5310. Advanced Solid Mechanics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Application of continuum mechanics to study the response of materials to different loading conditions; general principles common to all media such as conservation of mass, balance of linear momentum, conservation of momentum and energy; constitutive equations defining idealized materials for structural elements, mechanical energy considering stress and strain.

**MEEN 5311. Finite Element Analysis: Theory and Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Line, plane, solid, plate, and shell elements-theory; practical aspects of modeling; applications in mechanical engineering; final project.

**MEEN 5320. Optimization of Engineering Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Applications of optimization techniques to engineering design problems from a variety of fields, including aerospace, automotive, chemical, electrical, construction, and manufacturing; the focus is on using optimization techniques in a comprehensive manner, to enhance the creative process of conceptual and detailed design of engineering systems.

**MEEN 5321. Lean Six Sigma. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A close examination of Lean Six Sigma tools and methodology, and its relationship to the engineering design, optimization, and validation processes for product development. Students will learn about translation of requirements, Taguchi's robust design solutions, and failure mode-effect analysis for design and processes.

**MEEN 5330. Mechanics of Viscous Flow. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The mechanics of Newtonian viscous fluids. The use of modern analytical techniques to obtain solutions for flows with small and large Reynolds numbers, particularly in the areas of boundary layer theory, laminar flows, and turbulent flows.

**MEEN 5331. Computational Methods for Fluid Mechanics and Heat Transfer. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Numerical methods for solving Navier-Stokes equations in complex geometries, including theory, implementation, and applications.

**MEEN 5332. Advanced heat transfer. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

General problems of heat transfer by conduction, convection, and radiation; solution by the analog and numerical methods, thermal boundary layers, analysis of heat exchanges; problems on thermal radiation.

**MEEN 5333. Advanced Engineering Thermodynamics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Concepts and laws of thermodynamics, including energy, entropy, and energy analysis, property relations, equilibrium conditions, and evaluation of properties; advanced special topics such as kinetic theory, statistical thermodynamics, radiation, and photovoltaic energy conversion.

**MEEN 5340. Advanced Energy Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced energy conversion technologies that are currently on the market or under development; tools used by professionals to design energy systems and to evaluate their performance; related concepts from thermodynamics, heat transfer, fluid mechanics, geophysics, and chemistry.

**MEEN 5360. Introduction to Robotics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to robotics through computational methods commonly used in this field; fundamentals of kinematics, dynamics, and control of robot manipulators, robotic vision, and sensing; mechanisms, actuators, sensors, controllers, and processors for engineering of mechanical manipulation; advanced concepts from mechanics, control theory, optimization, probabilistic inference, simulation, kinematics, and computer science.

**MEEN 5390. Advanced Engineering Mathematics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Mathematical analysis techniques for the solution of engineering analysis problems and for the simulation of engineering systems; both continuous and discrete methods are covered; initial and boundary value problems for ordinary and partial differential equations.

## Engineering Technology

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### Master of Science in Quality and Engineering Management

The Master of Science degree in Quality and Engineering Management is designed to provide individuals with existing degrees in Technology or Business related fields with an in-depth study of the organizational, technical, and strategic tools commonly used in manufacturing to improve productivity. This degree is targeted to working professionals and other individuals who have a background in one of these fields, but are seeking to expand their knowledge across these disciplines. The program emphasizes the application of these tools to address quality, technology implementation, and productivity issues in manufacturing related industries to help manufacturers standardize procedures, measure performance, improve customer satisfaction, and manage resources wisely.

#### Leveling Requirements

After an MS in QEM applicant is admitted to the College of Graduate Studies, his/her transcript, application, essay, and test scores are evaluated by the Engineering Technology Graduate Admissions Committee. This Committee evaluates the student's educational background and work experience to determine what leveling requirements or program prerequisites may be needed. Leveling requirements will be determined on a case-by-case basis and may be satisfied by taking graduate or undergraduate courses or departmental subject area examinations or other appropriate means. A student whose undergraduate degree was not in a business or manufacturing related field or who does not have relevant manufacturing professional experience should expect to be required to take some undergraduate courses (that do not count toward the 30 hours required for the degree) to be prepared for successful graduate study in Manufacturing Quality and Leadership. **Students with an undergraduate GPA of above a 3.25 can be accepted into the program without taking the GRE.**

### Master of Science in Quality and Engineering Management

#### Required Courses

ENGT 5324	Statistics for Quality <sup>1</sup>	3
ENGT 5325	Six Sigma and Design of Experiments	3
ENGT 5336	Manufacturing Planning	3
ENGT 5346	Manufacturing Systems Management	3
ENGT 5362	Supply Chain Management	3
ENGT 5368	Quality Management	3
ENGT 5385	Project Management	3
ENGT 5398	Seminar in Manufacturing Quality Topics	3
Total Hours		24

#### Additional Required Courses for Concentrations

##### Non Thesis

ENGT 5332	Financial Risk for Engineering Project Management	3
ENGT 5303	Engineering Economics and Decision Analysis	3
Total Hours		6

##### Thesis

ENGT 5088	Thesis	6
Total Hours		6

<sup>1</sup> Students are advised to complete this course within the first 12 hours of the program.

The thesis option involves an original research project under the direction of a graduate faculty member and the preparation of a thesis in addition to the prescribed course work. A thesis proposal will be prepared by the student for approval by the student's advisory committee and the College of Graduate Studies prior to the initiation of research. The thesis proposal and the thesis will be in conformance with the guidelines and deadlines established by the College of Graduate Studies. The thesis must demonstrate the capability of the student to perform original research and to present the results obtained from such research in a clear, concise, and well-organized manner.

#### Comprehensive Examination

Each student in the MS in QEM program is required to pass a comprehensive examination before receiving the degree. Students are required to demonstrate understanding of management and leadership. Students take the comprehensive examination in the semester they are enrolled in ENGT 5398 Seminar in Manufacturing Quality Topics, which serves as the MS in QEM capstone course. Normally, ENGT 5398 Seminar in Manufacturing Quality Topics should be taken in the student's last semester of enrollment or after completion of all other core courses. Information about the comprehensive examination requirement is available from the student's academic advisor.

## Courses

### **ENGT 5086. Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

This course is designed to meet the needs of Manufacturing Quality and Leadership students who have above average academic ability and who need to pursue subject matter that is not normally included in the Manufacturing Quality and Leadership curriculum. Approval for enrollment in this course shall be with the concurrence of the individual instructor and the department head.

### **ENGT 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

This course is designed to meet the needs of Manufacturing Quality and Leadership students who have above average academic ability and who need to pursue subject matter that is not normally included in the Manufacturing Quality and Leadership curriculum. Approval for enrollment in this course shall be with the concurrence of the individual instructor and the department head.

### **ENGT 5303. Engineering Economics and Decision Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analysis of engineering costs and capital investments. Applications of classical optimization, mathematical programming, and the theory of production to the analysis of investment proposals. Evaluation and selection of individual projects and formulation of capital investment programs.

### **ENGT 5324. Statistics for Quality. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to decision making for technologists using quantitative methods. The emphasis will be on identifying opportunities for process/product improvement in manufacturing using statistical applications. Besides exploratory data analysis, basic probability, distribution theory and statistical inference will be covered. Special topics will include experimental design, regression, control charts and acceptance sampling.

### **ENGT 5325. Six Sigma and Design of Experiments. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to design and analysis of experiments. Applications in product and process design and development; process correction and quality improvement. Taguchi's loss-function approach to quality. Strategies for reliable data acquisition and validation will be addressed. Prerequisites: ENGT 5368, ENGT 5324.

### **ENGT 5332. Financial Risk for Engineering Project Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide an understanding of the project financial risk impacts as they relate to Engineering Technology projects. The course will focus on the combination risks and impacts of quality and financial issues as they relate to other Manufacturing Quality and Engineering Technology Practices.

### **ENGT 5336. Manufacturing Planning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics that will be covered include strategic issues such as the design of products and services, and the design of processes and facilities. Planning and controlling activities including capacity planning, quality control, inventory control, scheduling, and project planning are covered. The emphasis of this course will be on the development and application of analytical methods and techniques Prerequisites: ENGT 5324 or concurrent enrollment.

### **ENGT 5346. Manufacturing Systems Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of concepts and models used as a competitive advantage in the management of processes to produce and supply goods in the manufacturing/service industries. Topics will include operations management and strategy, product design and learning curves, project management, Manufacturing/Service process selection and design. Applications of Operations Research science techniques enable the development of the Manufacturing Systems Management methodologies.

### **ENGT 5362. Supply Chain Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Exploration of the key issues associated with the design and management of industrial supply chains. Supply Chains are concerned with the efficient integration of suppliers, factories, warehouses and stores so that products are distributed to customers in the right quantity and at the right time. The course will focus on minimizing the total supply chain cost subject to various service requirements.

### **ENGT 5368. Quality Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course focuses on manufacturing related principles and best practices reflected in ISO 9000 Standards. Topics included are: manufacturing process improvement; process orientation; quality function deployment; process control and capability; role of inspection; economics of quality; and productivity measurement. Emphasizes role of ISO certification in the global market along with the contributions of Deming, Juran, and Crosby. Prerequisites: ENGT 5324 or concurrent enrollment.

### **ENGT 5376. Automated Manufacturing Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

### **ENGT 5385. Project Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course explores major problems, tasks and techniques required to manage the technical program in each phase of the product life cycle. Organizational planning, decision-making, and internal external interface techniques for each phase of the project life cycle are addressed. Additional concepts such as: Earned Value Analysis (EVA), Critical Path Management (CPM), Project Requirements Analysis, and Schedule Task Analysis will be explored in depth. Prerequisite: ENGT 5368.

### **ENGT 5398. Seminar in Manufacturing Quality Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course guides the student toward an in-depth understanding of the principles, techniques and applications of quality in modern manufacturing companies. The student will review current literature in the field of quality management and write a comprehensive proposal or report on the topic. Prerequisites: ENGT 5325 or concurrent enrollment.

## Biological Sciences

### Master of Science in Biology

The graduate degree offered in the Department of Biological Sciences is intended to enrich and enhance education in biological sciences in order to prepare students for leadership roles in industrial, educational and research-oriented careers. The Department of Biological Sciences offers the Master of Science degree with thesis and non-thesis options, as well as a non-thesis Life Science Education option.

Students should have an undergraduate major in biology in order to gain full admission to the program. Those lacking the desired background will be required to complete appropriate leveling work. The departmental graduate adviser will review the student's transcript and determine the nature and amount of leveling work, and will assist the student in establishing his or her advisory committee. The committee chair, who will assume duties for the student through the remainder of their graduate program, should be chosen by the end of the first semester of graduate work. The advisory committee should consist of a minimum of three members. At least two members will be selected from Biological Sciences graduate faculty. Remaining members may be selected from the Biological Sciences graduate faculty or from graduate faculty outside the Biological Sciences that have expertise relevant to the student's area of interest.

The thesis, consisting of the written report of the research, must be the student's original work and must reflect his or her ability to express thoughts accurately and clearly. Both the thesis proposal and thesis must be written according to guidelines and deadlines established by the College of Graduate Studies and the Department of Biological Sciences. Students should refer to the Graduate Handbook, Thesis Manual, and the Biological Sciences Graduate Students Handbook for more detailed information.

Thesis students are encouraged to quickly establish and begin working with their advisory committee on a research proposal. To continue matriculation in the thesis option, students are required to gain approval of their research proposal from their advisory committee and submit the proposal to the College of Graduate Studies by the end of their first year in the program. Students failing to meet this deadline will be required to meet with their advisory committee to discuss a possible extension of the proposal deadline or switching to the non-thesis option. Thesis hours (BIOL 5088 Thesis) cannot be taken until the thesis proposal has been approved by the advisory committee and submitted to the College of Graduate Studies.

Upon completion of the thesis and approval by the advisory committee and College of Graduate Studies, the student is required to schedule a public, oral presentation of his or her research followed by a comprehensive oral examination administered by the advisory committee. The oral examination will emphasize topics related to the thesis and course work. Successful completion of the comprehensive oral examination completes the program. If the attempt

at the comprehensive oral examination is unsuccessful, it is at the discretion of the advisory committee to dismiss the student from the program or recommend to the student a plan of action to repeat the comprehensive oral examination. If a plan to repeat the examination is recommended, the plan may include recommendations to repeat courses in the weak areas, take additional course work, or spend more time in individual preparation prior to rescheduling a second attempt at the exam.

## Master of Science in Biology

### Required Courses

BIOL 5185	Seminar <sup>1</sup>	1
BIOL 5185	Seminar <sup>1</sup>	1
BIOL 5398	Research Design and Analysis	3
Additional BIOL Coursework*		13
*Select no more than 12 hours from the following: BIOL 5086, BIOL 5310, BIOL 5315, BIOL 5340, BIOL 5345, BIOL 5374, BIOL 5375, BIOL 5378, BIOL 5401, BIOL 5402, BIOL 5406, BIOL 5410, BIOL 5413, BIOL 5415, BIOL 5420, BIOL 5430, BIOL 5436, BIOL 5440, BIOL 5441, BIOL 5445, BIOL 5449, BIOL 5451, BIOL 5460, BIOL 5462, BIOL 5470, BIOL 5475		
Total Hours		18

### Additional Required Courses for Concentrations

#### Thesis

BIOL 5088	Thesis	6
BIOL 5380	Biological Scientific Writing	3
Additional BIOL Coursework*		2
Additional BIOL or Supporting Area*		3
*Select no more than 12 hours from the following: BIOL 5086, BIOL 5310, BIOL 5315, BIOL 5340, BIOL 5345, BIOL 5374, BIOL 5375, BIOL 5378, BIOL 5401, BIOL 5402, BIOL 5406, BIOL 5410, BIOL 5413, BIOL 5415, BIOL 5420, BIOL 5430, BIOL 5436, BIOL 5440, BIOL 5441, BIOL 5445, BIOL 5449, BIOL 5451, BIOL 5460, BIOL 5462, BIOL 5470, BIOL 5475		
Total Hours		14

#### Non-Thesis

Additional BIOL Coursework*		8
Additional BIOL or Supporting Area*		10
*Select no more than 12 hours from the following: BIOL 5086, BIOL 5310, BIOL 5315, BIOL 5340, BIOL 5345, BIOL 5374, BIOL 5375, BIOL 5378, BIOL 5401, BIOL 5402, BIOL 5406, BIOL 5410, BIOL 5413, BIOL 5415, BIOL 5420, BIOL 5430, BIOL 5436, BIOL 5440, BIOL 5441, BIOL 5445, BIOL 5449, BIOL 5451, BIOL 5460, BIOL 5462, BIOL 5470, BIOL 5475		
Total Hours		18

### Life Science Education (Non-Thesis) TMATE

EDUC 5311	Methods of Effective Teaching	3
EDUC 5314	Creating and Managing the Learning Environment	3
EDUC 5390	Selected Topics in Education for TMATE	3
EDUC 5390	Selected Topics in Education for TMATE	3
READ 5370	Literacy Development	3
EDUC 5315	Content Methodology	3
Total Hours		18

<sup>1</sup> Requires two semesters.

The non-thesis Master's candidate, during the final semester of course work, is required to successfully complete a comprehensive written and oral examination. For the written exam, instructors of degree plan courses are invited to submit questions over course material as the basis of the written exam. After successful completion of the written exam, students are required to schedule an oral examination with their advisory committee. Successful completion of the written and oral examination completes the program. If an attempt at the written or oral exam proves unsuccessful, it is at the discretion of the advisory committee to dismiss the student from the program or recommend a plan of action to the student to repeat the written or oral comprehensive examination. If a plan to repeat the examination is recommended, the plan may include recommendations to repeat courses in weak areas, take additional course work, or spend more time in individual preparation prior to rescheduling a second attempt at the exam.

## Courses

### BIOL 5086. Biological Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).

Independent research under the supervision of an instructor. A formal report will be submitted to the instructor. A student may not count more than 6 hours of biological problems toward a degree. Lab fee \$10.

### BIOL 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).

Scheduled when the student is ready to begin the thesis. No credit until thesis is completed. Prerequisite: BIOL 5398 and consent of major professor.

### BIOL 5185. Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).

A graduate seminar course providing the opportunity for students to lead discussions on a current topic in Biology. Topics vary according to interests of faculty and/or students. May be repeated for credit as topics vary. Prerequisite: 12 hours of biology.

### BIOL 5302. Ecological Plant Physiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

The interrelations of plants and their environments with emphasis on those which are subject to manipulation. Critical processes such as dormancy, photosynthesis, nutrition, reproduction, and water relations and their interactions in survival and biomass production. Prerequisite: BIOL 3426 or approval by the department head.

### BIOL 5309. Cellular Biology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A study of cellular morphology and function at the ultrastructural and molecular level. Prerequisites: Organic chemistry and 18 hours of BIOL or approval by the department head.

**BIOL 5310. Developmental Biology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to basic principles of developmental biology. The course will include sections on classical embryology, the molecular basis of development, and evolution of development. In addition, students will read/discuss relevant articles from the primary literature. Students cannot receive credit for both BIOL 5310 and BIOL 4340. Prerequisite: A course in genetics.

**BIOL 5315. Vaccines. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will cover the basic principles in the study of vaccines by providing a foundation to the understanding of the immune response to vaccinations, development of vaccinations, and the significance of individual human and animal vaccines. Students cannot receive credit for both BIOL 5315 and BIOL 4350. Prerequisite: A course in microbiology.

**BIOL 5320. Environmental and Restoration Biology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of human interactions with plants and animals within ecosystems with an emphasis on conservation and restoration ecology. Outdoor laboratories and restoration of plant communities are required.

**BIOL 5321. The Aquatic Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the basic principles involved in the ecology of the aquatic community including biotic and abiotic relationships. Emphasis placed on the sources of water contamination to include the effects of the contamination upon the changes in water chemistry and their possible biological implication. Prerequisite: 18 hours of BIOL and 2 semesters of CHEM or approval by the department head.

**BIOL 5330. Development of Modern Biological Concepts. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the development of biological concepts and their impact upon science and society. Biographical as well as contemporary readings will be involved. Prerequisite: Graduate classification or approval by the department head.

**BIOL 5331. Conservation Biology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles of conservation biology and the major issues that define the discipline. Study of value, threats to, and conservation of biodiversity. Conservation issues at the population and species levels, policy, and practical applications of the science will be included. Prerequisites: Genetics and Ecology, or approval of department head.

**BIOL 5340. Pathogenic Microbiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the disease-producing capacities of various microorganisms with emphasis on the diagnostic procedure of isolation and identification. Students cannot receive credit for both BIOL 5340 and BIOL 3395. Prerequisite: A course in microbiology Lab fee: \$2.

**BIOL 5345. Behavioral Ecology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The aim of this course is to understand variation in behavior among species and among individuals within a species. The course will focus on how behavior affects an animal's ability to survive and reproduce. Students cannot receive credit for both BIOL 5345 and BIOL 4320.

**BIOL 5350. Environmental Microbiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This online course will examine the microbial populations in various environments and assess how they interact to impact these environments. Prerequisite: enrolled in graduate school.

**BIOL 5360. Bacterial Genetics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A graduate course in genetics using bacteria as a model organism. Prerequisite: Enrolled in graduate school. Undergraduate level cell biology or genetics.

**BIOL 5361. Evolutionary Biology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examination of evolutionary patterns, mechanisms and processes at the organismal, chromosomal and molecular levels; modes of adaptation and the behavior of genes in populations. Prerequisite: Genetics.

**BIOL 5374. Biochemistry. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the basic principles of biological chemistry and to fundamental processes of plants, animals and microorganisms. Students cannot receive credit for both BIOL 5347 and BIOL 4374. Prerequisite: Organic Chemistry with "C" or better.

**BIOL 5375. Biochemistry II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A detailed survey of intermediary metabolism. The metabolism of carbohydrates, lipids, proteins and nucleic acids, and the regulation of metabolism are emphasized. Students cannot receive credit for both BIOL 5375 and BIOL 4375. Prerequisites: Courses in Organic Chemistry and Biochemistry.

**BIOL 5378. Biochemistry Lab. 3 Credit Hours (Lecture: 1 Hour, Lab: 5 Hours).**

Principles and applications of basic methodology for the isolation, purification, characterization, and quantitative determination of biologically important compounds. Students cannot receive credit for both BIOL 5310 and BIOL 4378. Prerequisites: Courses in Organic Chemistry and Biochemistry Lab fee: \$2.

**BIOL 5380. Biological Scientific Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the basic principles of scientific writing with an emphasis on writing for the biological sciences. A specific focus of the course will be on the design, planning and writing of a research proposal in terms of problem selection, objectives, methodology, and formatting. Students will learn the types of literature and complete a literature search and review. Students will present their research proposal in an oral presentation.

**BIOL 5390. Special Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected topics in an identified area of biology, biochemistry or biotechnology. May be repeated for credit as topics vary. Prerequisites: 12 hours of biology and 8 hours of chemistry or approval of department head.

**BIOL 5398. Research Design and Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Statistical principles and techniques applicable to the procurement, analysis, and evaluation of quantitative data. Prerequisite: MATH 1314 or approval by the department head.

**BIOL 5399. Practicum, Field Problem, or Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised practice in specialized laboratory or professional settings. Prerequisites: 12 hours of biology and 8 hours chemistry or approval of department head.

**BIOL 5401. Ecology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The scientific study of the biotic and abiotic interactions that determine the distribution and abundance of organisms. Students cannot receive credit for both BIOL 5401 and BIOL 4401. Lab fee: \$2.

**BIOL 5402. Histology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to cellular ultrastructure. Study of vertebrate tissues and their arrangement in various organs. Students cannot receive credit for both BIOL 5402 and BIOL 3402. Lab fee: \$2.

**BIOL 5406. Comparative Vertebrate Anatomy. 4 Credit Hours (Lecture: 3 Hours, Lab: 4 Hours).**

The morphology, physiology, and phylogeny of the organ systems of vertebrates. Laboratory study of representative vertebrates. Students cannot receive credit for both BIOL 5406 and BIOL 3406. Lab fee: \$2.

**BIOL 5410. Terrestrial Field Ecology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the structure and functioning of terrestrial communities with an emphasis on plants. Laboratories will be conducted over three weekends. Students cannot receive credit for both BIOL 5410 and BIOL 4420. Prerequisite: A course in plant taxonomy or department head approval Lab fee: \$2.

**BIOL 5413. Molecular Biology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Fundamentals of gene expression, gene regulation, DNA metabolism and nucleic acid structure, recombinant DNA techniques and protein structure. Students cannot receive credit for both BIOL 5413 and BIOL 3413. Prerequisites: Course in genetics and organic chemistry Lab fee: \$2.

**BIOL 5415. Plant Taxonomy. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Principles of plant taxonomy. Field and laboratory studies of common Texas wild flowers and trees with emphasis on identification, collection, and preparation of herbarium specimens. Students cannot receive credit for both BIOL 5415 and BIOL 3415. Lab fee: \$2.

**BIOL 5420. Plant Pathology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Study of the various types of plant diseases and specific examples of each type. Emphasis upon identification, host-parasite interactions, pathogen dissemination, and control methods. Students cannot receive credit for both BIOL 5420 and BIOL 3420. Lab fee: \$2.

**BIOL 5430. Ornithology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the basic biology of birds, including origins, systematics, ecology, biogeography, physiology, anatomy, and reproductive biology. Laboratory emphasizes identification of regional avifauna and includes multiple field trips. Students cannot receive credit for both BIOL 5430 and BIOL 4430. Lab fee: \$2.

**BIOL 5436. Plant Physiology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of physiology of green plants with emphasis on nitrogen metabolism, respiration, mineral nutrition, photosynthesis, and growth. Students cannot receive credit for both BIOL 5436 and BIOL 3436. Lab fee: \$2.

**BIOL 5440. Herpetology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A survey of the biology of amphibians and reptiles, with emphasis on phylogenetics, ecology, physiology, morphology, zoogeography, conservation, and taxonomy. Laboratory and field work will provide students with practical experience in collecting, identifying, and preparing specimens of regional species, as well as observing populations in natural settings. Students cannot receive credit for both BIOL 5440 and BIOL 4440. Lab fee: \$2.

**BIOL 5441. Freshwater Biology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of aquatic communities and the biogeochemical factors affecting the productivity of ponds, reservoirs, and streams (Limnology). Labs focus on field collections and student-driven experimental research. Students cannot receive credit for both BIOL 5441 and BIOL 4441. Lab fee: \$2.

**BIOL 5445. Parasitology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course will cover parasite diversity (focusing on parasitic organisms of medical and veterinary importance) and parasite biology including aspects of morphology, identification, pathology, treatment, and ecology of the parasite-host relationship. Students cannot receive credit for both BIOL 5445 and BIOL 4445. Lab fee: \$2.

**BIOL 5449. Animal Diversity. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of the morphology, taxonomy, biology, and phylogeny of the invertebrate animals. In lecture, students concentrate on basic concepts of structures, function and evolutionary development of major invertebrate groups. In lab, students are exposed to a large collection of invertebrates, learning about systematics, ecology, structure and phylogenetic relationships. Students cannot receive credit for both BIOL 5449 and BIOL 3449. Lab fee: \$2.

**BIOL 5451. Mammalogy. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the evolution, anatomy, behavior, ecology, systematics, and basic biology of mammals. Laboratory work includes identification of regional mammals as well as techniques for the collection and preparation of mammalian specimens. Students cannot receive credit for both BIOL 5451 and BIOL 4451. Lab fee: \$2.

**BIOL 5460. Animal Physiology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An advanced course in the fundamentals of vertebrate physiology emphasizing physiologic mechanisms from a basic molecular/cellular level up to the level of organ systems, which include the nervous, endocrine, muscular, cardiovascular, respiratory, digestive and urinary systems. The basic physiologic mechanisms are presented in the context of human physiology, however, how selected animals are adapted to particular environments is addressed. Laboratory exercises involve the use of electronic instrumentation to measure physiologic responses non-invasively in human volunteers or in surgically prepared animals. Students cannot receive credit for both BIOL 5460 and BIOL 4460. Lab fee: \$2.

**BIOL 5462. Ichthyology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the anatomy, behavior, ecology, evolution, taxonomy, and zoogeography of fishes. Field and laboratory work provide students with practical experience in collecting, identifying, and studying fishes. Emphasis will be placed on local fauna. Students cannot receive credit for both BIOL 5462 and BIOL 4462. Lab fee: \$2.

**BIOL 5470. Phycology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Hands-on training in the taxonomy, ecology, evolution, and ecophysiology of algae. Discussion of current uses of algae for water quality, biofuel, food production, forensic science, and nanotechnology. Students cannot receive credit for both BIOL 5470 and BIOL 3430. Lab fee: \$2.

**BIOL 5475. Immunology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Emphasis on the basic concepts of humoral and cell-mediated immunity. Laboratory: current techniques in experimental immunology and serology. Students cannot receive credit for both BIOL 5475 and BIOL 3485. Lab fee: \$2.

## Chemistry, Geoscience, and Physics

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### Master of Science in Environmental Science

The Master of Science degree in Environmental Science offers built-in flexibility to best suit the needs of our students and their desired career paths. With both thesis and non-thesis options available, this degree works for students in any stage of their careers.

With affiliations with the Center for Environmental Studies (<https://www.tarleton.edu/environmentalstudies/>) (CES), the Texas Institute for Applied Environmental Research (<https://www.tarleton.edu/tiaer/>) (TIAER), Texas A&M AgriLife (<https://agriliferesearch.tamu.edu/>), the Center for Agribusiness Excellence (<https://www.tarleton.edu/cae/>) (CAE), and others, the interdisciplinary Environmental Science master's program is focused on addressing issues both locally and globally. With affiliated faculty (<https://www.tarleton.edu/environmentalstudies/people.html>) spanning from engineering to policy, natural resources, biology, and paleoecology, this diverse program with concentrations in natural science and policy is customizable and flexible to meet the needs of professionals and students alike. Hands-on experience in both the field and laboratory is emphasized in this program. Our students are driven to seek answers to the problems of today's ever-diversifying society.

A highly sought after program, the M.S. in Environmental Science offers many career options:

- Environmental consultant
- Environmental education officer
- Environmental engineer
- Environmental manager
- Marine biologist
- Nature conservation officer

- Sustainability consultant
- Waste management officer
- Water quality scientist
- Landscape architect
- Town planner
- Environmental health practitioner
- Toxicologist

**Special Requirements**

Students pursuing the thesis option will be expected to prepare a thesis based on original research. A thesis proposal will be prepared for approval by the student's advisory committee and the College of Graduate Studies prior to the initiation of research. The thesis proposal and the thesis will be in conformance with the guidelines and deadlines established by the College of Graduate Studies. The thesis must demonstrate the capability of the student to perform original research and to present the results obtained from such research in a clear, concise, and well-organized manner. Students pursuing the non-thesis option will take six hours of additional course work instead of the thesis as approved by their committee.

**Master of Science in Environmental Science**

**Required Courses**

ENVS 5185	Graduate Seminar <sup>1</sup>	1
ENVS 5185	Graduate Seminar <sup>1</sup>	1
ENVS 5185	Graduate Seminar <sup>1</sup>	1
ENVS 5185	Graduate Seminar <sup>1</sup>	1
ENVS 5460	Applied Remote Sensing	4
Select one of the following:		3
BIOL 5398	Research Design and Analysis	
ENVS 5370	Research & Analytical Methods	
WSES 5360	Research Methods for Agricultural and Natural Resource Scientists	
WSES 5380	Research Writing for Agricultural and Environmental Science	
Take 9 credits of qualifying graduate electives as approved by advisor and department (BIOL, CHEM, GEOL, GEOG, ENVS, POLI, SOCI, WSES)		9
Total Hours		20

**Additional Required Courses for Concentrations**

**Environmental Science - Thesis Option**

ENVS 5331	Advanced Meteorology	3
ENVS 5345	Advanced Oceanography	3
ENVS 5088	Thesis (Thesis proposal must be accepted before registering for this course)	6
Total Hours		12

**Environmental Science - Non-thesis option**

ENVS 5331	Advanced Meteorology	3
ENVS 5345	Advanced Oceanography	3
Select one of the following		3
ENVS 5310	Environmental Geology	
CHEM 5310	Environmental Chemistry	
BIOL 5320	Environmental and Restoration Biology	
Take 7 credits of qualifying graduate electives as approved by advisor and department (BIOL, CHEM, GEOL, GEOG, ENVS, POLI, SOCI, WSES)		7
Total Hours		16

**Environmental Social-Policy - Thesis option**

Select 2 of the following		6
POLS 5310	International Environmental Issues	
POLS 5311	Environmental Law	
POLS 5362	Environmental Policy	
SOCI 5312	Environmental Sociology	
SOCI 5306	Water Policy	
ENVS 5088	Thesis (Thesis proposal must be accepted before registering for this course.)	6
Total Hours		12

**Environmental Social - Policy - Non-thesis option**

Select 3 of the following		9
POLS 5310	International Environmental Issues	
POLS 5311	Environmental Law	
POLS 5362	Environmental Policy	
SOCI 5386	Problems in Sociology	
SOCI 5306	Water Policy	
Take 7 credits of qualifying graduate electives as approved by advisor and department (BIOL, CHEM, GEOL, GEOG, ENVS, POLI, SOCI, WSES)		7
Total Hours		16

<sup>1</sup> Must be taken every semester for a total of 4 SCH.



## Master of Science in Geosciences

The Master of Science in Geoscience offered by the Department of Chemistry, Geoscience, & Physics is intended to enrich and enhance education in geological sciences in order to prepare students for leadership roles in industrial, educational, and research-oriented careers.

The graduate program is offered in two concentrations: the first concentration is a two-year track thesis track masters in geoscience. The second track is a five-year bachelor's-to-master's option that is stemmed from the geoscience undergraduate program also offered by Tarleton State University.

### Designed With You in Mind

Our graduate program mirrors the successes of our undergraduate program, and uses one-on-one work with the geoscience faculty to guide students to become professional geologists. Additionally, our accelerated bachelor's-to-master's program allows our high achieving undergraduates to transition directly into our master's program.

### Preparing You to Make a Difference

The Masters of Science in Geoscience is focused on developing competent geoscientists under the tutelage of expert faculty advisers. Within this program, students have the opportunity to pursue an Exploration or Development career in the Petroleum Industry or develop a thesis on subjects which interest them and add to the total geologic knowledge of Texas and beyond.

Graduates of our program will be able to:

- Demonstrate proficiency in the field and scientific standards of the discipline
- Collect and interpret scientific data
- Analyze and identify geological features

## Special Requirements

Students pursuing a thesis will be expected to prepare a thesis based on original research. A thesis proposal will be prepared for approval by the student's advisory committee and the College of Graduate Studies prior to the initiation of research. The thesis proposal and the thesis will be in conformance with the guidelines and deadlines established by the College of Graduate Studies. The thesis must demonstrate the capability of the student to perform original research and to present the results obtained from such research in a clear, concise, and well-organized manner.

## Master of Science Degree in Geosciences

### Required Courses

GEOL 5100	Geology Seminar <sup>1</sup>	1
GEOL 5100	Geology Seminar <sup>1</sup>	1
GEOL 5100	Geology Seminar <sup>1</sup>	1
GEOL 5100	Geology Seminar <sup>1</sup>	1
GEOL 5300	History of Geology	3
GEOL 5088	Thesis <sup>2</sup>	6
GEOL Graduate Prescribed Electives		10-12
Graduate Approved Electives		7-9
Total Hours		34

<sup>1</sup> Course is required every long semester which student is in attendance.

<sup>2</sup> Students cannot register for this course until after thesis proposal is accepted. Credit is not awarded until after thesis is complete.

## Chemistry Courses

### CHEM 5086. Chemical Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).

Independent research in the laboratory or in the library under the guidance of a member of the graduate faculty. Up to 6 hours may be taken.

### CHEM 5310. Environmental Chemistry. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Study of the impact of chemistry on the environment to include topics on air, water, and soil pollution, with special emphasis on water. Beneficial chemical modification of the environment will be covered.

## Environmental Science Courses

### ENVS 5086. Environmental Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).

Independent research under the supervision of an instructor. A formal report will be submitted to the instructor. A student may not count more than 6 hours of Environmental Science problems toward a degree. Lab fee \$10.

### ENVS 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).

Scheduled when the student is ready to begin the thesis. No credit until the thesis is completed. Prerequisite: BIOL 5398 and consent of major professor.

### ENVS 5185. Graduate Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).

A graduate seminar with content varying according to the needs and experiences of students and the instructor of record. May be repeated for up to three hours credit as content varies.

### ENVS 5300. The Regulatory Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

A survey of local, state, national, and international regulatory agencies to include their organization and authority. Case studies of environmental problems and legislated regulations are covered.

### ENVS 5310. Environmental Geology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Explores the physical controls geology imparts to the global ecosystem through systems analysis of geologic processes. Hydrologic processes, river system processes and restoration, energy resources, coastal systems, and karst systems are all potential topics explored. Credit for both ENVS 5310 and GEOL 5310 will not be awarded. Prerequisites: GEOL 1403 or consent of department head.

### ENVS 5311. Environmental Chemistry. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

Study of the impact of chemistry on the environment to include topics on air, water, and soil pollution, with special emphasis on water. Beneficial chemical modification of the environment will be covered.

### ENVS 5320. Issues in Water Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).

This course will provide a broad introduction to the critical issues relating to the world's freshwater resources. Students will examine the occurrence, use, management, and conservation of water and water resources in the U.S. and the world. Students will develop an understanding of the history and current issues in water resources and the environmental problems and political response to these issues.

**ENVS 5325. Environmental Hydrology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the processes that govern the earth's hydrologic cycle such as precipitation, evaporation and transpiration, runoff, infiltration and ground water and an exploration of anthropogenic effects on the hydrologic cycle. Topics include land-atmosphere interactions, movement of water in subsurface environments, contaminant transport in groundwater systems, streamflow generation, surface-water flow dynamics, urban runoff and flood control.

**ENVS 5329. Applications of Geographic Information Systems in Environmental Science. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Environmental and natural resource applications of Geographic Information Systems. Introduction to spatial analysis and 3-D analysis. The availability and uses of digital resources. Prerequisite: EASC 2320. Lab fee \$15.

**ENVS 5331. Advanced Meteorology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the Earth's atmosphere and processes within it. Topics include weather, climate, heating, adiabatic processes, precipitation types and formation, wind currents, geostrophic effects, prediction, and warnings. Historical events will be discussed in context of modern understanding.

**ENVS 5335. Watershed Modeling. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

The course will explore commonly used watershed models that can be used in linking sources of pollutants to receiving waterbodies. The course will explore large watershed, streamflow, water quality, urban watershed, and agricultural watershed models. Information will include model calibration and evaluation techniques.

**ENVS 5341. Environmental Site Assessment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to Phase I and Phase II investigations, principles of siting and installation of monitoring wells, a review of sampling methods and sample design, and the use of water quality data to characterize subsurface contamination. Prerequisite Course(s): Hydrogeology or consent of Department Head.

**ENVS 5345. Advanced Oceanography. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An integrated study of our oceans from the physical, chemical, biological, and geological aspects. Theory reinforced by practical field experience. Include analysis of seawater components, the effects of pollutants, and the impacts of chemical processes on marine organisms, as well as studying the physical conditions and physical processes within the ocean such as waves, currents, eddies, gyres and tides; the transport of sand on and off beaches; coastal erosion; and the interactions of the atmosphere and the ocean.

**ENVS 5370. Research & Analytical Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Research and analytical methods for Environmental Scientists. Explores the various approaches, methodologies, and philosophies behind research techniques.

**ENVS 5380. Research and Writing in Agriculture and Environmental Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Preparation of writing samples, technical reviews, and/or professional manuscripts related to various topics in agriculture or environmental science. Prerequisite: Approved research methodology course. Cross-listed with AGRI 5380.

**ENVS 5390. Topics in Environmental Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Scientific aspects of varied environmental topics, which may include waste disposal, wetlands, air pollution, energy, bioremediation, or watershed analysis. May be repeated for credit as topics vary. Prerequisites: 12 hours of science (including six hours of chemistry) or approval of department head.

**ENVS 5460. Applied Remote Sensing. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An introduction to the features and interpretation of remotely sensed images from airborne and satellite platforms. Formats of imagery will include radar, thermal, and multispectral. Focus on interpretation of images for various usages, including agriculture, forestry, geology, urban landscapes, and geography. Factors affecting acquisition of a variety of features will be discussed. Introduction to the theory of color sensing and interpretation is included. Lab fee: \$2.

## Geology Courses

**GEOL 5086. Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Independent research under the supervision of an instructor. A formal report will be submitted to the instructor. A student may not count more than 6 hours of problems toward a degree.

**GEOL 5088. Thesis. 1-6 Credit Hours (Lecture: 6 Hours, Lab: 6 Hours).**

Scheduled when the student is ready to begin the thesis. No credit until thesis is completed. Student must have submitted approved thesis proposal before taking for credit.

**GEOL 5100. Geology Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

A graduate seminar course providing the opportunity for students to lead discussions on a current topic in Geology. Topics vary according to interests of faculty and/or students. May be repeated for credit as topics vary.

**GEOL 5300. History of Geology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the development of geological concepts and their impact upon science and society. Biographical as well as contemporary readings will be involved, investigating the confluence of geological science development with historical and societal factors.

**GEOL 5400. History of Geology. 4 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the development of geological concepts and their impact upon science and society. Biographical as well as contemporary readings will be involved, investigating the confluence of geological science development with historical and societal factors.

**GEOL 5401. Crystal Chemistry. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

An advanced study of the atomic or molecular arrangement of minerals. Topics covered would include, crystal structure, P-T phase diagrams, solid solution, exsolution, diffusion, atomic site occupancy, mineral chemical bonding, and the relationship of crystal structure to optical and physical properties. Lab fee: \$2.

**GEOL 5402. Igneous Petrology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An advanced study of the origin of igneous rocks. The course would focus on geochemical aspects of igneous rocks, with a special emphasis on process such as fractionation, assimilation and liquid immiscibility. The course would involve an in-depth study of phase diagrams. Lab fee: \$2.

**GEOL 5403. Metamorphic Petrology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An advanced study of the origin of metamorphic rocks. The course would focus on mineral chemical reactions occurring during metamorphism. Topics in the course would include thermodynamics, and in-depth study of phase diagrams. Lab fee: \$2.

**GEOL 5404. High Temperature Geochemistry. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

A study of the chemistry involved in igneous and metamorphic processes. The course would emphasize trace elements, stable isotope systematics, and radioactive isotopic systems. Lab fee: \$2.

**GEOL 5405. Low Temperature Geochemistry. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

A study of surface chemical systems. This course is sometimes called the geochemistry of natural waters. The course would focus on the chemistry of weathering and sediment deposition. Topics could include acidity and oxidation (EH-pH), stable isotopes, evaporate chemistry, clay chemistry, and aqueous system chemistry. Lab fee: \$2.

**GEOL 5410. Field Paleoecology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The ecology of ancient life. The course will focus on defining and identifying community structures through time, exploring the rise and fall of communities and the changing populations within them based on field identification, utilizing sediments and life habit. Lab fee: \$2.

**GEOL 5420. Ichnology. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Study of Trace Fossils. Course will focus on identification and description of ichnotaxa, ichnofacies, and ethological classifications. Field application of course content will be a major component. Lab fee: \$2.

**GEOL 5430. Paleontological Data Analysis. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Study and application of statistical and multivariate techniques used in classifying and differentiating organisms, taphonomics, orientations, and ecologies. Methods covered will include DCA, PCA, PCO, NMDS, and Parsimony Analysis, as well as basic statistical methods. Lab fee: \$2.

**GEOL 5450. Geomechanics and Fracture System Analysis. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Mechanical analysis of stress and strain within the Earth's brittle crust. Major topics include analysis of present day stresses, Anderson stress classification, overpressure, mechanical properties of rock, Mohr failure envelopes, and critical stresses on faults. Characterization and quantification of natural fracture systems will be a major component of the course. Lab fee: \$2.

**GEOL 5451. Geometric and Kinematic Analysis of Structures. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Analysis of concentric folds of layered sedimentary rocks and fault-related folds with emphasis on geometric relationships. Introduction to quantitative models based upon geometric relationships between fault geometry, rheology, and fault slip rate. Techniques will be presented to incorporate surface and subsurface data to construct viable, admissible structural cross sections while minimizing artificial distortion. Modern structural software will be used. Techniques will be presented for reconstructions and restorations of cross sections. Use of growth strata to constrain the kinematic pathway of both compressional and extension folds and fault-related folds. Lab fee: \$2.

**GEOL 5452. Seal and Trap Analysis. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Examination of the geological and physical processes that trap hydrocarbons in the subsurface and techniques for the evaluation of seal competency. Lab fee: \$2.

**GEOL 5453. Structural Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Examination of extensional, compressional, and strike-slip systems from a tectonic and regional scale. The course will examine both kinematic and dynamic analysis of systems of associated structures. Emphasis will be on understanding key components and architectural elements of structural styles. Investigation of the mechanical and rheological controls on formation of structural regimes. Lab fee: \$2.

**GEOL 5460. Sequence Stratigraphy. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Fundamental concepts of sequence stratigraphy applied to both carbonate and clastic systems. Integration of surface and subsurface data with an emphasis on petroleum exploration. Field trips required. Prerequisite: GEOL 3413 or equivalent with a grade of "C" or better Lab fee: \$2.

**GEOL 5461. Carbonate Petrology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to the physical, chemical, and biologic properties of carbonate rocks, as revealed by petrographic microscopy, geochemical techniques, and field study. Emphasis is placed on the mineralogy, chemistry, textures, and sedimentary structures that characterize carbonate rocks, and the relation of these features to their depositional origin and subsequent diagenesis. Prerequisite: GEOL 3413 or equivalent with a grade of "C" or higher Lab fee: \$2.

**GEOL 5462. Clastic Petrology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to the physical, chemical, and biologic properties of clastic rocks, as revealed by petrographic microscopy, geochemical techniques, and field study. Emphasis is placed on the mineralogy, chemistry, textures, and sedimentary structures that characterize carbonate rocks, and the relation of these features to their depositional origin and subsequent diagenesis. Prerequisite: GEOL 3413 or equivalent with a grade of "C" or higher Lab fee: \$2.

**GEOL 5463. Clastic Depositional Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Clastic facies analysis and depositional environments: modern and ancient alluvial, lacustrine, desert, deltaic, estuarine, shoreline, shallow marine shelf and deep marine environments. Field trips required. Prerequisite: GEOL 3413 or equivalent with a grade of "C" or better Lab fee: \$2.

**GEOL 5464. Carbonate Depositional Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Carbonate facies analysis and depositional environments; examination of both modern and ancient carbonate environments. Field trips required. Prerequisite: GEOL 3413 or equivalent with a grade of "C" or better Lab fee: \$2.

**GEOL 5465. Basin Analysis. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Analysis of sedimentary basins, including their structural development, subsidence histories, thermal maturation, stratigraphy and depositional systems, and petroleum systems. Prerequisites: GEOL 3413 and GEOL 3312 (or equivalents) with a grade of "C" or better Lab fee: \$2.

## Mathematics

Dr. Bowen Brawner  
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### Master of Science in Mathematics

#### Purpose

The MS in Mathematics is designed to enhance and enrich training in the field of mathematics for persons who teach at the secondary level or in community colleges, and to provide a rigorous depth and breadth of mathematical study for people who plan to work as applied mathematicians in industry or government agencies, as well as those who wish to continue their studies at the doctoral level. The department offers the Master of Science degree with thesis and non-thesis tracks.

#### Admission Requirements

Students should have an undergraduate degree in mathematics or related field. Those lacking the appropriate background will be required to complete leveling work. The departmental graduate advisor in consultation with the mathematics faculty will review the student's transcript and determine if leveling work is needed. Leveling requirements generally include the following courses:

- MATH 2413, 2414, 3306, 3311, 3332, 3433, 4309, 4332

The departmental graduate advisor will assist the student in selecting a graduate committee. The committee should consist of a minimum of three members, at least two of whom are from the graduate faculty of the Department of Mathematics. The third may be chosen from the graduate faculty of a department in which the student takes supportive graduate course work.

### Master of Science in Mathematics

#### Required Courses

MATH 5305	Statistical Models	3
MATH 5308	Abstract Algebra	3
MATH 5320	Real Analysis	3
MATH 5350	Linear Algebra	3
MATH 5198	Research Analysis	1

11 hours from 5000-level MATH courses except MATH 5688 and MATH 5699

11

6 hours from approved 5000-level MATH courses, 5000-level supporting courses, or thesis

6

Total Hours

30

## Comprehensive Examination

The department requires an oral comprehensive examination for the MS degree. The comprehensive examination will be administered by the student's graduate committee during the last semester of the program. The Dean of the College of Graduate Studies or a representative from the Graduate Office will be invited to participate in the oral examination. If the result of the oral comprehensive examination is less than satisfactory, additional course work in areas of weakness may be recommended before rescheduling the examination.

## Accelerated Master of Science in Mathematics Program (5-year BS to MS)

The Accelerated MS Program allows talented undergraduates at Tarleton State University an opportunity to complete the requirements for the MS degree at an accelerated pace. Selected undergraduate students may begin taking graduate courses during their junior year, earning 6 to 12 graduate mathematics hours (5000-Level) that can be counted toward both the BS in Mathematics and the MS in Mathematics degree (see additional required courses for a BS in Mathematics under the accelerated master's option for more details). Courses may be selected from Math 5301, 5305, 5306, 5308, 5309, 5311, 5312, 5320, 5330, 5340, 5350, 5360, 5370, 5371, 5373, 5375, 5376, 5377, 5378, 5379, 5380, 5386, and 5390.

A minimum GPA of 3.0 is required for all graduate work taken as an undergraduate student.

Thus students will earn a non-thesis MS degree in the same field within 12 months of completing the BS degree or obtain a thesis-based MS degree in the same field within 18 months of completing the BS degree. All requirements for the MS must be satisfied.

## Accelerated Masters Admission

Students must have a minimum accumulated grade point average of 3.5/4.0 at TSU. Students must have completed between 75 and 108 credit hours, including credits earned from advanced placement. Transfer students must have completed a minimum of two full-time semesters and 24 hours at Tarleton. Contact the Graduate Advisor for further details .

## Courses

### **MATH 5086. Advanced Special Problems in Mathematics. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Special problems in mathematics. Work may be either theory or laboratory. May be repeated with approval of the department head for additional credit.

Prerequisite: Approval of department head.

### **MATH 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student's committee chair determines the student is ready to begin the thesis. No credit is earned until the student has enrolled in at least 6 credit hours of thesis and the thesis is certified as completed by the student's committee, at which time the student will be awarded 6 credit hours of thesis.

Prerequisite: 18 hours of approved graduate credit toward the degree and consent of the student's committee.

### **MATH 5198. Research Analysis. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

An overview of the components of research in the main areas of mathematics. These areas will include pure mathematics and statistics, applied mathematics and statistics, and mathematics education. The course will culminate with a study of what is a proper literary review and how to submit an article for publication.

Prerequisite: Graduate standing in the mathematics department or approval of the department head.

### **MATH 5301. Nonparametric Statistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to nonparametric statistics. Topics will include hypothesis testing, contingency tables, rank tests, and goodness-of-fit tests. Prerequisite: Junior or senior level statistics course.

### **MATH 5305. Statistical Models. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the basics of experimental design, mathematical theory for linear and logistic regression models in the multivariate case, and diagnostics and remedial measures for these models. Other topics will be selected from time series analysis, principle components, canonical correlations, factor analysis, discriminant analysis, and cluster analysis. Prerequisite: MATH 3311.

### **MATH 5306. Dynamical Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced study of dynamical systems. Topics will be selected from discrete and continuous dynamical systems, sensitivity analysis, models of the physical, life, and social sciences, and bifurcation analysis. Prerequisites: Differential Equations and Linear Algebra.

### **MATH 5308. Abstract Algebra. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will be selected from: groups, homomorphism, isomorphism, direct products and sums, invariant properties, rings, and fields. Prerequisite: MATH 4332.

### **MATH 5309. Complex Variables. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to complex analysis. Topics will be selected from elementary operations and analytic functions, curves and integrals, power series, Cauchy's theorem, zeroes and singularities of analytic functions, Laurent series, maximum principle, analytic continuation, harmonic functions, conformal mapping and transformations. Prerequisite: MATH 2414 or approval of department head.

### **MATH 5312. Design of Experiments. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will learn about planning and conducting an experiment. Data analysis using appropriate software is covered. Prerequisite: MATH 5305 or approval of department head.

### **MATH 5320. Real Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will be chosen from: sets and operators; cardinal numbers and ordinal types; metric spaces and Lebesgue measure; metric properties of sets; differentiation and integration. Prerequisite: MATH 4309.

### **MATH 5330. Mathematical Modeling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced course in mathematical modeling. Topics will be selected from scaling, dimensional analysis, regular and singular perturbation theory, stability theory, and asymptotic analysis. Prerequisites: Differential Equations and Linear Algebra.

### **MATH 5340. Topology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to point set topology. Topics will include open and closed sets, interior, closure, boundary, neighborhoods, continuous functions, separation and subspaces. Additional topics will be selected from compactness, connectedness and continua. Prerequisite Course(s): MATH 4309.

### **MATH 5350. Linear Algebra. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced course in linear algebra. Topics to be selected from linear spaces and operators, canonical forms, quadratic forms and optimization, computation and condition, and compatible systems. Prerequisite: Linear Algebra.

### **MATH 5360. Numerical Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced study of numerical analysis. Topics will be selected from linear systems, approximation theory, numerical differential and integral equations, integration theory. Prerequisite: MATH 3360.

### **MATH 5362. Data Warehousing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Use SQL for manipulation and exploration of large data sets by creating tables, transforming data, using joins, and performing simple queries. Prerequisites: COSC 1310 or equivalent.

**MATH 5364. Data Science I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course centers on the identification, exploration, and description of new patterns contained within data sets using appropriate software. Selected topics will be chosen from data exploration, classification, cluster analysis, and model evaluation and comparison. Prerequisites: Probability and Statistics.

**MATH 5366. Data Science II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course centers on the identification, exploration, and extraction of new patterns from natural language text documents using appropriate software. Selected topics will be chosen from association analysis, anomaly detection, text mining, dimensionality reduction, and model evaluation and comparison. Prerequisites: MATH 5364.

**MATH 5370. History of Mathematics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A historical and philosophical development of mathematics from earliest times down to the present. Mathematical topics are presented in a historical and philosophical setting not only to provide a unifying theme, but also to illustrate how the evolution of mathematical ideas finally led to modern concepts in the field. Students having prior credit for History of Mathematics will not receive credit for MATH 5370. Prerequisite: 6 advanced hours in MATH.

**MATH 5371. Euclidean and Non-Euclidean Geometries. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on important geometric concepts of Euclidean and non-Euclidean geometries from an axiomatic perspective. Technology will be included where appropriate. Prerequisite: 3 hours of undergraduate geometry.

**MATH 5373. Theory of Functions. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to emphasize the role of function as the key unifying concept of mathematics and to extend the understanding of the structural foundations of mathematics. The properties of various families of functions will also be studied. Prerequisite: 24 hours of MATH, including MATH 2413. Course fee \$15.

**MATH 5375. Statistical Reasoning and Probability. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on statistical reasoning and decision making by extending the elements of probability and statistics introduced in an undergraduate course. Topics may include probability theory, distribution functions, statistical inference, sampling methods, regression analysis, and ANOVA. Technology will be incorporated where appropriate. Prerequisite: 3 hours of undergraduate statistics.

**MATH 5376. Algebraic Structures. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines algebraic structures in secondary and post-secondary mathematics from an advanced perspective. Analysis of algebraic concepts and underlying theory, along with the appropriate integration of manipulatives and technology in accordance with the standards of the National Council of Teachers of Mathematics, will be emphasized. Prerequisite: 24 hours of MATH at the undergraduate level, including Calculus.

**MATH 5377. In-Depth Mathematical Reasoning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of mathematics from an advanced perspective, taking into account not only the interconnections among topics but their relationship to higher mathematics. Important new mathematical insights and understandings will be revealed in its structure and its applicability. The focus will be on concept analysis, problem analysis, and mathematical connections as well as mathematical habits of mind. Prerequisite: 24 hours from MATH, including MATH 2413.

**MATH 5378. Technology-Aided Mathematics-. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will engage in mathematical problem-solving using technological tools. Technologies may include graphing handhelds, data collection devices, computer software packages, and internet resources. This course may be repeated for credit as the topic changes. Prerequisite: 24 hours of MATH, including MATH 2413.

**MATH 5379. Trends and Issues in Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In this seminar-style course, students have a forum for discussion and presentation of inquiries into the history, current trends, and issues pertaining to analysis of research trends in mathematics education and its effect on policy, curriculum, and the teaching and learning of mathematics. Prerequisite: 24 hours of MATH, including MATH 120.

**MATH 5380. Selected Topics in Mathematical Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of topics in mathematical theory appropriate for secondary mathematics educators. Topics will be selected from geometry and topology, number theory, modern algebra, and library research in mathematics. This course may be repeated for credit as the topic changes. Prerequisite: Approval of department head.

**MATH 5390. Selected Topics in Mathematics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of topics in applied mathematics. Topics for study will be selected from advanced mathematical modeling, advanced numerical techniques, practical optimizations, calculus of variations, dynamic programming, integral equations, optimal control, perturbation methods, and library research in applied mathematics. This course may be repeated for credit as the topic changes. Prerequisite: Approval of department head.

**MATH 5699. Internship. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

The student will complete a supervised and comprehensive work experience in a mathematics-related position with a public or private business organization for career preparation in a mathematics-related enterprise. Credit in this course does not count towards the 24 hour requirement for the M.S. in Mathematics. Prerequisite: Mathematics graduate student with department head approval. Field assignment fee \$75.

## Leadership and Military College

Dr. Nate Heller Acting Dean of Leadership and Military College

Leadership and Military College

## Aerospace Studies/Air Force ROTC

Dr. Nate Heller Acting Dean of Leadership and Military College

### Department of Aerospace Studies – Air Force ROTC

Tarleton State University has a Crosstown Agreement with the U.S. Air Force and Texas Christian University's Department of Aerospace Studies to provide AFROTC courses and scholarships for cadets attending Tarleton at the Stephenville and Ft Worth Campuses. Classes and labs are taught at the TCU campus in Ft. Worth on Thursday afternoons from 1:00-6:00 pm. Transportation is provided by the Office of the Commandant for all Tarleton AFROTC Cadets. If you have any questions regarding the application process, contact the TCU AFROTC office at (817) 257-7461.

### AEROSPACE STUDIES PROGRAM REQUIREMENTS

A four-year program that enables Cadets to take advantage of four years of aerospace studies courses. Each semester, for the first two years, Cadets take a one-credit hour academic class and a one-credit hour Pass/No-Credit Leadership Laboratory (LLab). The first two years collectively are referred to as the General Military Course (GMC). Upon successful completion of the GMC and an ensuing four-week Air Force paid field training course, qualified and selected students may elect to enroll in the final two years, referred to as the Professional Officer Course (POC). Each semester in the POC, students take a three-credit hour academic class and a one-credit hour Pass/No-Credit LLab. AFROTC uniforms and textbooks are issued by the unit.

### ELIGIBILITY REQUIREMENTS

- Be a full-time student (12 semester hours or more)
- Be a U.S. Citizen
- Be in good physical condition/health
- Have good moral character
- Be no older than 34 years upon commissioning

### AEROSPACE STUDIES

Enrollment in the General Military Course (first two years) is voluntary for eligible students and does not obligate non-scholarship students for further military service. The Professional Officer Course (last two years) is also voluntary but competitive. Because the Professional Officer Course leads to a commission in the U.S. Air Force, those selected to continue training will incur military obligation.

### AFROTC BENEFITS

As Air Force ROTC cadets, students are entitled to selective benefits. Social and co-curricular activities, together with leadership and academic training, are all part of Air Force ROTC. Contracted Cadets receive a nontaxable subsistence allowance each month during the school year. The detachment sponsors a Civil Air Patrol where cadets can obtain front-seat and back-seat flying time in Cessna aircraft. Drill team, honor guard and Arnold Air Honor Society are just a few social outlets for the Cadets. Summer opportunities for Cadets can include a paid visit to a military installation for two weeks, freefall parachuting, combat survival training, flight nurse shadowing and Cadet training assistant duty at field training.

### AFROTC SCHOLARSHIPS

Air Force ROTC offers scholarships that vary in length of award and amount based on academic major and applicant qualifications. All awarded scholarships pay a stipend for textbooks and fees, plus a monthly, nontaxable, stipend during the school year. Scholarship awards are based on specific academic majors related to the needs of the U.S. Air Force. These scholarship opportunities for in-college students are determined at the national level by Air Force ROTC and are subsequently administered by the detachment/Department of Aerospace Studies. Scholarship applicants are selected using the whole-person concept, which includes objective factors (i.e., GPA, standardized test scores (SAT/ACT), and physical fitness test) and subjective factors (i.e., personal evaluations). Students who are enrolled in Air Force ROTC generally improve their scholarship selection opportunity.

In addition to meeting the general qualifications mentioned above, scholarship applicants must be at least 17 years of age when the scholarship is activated and must be less than 31 years of age as of the end of their commissioning year. Because the scholarship program varies according to budget and needs of the Air Force, interested applicants should contact the Department of Aerospace Studies at (817) 257-7461 or [www.afrotc.tcu.edu](http://www.afrotc.tcu.edu) for specifics.

### AFROTC COMMISSIONING

Upon successful completion of the AFROTC Program and baccalaureate or graduate degree, a Cadet is commissioned a Second Lieutenant in the U.S. Air Force. In some instances, active service can be delayed by students continuing in post-baccalaureate degree programs.

<https://www.afrotc.com/>

### Courses

To be eligible to enroll in any of these classes, a student must be a member of the Texans Corps of Cadets. See University SAP 13.99.99.t0.01(6.1).

### Courses

#### AEST 1101. Foundation of the US Air Force I. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).

Air Force AEST 1101 in the fall and AEST 1102 in the spring: A survey course designed to introduce students to the U.S. Air Force and Air Force ROTC. Featured topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems, and an introduction to communication skills. Leadership Laboratory L100 must be taken and complements this course by providing cadets with followership experiences.

#### AEST 1102. Foundation of the US Air Force II. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).

Air Force AEST 1101 in the fall and AEST 1102 in the spring: A survey course designed to introduce students to the U.S. Air Force and Air Force ROTC. Featured topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems, and an introduction to communication skills. Leadership Laboratory L100 must be taken and complements this course by providing cadets with followership experiences.

**AEST 2101. Evolution of US Air & Space Power I. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Air and Space Power (AEST 2101 in the fall and AEST 2102 in the spring): A survey course designed to examine general aspects of air and space power through a historical perspective. Utilizing this perspective, the course covers a time period from the first balloons and dirigibles to the space-age global positioning systems of the Persian Gulf War. Historical examples are provided to extrapolate the development of Air Force capabilities (competencies), and missions (functions) to demonstrate the evolution of what has become today's USAF air and space power. Furthermore, the course examines several fundamental truths associated with war in the third dimension: e.g. Principles of War and Tenets of Air and Space Power. As a whole, this course provides the student with a knowledge level understanding for the general element and employment of air and space power, from an institutional, doctrinal, and historical perspective. In addition, the students will continue to discuss the importance of the Air Force Core Values with the use of operational examples and historical Air Force leaders and will continue to develop their communication skills. Laboratory L100 must be taken and complements this course by providing cadets with followership experiences.

**AEST 2102. Evolution of US Air & Space Power II. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Air and Space Power (AEST 2101 in the fall and AEST 2102 in the spring): A survey course designed to examine general aspects of air and space power through a historical perspective. Utilizing this perspective, the course covers a time period from the first balloons and dirigibles to the space-age global positioning systems of the Persian Gulf War. Historical examples are provided to extrapolate the development of Air Force capabilities (competencies), and missions (functions) to demonstrate the evolution of what has become today's USAF air and space power. Furthermore, the course examines several fundamental truths associated with war in the third dimension: e.g. Principles of War and Tenets of Air and Space Power. As a whole, this course provides the student with a knowledge level understanding for the general element and employment of air and space power, from an institutional, doctrinal, and historical perspective. In addition, the students will continue to discuss the importance of the Air Force Core Values with the use of operational examples and historical Air Force leaders and will continue to develop their communication skills. Laboratory L100 must be taken and complements this course by providing cadets with followership experiences.

**AEST 3301. Leadership Studies I. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

AEST 3301 is a study of leadership, management fundamentals, professional knowledge, leadership ethics and the communication skills required of a junior military officer. Case studies are used to examine leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. Course objective is for student to comprehend and apply the concepts of ethical behavior as well as comprehend the selected concepts, principles and theories of leadership and management. Laboratory L100 must be taken and consists of activities classified as leadership and management experiences. It involves the planning and controlling of military activities of the Cadet Corps; and the preparation and presentation of briefings and other oral and written communications.

**AEST 3302. Leadership Studies II. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

AEST 3302 builds upon the concepts established in AEST 3301. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. Course objective is for the student to comprehend and apply the concepts of conflict management, mentorship and counseling in a military environment, understand the principles of leadership authority and responsibility as it pertains to the military officer. Laboratory L100 must be taken and consists of activities classified as leadership and management experiences. It involves the planning and controlling of military activities of the Cadet Corps; and the preparation and presentation of briefings and other oral and written communications. Prerequisite: AEST 3301 or permission of the instructor.

**AEST 4301. National Security Affairs I. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Course is designed to examine the national security process, regional studies, advanced leadership ethics, and Air Force doctrine. Special topics of interest focus on the military as a profession, officership, military justice, civilian control of the military and current issues affecting military professionalism. Course objective is for student to comprehend basic elements of national security policy, Air Force functions and competencies and role of the military as it pertains to national security policy. Laboratory L100 must be taken and consists of activities classified as leadership and management experiences. It involves the planning and controlling of military activities of the Cadet Corps; and the preparation and presentation of briefings and other oral and written communications.

**AEST 4302. National Security Affairs II. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

AEST 4302 builds upon the concepts established in AEST 4301. Course is designed to examine the national security process, regional studies, advanced leadership ethics, and Air Force doctrine. Special topics of interest focus on responsibility, authority and functions of an Air Force Commander, the military Major Commands Area of Responsibilities, basic introduction of military law and the Code of Conduct. Laboratory L100 must be taken and consists of activities classified as leadership and management experiences. It involves the planning and controlling of military activities of the Cadet Corps; and the preparation and presentation of briefings and other oral and written communications. Prerequisite: AEST 4301 or permission of the instructor.

## Department of Leadership Studies

Maj. Gary Stratton  
Box T-0480  
Stephenville 76402  
254-968-9188

The Department of Leadership Studies offers a Minor in Leadership Studies:

### Requirements for the Minor in Leadership Studies

- Membership in the Texan Corps of Cadets and 18 hours of university-recognized leadership coursework in one of the three tracks described below. All freshman and sophomore cadets will register for ROTC courses and labs. Sophomore cadets may request an exception to enroll in LDRS courses in lieu of ROTC courses through the Office of the Commandant. The Commandant has the final authority over all exceptions. At the end of the sophomore year, cadets declare their intention to continue with ROTC courses or LDRS courses in the appropriate track:
  - Civilian Track - Successful completion of the Leadership Studies curricula combined with successful completion of the Leadership Progression in the Corps of Cadets.
  - Military Track - Successful completion of the Military Science or Aerospace studies curricula combined with successful completion of the Leadership Progression in the Corps of Cadets.
  - Combination Track - Cadets may use up to 10 credit hours from the Military Science or Aerospace Studies curricula toward completion of the 18-credit requirements above combined with successful completion of the Leadership Progression in the Corps of Cadets.
- Satisfactory completion of Leadership Progression within the Tarleton Corps of Cadets. Leadership Progression is defined as a minimum of four semesters participation in the Tarleton Corps of Cadets, including: completion of at least two Corps leadership positions, participation in weekly physical training, and passing the ROTC or Corps Physical Fitness test annually.
- Satisfactory completion of the summer training or internship, and evaluation conducted by the Department of Military Science or Department of Leadership Studies.
- A minimum grade point average of 2.5 is required in all coursework taken to fulfill the minor.
- A minimum of six hours of coursework at the 3000-level or above must be taken to fulfill the minor requirement.

## Minor in Leadership Studies

### Required Courses

Please choose one concentration from the list below.

### Additional Required Courses for Concentrations

#### Civilian Track

LDRS 1201	Basics of Self-Leadership and Staff Work	2
LDRS 1202	Leadership and the Humanities	2
LDRS 2301	Foundations of Leadership	3
LDRS 2302	Elements of Leading Teams	3
LDRS 3301	Leadership and Change	3
LDRS 3302	Leadership and Ethics	3
LDRS 4086	Independent Study	1-6
LDRS 4108	Leadership Studies Capstone	1
Total Hours		18-23

#### Military Track

MLSC 1201	Introduction to the Army	2
MLSC 1202	Foundations of Agile and Adaptive Leadership	2
MLSC 2301	Leadership and Decision Making	3
MLSC 2302	Army Doctrine and Team Development	3
MLSC 3301	Training Management and the Warfighting Functions	3
MLSC 3302	Applied Leadership in Small Unit Operations	3
MLSC 4086	Independent Study	1-6
MLSC 4301	The Army Officer	3
MLSC 4302	Company Grade Leadership	3
Total Hours		23-28

#### Combination Track

Choose 18 hours from the following with no more than 10 hours from MLSC courses. 18

LDRS 1201	Basics of Self-Leadership and Staff Work	
LDRS 1202	Leadership and the Humanities	
LDRS 2301	Foundations of Leadership	
LDRS 2302	Elements of Leading Teams	
LDRS 3301	Leadership and Change	
LDRS 3302	Leadership and Ethics	
LDRS 4086	Independent Study	
LDRS 4108	Leadership Studies Capstone	
MLSC 1201	Introduction to the Army	
MLSC 1202	Foundations of Agile and Adaptive Leadership	
MLSC 2301	Leadership and Decision Making	
MLSC 2302	Army Doctrine and Team Development	
MLSC 3301	Training Management and the Warfighting Functions	
MLSC 3302	Applied Leadership in Small Unit Operations	
MLSC 4086	Independent Study	
MLSC 4301	The Army Officer	
MLSC 4302	Company Grade Leadership	
Total Hours		18

#### Aerospace Studies

AEST 1101	Foundation of the US Air Force I	1
AEST L100	Leadership Lab <sup>1</sup>	1
AEST 1102	Foundation of the US Air Force II	1
AEST L100	Leadership Lab <sup>1</sup>	1
AEST 2101	Evolution of US Air & Space Power I	1
AEST L100	Leadership Lab <sup>1</sup>	1
AEST 2102	Evolution of US Air & Space Power II	1
AEST L100	Leadership Lab <sup>1</sup>	1
AEST 3301	Leadership Studies I	3
AEST L100	Leadership Lab <sup>1</sup>	1
AEST 3302	Leadership Studies II	3
AEST L100	Leadership Lab <sup>1</sup>	1
AEST 4301	National Security Affairs I	3
AEST L100	Leadership Lab <sup>1</sup>	1
AEST 4302	National Security Affairs II	3



AEST L100	Leadership Lab <sup>1</sup>	1
Total Hours		24

<sup>1</sup> AEST L100 Leadership Lab is required to be taken concurrently with each AEST course. Course will be repeated eight times for credit.

## Courses

### **LDRS 1100. Transitioning to University Studies, First Year Seminar (FYS) - Leadership and Military College. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

LDRS 1100 Transitioning to University Studies (First Year Seminar) – Specifically tailored for members of the Tarleton State University Corps of Cadets, this course will serve as a practical study designed to prepare cadets for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. Includes an introduction to and analysis of various topics centered on the Texan Cadet experience. Prerequisite: Membership in Corps of Cadets.

### **LDRS 1201. Basics of Self-Leadership and Staff Work. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Individual assessments to provide insights into personal traits, characteristics, and tendencies. Basic skills of time management, goal setting, and personal planning. Identifying organizational protocols and procedures. Develop interpersonal communication skills, project implementation and quality assurance. Fundamentals of reporting orally and in writing.

### **LDRS 1202. Leadership and the Humanities. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Introduction to leadership as an object of study through examination of its historical foundations and intellectual development. Readings selected from history, literature, philosophy, political theory, religion, and social theory. Emphasis on assessing these texts in light of reasoned argument and on drawing out their implications for leadership studies.

### **LDRS 2301. Foundations of Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced study of leadership theories and models. Explores major theories and applications associated with various leadership practices throughout the late 20th and early 21st centuries. Provide students the framework to critically think about their leadership philosophy and the situations they will encounter in future careers.

### **LDRS 2302. Elements of Leading Teams. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced study of team leadership and management. Explores team and group dynamics, organization, planning, and group behavior. Strategies for organizational assessment, tools for developing people within organizations, and techniques for developing and delivering training programs.

### **LDRS 3301. Leadership and Change. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This survey course introduces the student to a broad range of concepts, theories, and practices important for a basic understanding of the similarities and differences between leadership and management. Contemporary and advanced issues in change leadership such as creating a climate for change, implementing and sustaining change, building a change vision, adaptive leadership and change readiness.

### **LDRS 3302. Leadership and Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced study of important historical and contemporary ethical theories. Includes assessment and development of character and actions, application of ethical theories, their justification and relationship to society, and objective or subjective status in today's society.

### **LDRS 4086. Independent Study. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Topics vary according to student need. May be repeated for a maximum of 6 hours. Open to students of junior or senior classification. Prerequisite: Approval of the department head.

### **LDRS 4108. Leadership Studies Capstone. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Culmination of comprehensive knowledge gained about leadership and social change throughout a student's undergraduate career. Involves reflection on collegiate leadership experiences and coursework in the leadership minor. Results in student development of an electronic portfolio (i.e., ePortfolio). Prerequisites: Senior standing.

### **LDRS 4384. Leadership Field Experience. 3 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

A supervised field based internship in which the student applies skills and knowledge gained through the John Tarleton Leadership Academy. The course provides students with an opportunity to exercise leadership fundamentals, specialized language, or technical/research skills within a governmental, public, or private business organization. Prerequisite: Approval of department head.

### **LDRS 4389. Cultural Understanding and Leadership Proficiency. 3 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

This course is Cadet Professional Development Training for the Texan Corps of Cadets and is conducted at various sites outside the United States. It is designed to develop future leaders who are culturally astute, having gained experience to prepare them to lead organizations in a multi-national environment. Prerequisite: Approval of department head.

## John Tarleton Leadership Academy

Maj. Gary Stratton  
Box T-0480  
Stephenville 76420  
254-968-9188

The John Tarleton Leadership Academy (JTLA) is a leadership and character development initiative at Tarleton State University, designed to prepare individuals with marketable leadership-skills valued by business, government, and the military. JTLA combines academic course work and real-world experiences to cultivate an individual's leadership potential through three distinct, yet complementary programs, each focused-on leadership and character development.

JTLA promotes and facilitates internships for all participating Student-Cadets, with opportunities in the private sector, government agencies and the military. Through internships, the private and public workplaces seek deliberate chances to evaluate potential new hires. Typically, the first opportunity to intern occurs after the sophomore year, with a follow-on opportunity after the junior year. Ultimately, the internship enhances the opportunity for post-graduation employment. For employers, the program provides both a nonbinding short-term evaluation opportunity and an early opportunity to identify potential fulltime employees.

JTLA is designed to promote student success; to become critical thinkers, communicators, problem solvers, and to accept social responsibility. The resulting leadership development will provide students a perspective highly sought after by employers and will provide Tarleton graduates a distinct, competitive advantage in the job market. The overarching goal of the program is to provide students and faculty unique access to highly effective, successful leaders and to inspire a life-long pursuit of service and excellence.

## Military Science/Army ROTC

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# Reserve Officers' Training Corps (ROTC) Program

## Requirements for Admission

### Basic Course

All Military Science courses offered as part of the basic course are eligible for elective credit toward graduation. Course work consists of leadership development, time management, planning, physical fitness, life skills, self-confidence, and Army values. **Students do not incur any military service obligation for enrollment in the Basic Course.**

### Advanced Course

The two-year advanced course is selective and elective, in that any qualified student may apply for admission. The application requires the approval of the Professor of Military Science. Qualified students will have the following prerequisites for advanced course enrollment: at least two years of college remaining; maintain a 2.0 or better grade point average; complete the basic course or qualify by prior military training; and are physically qualified. The advanced course leads to a commission as an officer in the United States Army Reserve, Regular Army, or National Guard and is pursued under a written agreement with the Department of the Army. Advanced-course contract students are paid approximately \$9,000 for the two-year course, which includes attendance at the ROTC Advanced Camp.

### Two-Year Program

Students transferring to or currently enrolled at Tarleton, who cannot complete the Basic Course prior to becoming academic juniors or graduate students with at least two years remaining, may qualify to enter the advanced course by successfully completing a four-week Basic Course, conducted each summer at Fort Knox, Kentucky. Academic credit, travel, and pay are granted to students attending the course. Submit applications for course attendance to the Department of Military Science by April 15.

### Credit for Previous Military Training

Students with previous military training may qualify for placement directly into an advanced course. The Professor of Military Science determines the placement for each student requesting this classification. To receive placement into an advanced course, a qualified student will have four academic semesters remaining for degree completion and an overall 2.0 grade point average.

#### Veterans

Students who have prior military service may be eligible for advanced placement.

#### National Guard/Reserves

Students who are currently members of the United States Army Reserves or the Army National Guard are eligible for advanced placement under the Simultaneous Membership Program.

#### Military Science Leadership Laboratory

Practical application of classroom instruction emphasizing military small unit tactics, water survival, orienteering, physical fitness, and basic military skills. Participating students are provided all uniforms and equipment.

## Special Programs

### Basic Camp

Cadet Basic Camp is the premier leadership program of its kind in the United States. An intense four-week introduction to Army life and leadership training of the Reserve Officers' Training Corps, the aim of the course is to motivate and qualify Cadets for entry into the Senior ROTC program. Basic Camp is designed for college students, typically between their sophomore and junior years. Upon successful completion of the course, graduates can take part in ROTC at their college as a third-year student in the four-year program. While attending Basic Camp at Fort Knox, Kentucky, Cadets gain an experience that runs the gamut of Army life and the responsibilities of being an officer. The course instills confidence and decision-making abilities to become a leader, in the Army and in life. Prerequisite: Approval of department head.

### Cadet Advance Camp

The purpose of the course is to train U.S. Army ROTC Cadets to Army standards, to develop their leadership skills, and to evaluate their officer potential. Most Army Cadets attend Advanced Camp between their junior and senior undergraduate years after having contracted to join the Army. The 38-day course starts with individual training and leads to collective training, building from simple to complex tasks. This building-block approach permits integration of previously-learned skills into follow-on training. This logical, common sense training sequence is maintained for each training cycle. Every day at Advanced Camp is a day of training.

Successful completion of Advanced Camp is a prerequisite to becoming an Army officer through ROTC. Prerequisite: MLSC 3301 Training Management and the Warfighting Functions Training Management and the Warfighting Functions and MLSC 3302 Applied Leadership in Small Unit Operations, or approval of department head.

#### Cadet Practical Field Training

The CPFT program includes summer training at Army Schools for Air Assault, Basic Airborne, Mountain Warfare, Northern Warfare, Sapper (Combat Engineer), Nursing, and Special Forces Combat Diver Qualification Course. Other summer training includes special courses such as Cadet Field Training at the United States Military Academy Cadet Leadership Development (Infantry) and University Officer Training Center in the United Kingdom.

### Ranger Challenge

An adventure-oriented organization designed to develop leadership qualities, self-discipline, self-confidence, and resourcefulness through small unit tactics and inter-collegiate military skills competition. Members participate in several field training exercises during the semester. Open to all interested and qualified students with at least a 2.5 GPA.

### Cadet Troop Leader Training (CTLT)

The Cadet Troop Leader Training (CTLT) track provides Cadets the opportunity to experience leadership in Army units over a three to four-week period during the summer. Cadets serve in lieutenant-level leadership positions in active duty units. The duration of Platoon Leader positions depends on the hosting unit and location. Assignments include units that are located CONUS and OCONUS. Cadets are assigned a unit mentor, and are provided on-post lodging and meals via a Dining Facility. This program is exclusively designed for MS III Cadets before and after completion of Advanced Camp.

### Cadet Internships

Internships provide MSL I, II and III Cadets with an opportunity to exercise specialized language, technical or research skills. Internships range from three to eight weeks long. Cadets receive an Officer Evaluation Report upon completing the internship. Cadets who wish to participate in any internship must meet application requirements, submit an application packet and receive approval. Applications are due Fall of Freshman, Sophomore and Junior years. Only Cadets approved by their professor of military science and meeting all application requirements—academics, physical fitness scores, and personal statements—at the

time of application will be considered for internships. Internship applications are specialized to each program offered. Timelines for submission may vary for some internships.

### ROTC Scholarships

Competitive two-year, three-year, and four-year scholarships, which pay all tuition, laboratory fees, textbooks, and other required academic expenses or room and board, are available. All contracted Cadets receive a monthly stipend of \$420 during the academic year. Additional scholarship funds are available through the Tarleton Corps of Cadets for qualified students based on merit and performance. Historically, qualified students receive an additional \$700-\$1,000 per semester. Students can apply these funds towards room and board, tuition, or spend at their discretion.

## Military Science Minor

A student can achieve a minor in Military Science by completing 18 hours of Military Science, military history and related courses with at least 6 hours being advanced. The Professor of Military Science (PMS) must approve the coursework. **To be eligible to enroll in any of these classes, a student must be a member of the Texan Corps of Cadets.** See University Standard Administrative Procedure 13.99.99.t0.01 (6.1).

## Military Science Minor Requirements

### Minor in Military Science

#### Required Courses

Choose from the following: (6 hours must be advanced)		18
MLSC 1103	Army Physical Readiness Training	
MLSC 1201	Introduction to the Army	
MLSC 1202	Foundations of Agile and Adaptive Leadership	
MLSC 2301	Leadership and Decision Making	
MLSC 2302	Army Doctrine and Team Development	
MLSC 3301	Training Management and the Warfighting Functions	
MLSC 3302	Applied Leadership in Small Unit Operations	
MLSC 4086	Independent Study	
MLSC 4301	The Army Officer	
MLSC 4302	Company Grade Leadership	
HIST 3317	U.S. Military History	

Other courses as advised by the PMS

### Courses

#### MLSC 1201. Introduction to the Army. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).

The purpose of this course is to introduce Cadets to the personal challenges and competencies that are critical for effective leadership. Cadets learn how the personal development of life skills such as critical thinking, time management, goal setting, stress management, and comprehensive fitness relate to leadership, and the Army profession.

#### MLSC 1202. Foundations of Agile and Adaptive Leadership. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).

This course expands upon the fundamentals introduced in the previous course by focusing on communications, leadership, and problem solving. 'Life skills' lessons include: problem solving, goal setting, and interpersonal communication skills. The course also provides current information about life in the Army, the organizations of the Army, employment benefits, and work experiences expected of junior officers.

#### MLSC 2301. Leadership and Decision Making. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).

The first semester of the MS II year is designed to develop cadet's knowledge of self, self-confidence, and individual leadership skills. Through experiential learning activities, cadets develop problem solving and critical thinking skills, and apply communication, feedback and conflict resolution skills.

#### MLSC 2302. Army Doctrine and Team Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).

The second semester of the MS II year focuses on self development, guided by knowledge of self and group processes. Experiential learning activities are designed to challenge cadets' current beliefs, knowledge and skills. This course also prepares enrolled students for the ROTC Advanced Course, as well as the summer Leaders Training Course.

#### MLSC 3301. Training Management and the Warfighting Functions. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).

This course is designed to enable a student with no prior military or cadet experience to quickly learn essential cadet knowledge and skills. The course introduces the principles of physical fitness, healthy lifestyles and the Leader Development Program that will be used to evaluate leadership performance and provides cadets with developmental feedback, used throughout the year. Cadets learn how to plan and conduct individual and small unit training, as well as basic tactical principles. The course conducts a four-week study of reasoning skills and the military-specified application of these skills in the form of the Army's troop leading procedures. The final four weeks examines officership. This course serves as the first and primary course of the ROTC Advanced Courses. Prerequisites: Student must have MLSC 1201, 1202, 2301, and 2302. Students must also have approval from the Professor of Military Science to take this class. Basic Training or Cadet Initial Entry Training may be used as a substitute for the MLSC prerequisite courses.

#### MLSC 3302. Applied Leadership in Small Unit Operations. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).

This course is designed to continue the development of cadets as leaders by presenting instructions in the areas of leadership, interpersonal communications, values and ethics. The leadership module expands on key leadership concepts and provides feedback for cadet leadership self-development efforts. Interpersonal communications lessons address general communication theory as well as written and spoken communication skills. The highlight of the communication module is the opportunity for cadets to present an information briefing and receive feedback from both instructor and fellow students. Prerequisites: Student must have MLSC 1201, 1202, 2301, and 2302. Students must also have approval from the Professor of Military Science to take this class. Basic Training or Cadet Initial Entry Training may be used as a substitute for the MLSC prerequisite courses.

#### MLSC 3304. Basic Army Leadership Course. 3 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).

Application and integration of academic study and development of skills in a field setting. The Course incorporates a wide range of training events designed to develop/assess leadership and officer potential to qualify Cadets for contracting.

#### MLSC 4086. Independent Study. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).

A course open to Military Science students. Topics vary according to student need. May be repeated for a maximum of 6 hours. Open to students of junior or senior classification. Prerequisite: Approval of the department head.

**MLSC 4301. The Army Officer. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course concentrates on Army operations and training management, communications and leadership skills and supports the beginning of the final transition from cadet to lieutenant. The course enables cadets to attain knowledge and proficiency in several critical areas needed to operate effectively as an Army officer. These subjects have the added benefit of preparing cadets to lead the cadet battalion throughout the remainder of the year. At the end of this semester, cadets possess the fundamental skills, attributes, and abilities required to operate as competent leaders in the cadet battalion. Prerequisites: Student must have MLSC 1201, 1202, 2301, and 2302. Students must also have approval from the Professor of Military Science to take this class. Basic Training or Cadet Initial Entry Training may be used as a substitute for the MLSC prerequisite courses.

**MLSC 4302. Company Grade Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

The final semester course of the MS IV year trains cadets on Military Law, task organizations, maintenance, supply management, and physical training. Cadets conduct a Capstone Practical Exercise, assuming leadership roles as a lieutenant entering a new unit. The course is designed to prepare transition and groom senior cadets to become Army Officers. Prerequisites: Student must have MLSC 1201, 1202, 2301, and 2302. Students must also have approval from the Professor of Military Science to take this class. Basic Training or Cadet Initial Entry Training may be used as a substitute for the MLSC prerequisite courses.

## Texan Corps of Cadets

Dr. Nate Heller Acting Dean of Leadership and Military College

[www.tarleton.edu/cadets](http://www.tarleton.edu/cadets)

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## Accounting

### Courses

**ACCT 2301. Principles of Accounting I-Financial. 3 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).**

An introduction to financial accounting concepts and their application in the accounting process for business organizations. Includes financial statement preparation and analysis and communication of financial information. No previous knowledge of accounting required. Prerequisite: MATH 1314, MATH 1332, MATH 1324, MATH 2412, MATH 2413, MATH 1342, or concurrent enrollment, or approval of department head. Lab fee \$2.

**ACCT 2302. Principles of Accounting II-Managerial. 3 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).**

An introduction to the use of accounting information as an aid to management decision making. Includes budgeting, the control process, the classification of costs, and financial modeling. Prerequisite: ACCT 2301. Lab fee \$2.

**ACCT 3300. Accounting Concepts. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of basic accounting principles, concepts, and methods to include a review of general purpose financial statements and the accounting process. Financial accounting procedures are presented to support the overall managerial function. This course is provided for students without a previous accounting background. This course is designed to provide non-BBA students with sufficient introductory accounting to prepare them to survive in an introductory finance course. The coverage is not deep enough in either financial or managerial accounting for any recognized Bachelor of Business Administration (BBA) program. The introductory financial accounting (ACCT 2301) and managerial accounting (ACCT 2302) courses are required for all BBA majors anyway, and would better prepare those students for further studies in Finance. Therefore, credit for both ACCT 3300 and ACCT 2301 will not be permitted by the College of Business Administration.

**ACCT 3301. Business Analysis using Spreadsheets. 3 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).**

Theory and application of microcomputer technology in the practice of accounting and finance. Emphasis on the utilization of basic spreadsheet and general ledger software. Intended to stimulate creative initiative in performing accounting tasks and to develop the basic skills necessary to efficiently and effectively utilize the microcomputer. Credit for both BCIS 3301 and ACCT 3301 will not be awarded. Prerequisite: ACCT 2301 or ACCT 3300 Lab fee: \$2.

**ACCT 3302. Cost Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introductory cost course, emphasizing the accounting for material, labor, and manufacturing expenses in both job order and process cost systems. Special attention to distribution of service department cost and costing of byproducts and joint products. Prerequisite: ACCT 2302 or approval of department head.

**ACCT 3303. Intermediate Accounting I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The environment of accounting, development of standards, basic theory, financial statements, worksheets, and the application of generally accepted accounting principles for the business enterprise with emphasis on corporations. Prerequisite: ACCT 2301 or approval of department head. Lab fee: \$2.

**ACCT 3304. Intermediate Accounting II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A continuation of Intermediate I with continued emphasis on generally accepted accounting principles as applied to the business enterprise. A study of the theory and application of generally accepted accounting principles. Topics include property, plant, and equipment; intangible assets; investments; current liabilities; long term liabilities; leases; stockholder's equity; and earnings per share. Prerequisite: ACCT 3303 or approval of department head. Lab fee: \$2.

**ACCT 3305. Government and Institutional Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Budgeting, accounting, and financial reporting principles and practices for governmental and other not-for-profit entities. Credit for both ACCT 3305 and ACCT 5307 will not be permitted by the College of Business Administration (the topics covered in these two courses are equivalent from a Texas State Board of Public Accounting standpoint). Prerequisite: ACCT 3303 or approval of department head.

**ACCT 3310. Accounting Information Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Specific study of design and implementation of complex accounting information systems. An understanding of the traditional accounting model and its relationship to each type of accounting information system will be emphasized, including accounts receivable, inventory control, cost accounting, operational budgeting, and capital budgeting. Key elements of a well-designed management control system are included. Prerequisite: ACCT 2302 or approval of department head. Lab fee \$15.

**ACCT 4084. Internship. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-20 Hours).**

Directed real-world learning experience under the supervision of a practicing professional accountant. The internship assignment must be approved by an accounting internship advisor prior to enrollment. The internship must be related to the student's field of study and requires at least 320 hours of supervised work in total, including at least 160 during the semester term. Student maintains a diary of work experience gained and, at semester-end, prepares a written paper reflecting on the work experience. Student also provides to accounting internship advisor the employer's evaluation of performance and maintains records of all the listed documentation. No credit will be given for previous experience or activities. Prerequisites: Must have completed 90 semester credit hours including a minimum of 12 semester credit hours of upper division accounting course work and have at least a 2.5 GPA overall with at least a 3.0 GPA in accounting courses.

**ACCT 4086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A directed study of selected problems in accounting. May be repeated with approval of department head. Prerequisites: Approval of department head.

**ACCT 4090. Special Topics in Accounting. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

An examination of current topics in accounting. Readings required from current accounting publications and other related periodicals. May be repeated for credit when topics vary. Prerequisites: 9 hours in ACCT.

**ACCT 4301. Financial Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of financial statement analysis and accounting topics related to financial statement presentation and disclosure. Prerequisite: ACCT 3304 or approval of department head. Lab fee: \$2.

**ACCT 4303. Advanced Accounting Principles. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Special phases of partnership accounting, joint ventures, consignments, installment sales, statement of affairs and accounting for insolvent concerns, and business combinations. Prerequisite: ACCT 4301 or concurrent registration. Lab fee \$5.

**ACCT 4305. Federal Tax Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The present income tax law and regulations; income tax legislation, treasury and court decisions, departmental rulings; income tax problems and returns, social security, and self-employment taxes. Credit for both ACCT 4305 and 5305 will not be awarded. Prerequisites: ACCT 2302 or approval of department head.

**ACCT 4306. Federal Tax Accounting Advanced. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The tax consequences of doing business by corporations, partnerships, and S corporations from creation, to operating, distribution, and dissolution are discussed. Furthermore, the impact of transactions on corporations and shareholders, the partnership and its partners is emphasized throughout the course. Fiduciary relationships are also discussed. Students who have successfully completed ACCT 4306 cannot receive credit for ACCT 5306.

**ACCT 4315. Estate and Gift Tax. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is intended to provide students with a general understanding of the fundamental principles of the United States estate and gift tax system. Students will (i) learn basic principles and concepts of estate planning, (ii) learn the theoretical basis of the U.S. approach to estate and gift taxation and (iii) gain detailed knowledge of estate and gift tax issues. In addition, the course will prepare students to anticipate, recognize, and manage various issues that arise in the transfer tax system. Prerequisite: ACCT 2302.

**ACCT 4323. Ethics for Accountants. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to auditing and ethical responsibilities for auditors and other accountants in both public and private practice. Topics include generally accepted auditing standards, the standard audit report, legal responsibilities of accountants, the Code of Professional Conduct for accountants, independence, and objectivity. Includes case studies involving ethical reasoning and decision making. Credit for both ACCT 4323 and ACCT 5323 will not be awarded. Prerequisite: ACCT 3304 or concurrent enrollment.

**ACCT 4324. Auditing Evidence and Report. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Procedures used by auditors and accounting practitioners to gather and evaluate information and report on their findings. Includes evaluation of internal control, planning an audit or other engagement, compliance testing, substantive testing, statistical sampling, evaluation of findings, and preparation of reports. Credit for both ACCT 4324 and ACCT 5324 will not be permitted by the College of Business Administration (the topics covered in these two courses are equivalent from a Texas State Board of Public Accounting standpoint). Prerequisite: ACCT 3304 or equivalent.

**ACCT 4385. Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of current issues and developments in accounting. Prerequisite: Approval of department head.

**ACCT 5086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

This course offers students the opportunity to become acquainted with current research being conducted within the student's area of interest; directed reading of a number of sources selected in concert by the student's professor. Prerequisite: Approval of department head.

**ACCT 5300. Foundations of Financial Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An interdisciplinary course that examines principles of accounting, economics and finance as applied to the contemporary business organization operating in a global market place. Focuses on integration of theory and practice to develop framework for measuring, analyzing, and improving financial performance.

**ACCT 5301. Financial Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of financial statement analysis and accounting topics related to financial statement presentation and disclosure. Prerequisite: Mastery of intermediate financial accounting or department head approval.

**ACCT 5302. Cost Analysis & Control. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of management control systems, profit performance, standard and direct costing, investment Control, and long-range planning. Students who have successfully completed ACCT 3302 cannot receive credit for this course. Prerequisite: ACCT 5101.

**ACCT 5303. Accounting Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of accounting as related to problems of making business and economic decisions. Includes both financial and managerial accounting. Readings, problems, and cases requiring use of accounting data. Prerequisite: COBA 5101, or equivalent, or department head approval.

**ACCT 5304. Advanced Financial Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An intensive study of theory and practices related to advanced financial accounting topics pertaining to partnerships, joint ventures, consignments, installment sales, insolvent concerns, and business combinations. Students who have successfully completed ACCT 4303 cannot receive credit for this course. Prerequisite: ACCT 5101, Intermediate (Financial) Accounting courses, or Department Head approval.

**ACCT 5305. Federal Tax Accounting I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

General concepts of federal income taxation applicable to individuals and business entities. Students who have successfully completed ACCT 4305 cannot receive credit for this course. Prerequisite: COBA 5101 or equivalent.

**ACCT 5306. Federal Income Tax II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Survey of federal income tax laws applicable to corporations, partnerships and S-corporations, and fiduciary relationships. Students who have successfully completed ACCT 4306 cannot receive credit for this course.

**ACCT 5307. Governmental and Not-for-Profit Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course specialized in financial accounting related to state and local governments and governmental agencies, and not-for-profit organizations. Students who have successfully completed ACCT 3305 cannot receive credit for this course. Credit for both ACCT 3305 and ACCT 5307 will not be permitted by the College of Business Administration (the topics covered in these two courses are equivalent from a Texas State Board of Public Accounting standpoint). Leveling coursework may be required prior to enrollment into this course. Prerequisite: COBA 5101 or equivalent or department head approval.

**ACCT 5309. International Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examination of international accounting within the context of managing multinational enterprises (MNEs). The course will address different countries' accounting issues and International Accounting Standards by IFRIS. Prerequisites: COBA 5101 and Intermediate (Financial) Accounting courses or approval by the department head.

**ACCT 5310. Information Systems in Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in-depth study of the application of information systems knowledge to the accounting environment. Emphasis is on developing an understanding the processing of accounting data in a computer environment and the controls necessary to assure accuracy and reliability of the data being processed. Students who have successfully completed ACCT 3310 cannot receive credit for this course. Prerequisite: Mastery of intermediate financial accounting or department head approval.

**ACCT 5311. Managing Information Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies the management and use of information and technology as a resource to create competitive businesses, manage global operations, provide useful products and quality services to customers, whether public or private. Examines information systems management, intellectual property, privacy, organizational and societal impact, legal issues, ethics, security issues, decision making, strategic information systems, and management and organizational support systems. Prerequisites: BCIS 5301 or approval of department head.

**ACCT 5315. Estate and Gift Tax. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is intended to provide students with a general understanding of the fundamental principles of the United States estate and gift tax system. Students will (i) learn basic principles and concepts of estate planning, (ii) learn the theoretical basis of the U.S. approach to estate and gift taxation and (iii) gain detailed knowledge of estate and gift tax issues. In addition, the course will prepare students to anticipate, recognize, and manage various issues that arise in the transfer tax system.

**ACCT 5323. Business & Professional Ethics for Accountants. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examination of moral and ethical issues within the accounting profession and the broader business environment. Along with a general study of ethical behavior and decision making, various professional codes of conduct within the accounting profession will be examined with emphasis on accountants' integrity, independence and objectivity, and legal liability. Students who have successfully completed ACCT 4323 cannot receive credit for this course. Credit for both ACCT 4323 and ACCT 5323 will not be awarded. Prerequisite: Mastery of intermediate financial accounting or department head approval.

**ACCT 5324. Auditing and Professional Responsibility. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of financial auditing standards and procedures. Theory and practice are combined to enable the student to better understand how audits are conducted and to prepare students for the CPA examination. Students who have successfully completed ACCT 4324 cannot receive credit for this course. Credit for both ACCT 4324 and ACCT 5324 will not be permitted by the College of Business Administration (the topics covered in these two courses are equivalent from a Texas State Board of Public Accounting standpoint). Leveling coursework may be required prior to enrollment into this course. Prerequisite: Mastery of intermediate financial accounting or department head approval.

**ACCT 5325. Forensic Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will cover: types of fraud schemes; how fraud is detected and investigated; legal aspects of fraud; and how to prevent fraud in the workplace. Prerequisite: ACCT 5324.

**ACCT 5330. Advanced Managerial Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced course in managerial accounting: planning, analysis, and control. Develops the role of accountants as financial managers and members of firms' strategic management teams. Topics include developing cost estimates for managers' decision-making, measuring and reporting performance, capital budgeting, and management control systems in complex organizations. Prerequisite: Cost Accounting (ACCT 5302) or approval of department head.

**ACCT 5335. Analysis of Financial Statement Information. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of financial statement analysis and accounting topics related to financial statement presentation and disclosure. Prerequisite: Mastery of intermediate financial accounting or department head approval.

**ACCT 5357. Accounting Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A systematic study of generally accepted accounting principles and rules that govern the practical application of accounting methods. Prerequisites: Mastery of intermediate financial accounting or department head approval, ACCT 5302 or equivalent, and ACCT 5323 or equivalent. ACCT 5302 and/or ACCT 5323 may be completed concurrently with this course.

**ACCT 5384. Accounting Internship. 3 Credit Hours (Lecture: 0 Hours, Lab: 20 Hours).**

Directed real-world learning experience under the supervision of a practicing professional accountant. The internship assignment must be approved by an accounting internship advisor prior to enrollment. The internship must be related to the student's field of study and requires at least 320 hours of supervised work in total, including at least 160 during the semester term. Student maintains a diary of work experience gained and, at semester-end, prepares a written paper reflecting on the work experience. Student also provides to accounting internship advisor the employer's evaluation of performance and maintains records of all the listed documentation. No credit will be given for previous experience or activities. Prerequisite: Must have completed at least 15 graduate credit hours with at least a 3.0 GPA for all attempted course work toward the master's degree.

**ACCT 5385. Accounting Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected accounting topics of current importance to business management. May be repeated once for credit when topics vary.

**ACCT 5390. Selected Topics in Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of different financial, managerial, governmental, and not-for-profit topics in Accounting. The course may be repeated for credit as the topic changes. Prerequisite: Mastery of intermediate financial accounting or department head approval.



# Agricultural Communications

## Courses

### **ACOM 1110. Introduction to Agricultural Communication. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Focuses on the fundamentals of agricultural news writing and other communication methods. Students will learn about the history and practice of agricultural communication, the role of the media in agriculture and related fields, and careers.

### **ACOM 2301. Digital Photography Techniques for Agriculture. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course focuses on the fundamentals of Digital Photography and image editing in an agricultural setting. Topics will include livestock, wildlife, event, and portrait photography as they relate to the field of agriculture.

### **ACOM 2307. Graphic Design and Layout for Agricultural Publications. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Fundamentals of layout and design as applied to agricultural publications, such as brochures, newsletters, magazine and advertising layouts, and social media. Practical application of design principles, typography, desktop-publishing software and printing practices.

### **ACOM 3314. Writing and Editing for Agricultural Publications. 3 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Writing and editing in agricultural industries and publications. Writing agricultural articles, tightening copy, editing, copy reading, writing headlines, writing photo captions.

### **ACOM 3321. Communicating Agriculture to the Public. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course is an application of public relations writing and skills in an agricultural context. Agricultural organizations can be government-related, for-profit business, or not-for-profit commodity groups. Whatever the organization classification, they must communicate internally, among each other, and to a larger audience. This course will equip you with an understanding of public relations and help develop necessary skills to be successful communicators for the industry.

### **ACOM 4086. Problems in Agricultural Communications. 1-4 Credit Hours (Lecture: 1-4 Hours, Lab: 0 Hours).**

Individualized study of current topics in student's major concentration of study or supporting discipline. Specific content and credit dependent upon students' interest, needs, and depth of study. Maximum undergraduate credit, four semester hours. Prerequisite: Senior classification and advanced approval by academic advisor.

### **ACOM 4305. Publication Development in Agricultural Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides directed experience in the development of a commercial agricultural publication. Students will master public relations writing style, interviewing and photography skills, and sponsorship sales techniques in an agricultural context.

### **ACOM 4320. Advanced Technology in Agricultural Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of various topics, trends, technologies, and best practices in the field of Agricultural Communication. Students will work both independently and in teams to apply critical thinking and creative problem solving skills to address real-world challenges.

### **ACOM 4350. Electronic Field Production for Agricultural Communications. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course provides directed experience in agricultural television field production and electronic news gathering. Students will master video production skills such as script writing, storyboarding, camera operation, and video editing in an agricultural setting.

### **ACOM 4390. Special Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected topics in Agricultural Communication. May be repeated for credit when topics vary.

### **ACOM 4684. Internship. 6 Credit Hours (Lecture: 0 Hours, Lab: 16 Hours).**

Pre-approved and supervised work experience in an administrative systems-related position with a public or private business organization. Prerequisites: Junior classification and approval of department head. Field experience fee \$50.

# Agri and Consumer Resources

## Courses

### **ACRS 5086. Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Studies related to agricultural education, extension, service and development, international programs, and policies affecting agriculture. Prerequisite: Approval of the instructor.

### **ACRS 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when student is ready to begin the thesis. No credit until thesis is accepted. Prerequisite: Approved research methodology course and consent of major professor.

### **ACRS 5302. Leadership for Agri & Consum Res. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study and application of leadership theories and styles related to functioning in agricultural and consumer resources leadership positions.

### **ACRS 5306. Instruction in Agricultural Mechanics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Field based applications and methods of teaching agricultural mechanics. This course will emphasize the organization, management, service, and use of equipment in the instruction of agricultural mechanics. Students will also apply research methodology specific to appropriate topics.

### **ACRS 5307. Agricultural Education Programs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the secondary school agricultural education program. Topics include pre-employment, work-based learning, advisory committees, supervised agricultural experience programs, student leadership through FFA, and new program development. Students will also apply research methodology specific to appropriate topics.

### **ACRS 5310. Programmatic Leadership Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Field-based experiences designed to develop leadership ability for teaching, entrepreneurship, and conducting adult and youth organizations. Includes systems of record keeping. Students will also apply research methodology specific to appropriate topics.

### **ACRS 5311. Info Systems to ACR. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analysis of information systems used in agricultural services and development. A study of the flow of information in and among various components of the agriculture/industry/business sectors.

### **ACRS 5313. Adm & Supv of Career & Tech Ed. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theories and procedures applicable to the organization, administration, financing, and supervision of career and vocational-technical education in public and post-secondary schools. Prerequisites: Professional experience or approval of the instructor.

### **ACRS 5316. Prog Bldg in Career/Tech Ed. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Organization of educational programs in agriculture and family and consumer sciences on local, state, national and international levels. Prerequisite: Professional experience or approval of the instructor.

**ACRS 5318. Ethical/Env Iss Agri & Con Res. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Ethical and environmental issues affecting public policy as related to agricultural and consumer resources areas, such as agricultural education, family and consumer sciences' education, AgriLife extension education, agricultural business and industry. Credit for both ANSC 5318 and A ED 518 will not be awarded. Prerequisite: Approval of instructor.

**ACRS 5319. Prof Dev Agri & Consum Res. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected programs in agricultural education, AgriLife extension, service, development, international, or family & consumer sciences programs. Also will serve as state certifying course for cooperative part-time teacher preparation as topic justifies. Prerequisite: Professional experience or approval of instructor. May be repeated for credit.

**ACRS 5320. Prg& Pers Coop TX Agri Ext Ser. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Enabling legislation, program areas, teaching methods used, staffing patterns, funding, and program administration of the Cooperative Extension Service. Special emphasis on entry-level positions and responsibilities of each.

**ACRS 5321. Int'l Prog Ag & Cons Resour Ed. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The function of international agencies, organizations, foundations, religious groups, and education concerning the improvement of the quality of life for peoples in developing nations through improved, sustained agricultural production and consumer resources understanding and application. Prerequisite: Admission to College of Graduate Studies.

**ACRS 5330. Teaching Agriculture at the Postsecondary Level. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Methods and techniques of teaching agricultural subjects at the college/university level. Topics include course preparation, presentation, evaluation and post-secondary educational philosophy.

**ACRS 5331. Professional Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced discussion of techniques for communicating technical information to diverse audiences. Topics covered will include written and oral communication, using numerous formats. Prerequisite: Graduate standing.

**ACRS 5340. Methods of Tech Change. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Methods of planning and implementing change in agricultural and consumer resources techniques and practices. Special emphasis on the role of the agricultural and family and consumer sciences' change agents and the effects of change on society and the economy. Prerequisite: Approval of the instructor.

**ACRS 5350. Advanced Animal Related Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Specialized feeding, training, and fitting livestock for utilization in the approved agricultural education program. Topics include identifying, selection, and evaluating all aspects of the livestock and stock-show industries. Students will also apply research methodology specific to appropriate topics.

**ACRS 5360. Advanced Electronic Field Production for Agricultural Communications. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course provides advanced experience in agricultural television field production and electronic news gathering. Students will master video production skills such as script writing, storyboarding, camera operation, and video editing in an agricultural setting. Students will act as executive producers working with undergraduates enrolled in ACOM 4350.

**ACRS 5380. Agriculture and Food Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of agriculture and food policy at the state and national levels. Topics include a history of the legislative process, current agricultural issues, and the place of agriculture in the American political system. Graduate students will work in extracurricular policy and commodity groups. Prerequisite: Graduate status.

**ACRS 5385. Intro Seminar Agri & Con Res. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Group study and discussion of current developments in graduate education related to agricultural and consumer resources. Special emphasis given to development and maintenance of professional relationships and responsibilities in conducting a graduate education preparation experience. Prerequisite: Graduate classification.

**ACRS 5390. Advanced Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected topics in agricultural education offered as needed and dependent upon departmental, faculty, and student interest. May be repeated as topics vary.

**ACRS 5396. Analysis of Social Research Data. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide instruction and application in analyzing information specific to social research in agricultural and consumer resources. The students will calculate measures utilized in descriptive, correlational, and differential statistics. Students will also format data, build syntax commands, and interpret output from SPSS programs.

**ACRS 5397. History, Philosophy, & Policy of Agricultural & Extension Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is an investigation in philosophical perspectives that shaped the current theories and practices of agricultural and extension education. Students will research and report on specific historical events, legislation, and pioneers that shaped agricultural and extension education policy.

**ACRS 5398. Philo, Interp, Appl, of Res. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies designed to acquaint students in agricultural research techniques and demonstration related to the classroom, laboratories, work experience, and extension and adult education activities in agricultural programs. Basic concepts concerning interpretation and analysis of research data.

**ACRS 5399. Agricultural and Consumer Resources Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised professional activities in agricultural and consumer resources education/clinical teaching/AgriLife extension/industry/business settings. Emphasis is placed on the student's involvement in successful practices in the area of professional interest. Experience may be on the local, state, national, or international level. May be repeated once for credit. Prerequisite: graduate standing.

## Administration

### Courses

**ADMS 1305. Intermediate Keyboarding. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will master the alpha-numeric computer keyboard by touch, with attention to accuracy and the correct formatting of business documents such as letters, memorandums, formal reports, forms, and other business correspondence. Prerequisite: Beginning typewriting in high school or college.

**ADMS 3314. Advanced Document Production. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will prepare high-quality documents using the computer. Prerequisite: ADMS 1305.

**ADMS 3315. Word Processing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Orientation to word processing concepts terminology, procedures, and hardware. Students are given experience with basic and advanced functions of dedicated word processors and microcomputer word processing software. Prerequisite: Approval of department head.

**ADMS 3316. Advanced Word Processing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A comprehensive study of microcomputer word processing software. Students will develop proficiency in the use of word processing software through extensive hands-on experience with advanced formatting functions including macros, graphics, drawing, merging, and sorting to create documents with columns, tables, and charts. Prerequisite: ADMS 3315 or approval of department head.

**ADMS 3318. Current Issues in Business Operations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of current topics to acquaint the business student with a variety of technological changes encountered in the business environment. Prerequisite: Junior classification.

**ADMS 3319. Current Issues in Business Operations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Examination of a variety of contemporary issues affecting business operations in the areas of accounting, finance, business communication, business law, management, marketing, and economics. Prerequisite: Junior classification.

**ADMS 4086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A directed study of selected problems in administrative systems. May be repeated with department head approval. Prerequisites: Senior classification and approval of department head.

**ADMS 4313. Administrative Information Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Business information and decision support systems are examined as critical elements in business data and information systems. Emphasis is placed on data and records management systems, electronic filing and retrieval systems, reprographics systems, telecommunication systems, and machine transcription systems. The course includes discussion of current and future technological trends. Prerequisite: Junior classification.

**ADMS 4314. Administration of the Electronic Office. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles of office management, including planning, organizing, staffing, directing, and controlling are examined. Emphasis is placed on improved managerial performance, including procedures, personnel requirements, and equipment needs. Prerequisite: Junior classification.

## Alternative Dispute Resolution

### Courses

**ADRI 4341. Mediation - Methods of Dispute Resolution. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to the principles and methods of mediation and dispute resolution. Students will develop mediation skills and become familiar with the mediation process, the ethics of mediation, and various models of mediation.

**ADRI 5341. Mediation-Methods of Dispute Resolution. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to the principles and methods of mediation and dispute resolution. Students will develop mediation skills and become familiar with the mediation process, the ethics of mediation, and various models of mediation.

**ADRI 5343. Advanced Mediation Strategies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an advanced alternative dispute resolution principles and methods of mediation and dispute resolution. Students will develop mediation skills and become familiar with the mediation process, the ethics of mediation, and various models of mediation with a focus of family dynamics and the parent-child relationship. Prerequisite: ADRI 5341.

**ADRI 5344. Effective Communication Skills for ADR Specialists. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will develop the student's written and verbal skills which will be necessary for effective communication in the mediation and arbitration environment. The course includes document preparation, and interpretation, pre-mediation report evaluation, and effective internet and social media communication in the ADR (Alternative Dispute Resolution) environment.

**ADRI 5345. Arbitration-Methods of Alternative Dispute Resolution. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Arbitration involves an impartial third party responsible for collecting facts, interviewing witnesses and parties, weighing evidence and arriving at a just and appropriate decision given all the circumstances and facts. Upon completion, individuals are certified as Qualified Arbitrators, and able to provide all arbitration services as recognized by the State Bar of Texas and other state and federal jurisdictions.

**ADRI 5346. Advanced Arbitration Theory and Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced Arbitration Theory and Methods will provide the student the opportunity to develop critical thinking skills and demonstrate competencies involved with complex legal issues as an impartial third party responsible for collecting facts, interviewing witnesses and parties, weighing evidence and arriving at a just and appropriate decision given all the circumstances and facts. Prerequisite: ADRI 5345.

**ADRI 5347. Negotiations and Collective Bargaining. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In this course students will examine the practical aspects of negotiations, collective bargaining, motives of participants, the labor contracts; strategy and tactics of bargaining as it applies to the world of Criminology and Criminal Justice. Emphasis will be on negotiations and collective bargaining in both unions and bargaining in the private sector and a special focus on Ethics. This course is intended to give students an understanding of why collective bargaining occurs, the nature and complexity of its operation, what effects it has on workers, organizations, and consumers, and how it fits into the American economic, political, and social systems. Credits will not be awarded for both ADRI 5347 and ADRI 6347. Prerequisite: ADRI 5341.

**ADRI 5384. Mediation Practicum/Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an application of the skills learned in the Basic Mediation and Advanced Mediation courses. Students will participate in 'live' mediation settings to enhance their ability to conduct mediations and practice using the principles and methods of mediation. Students will be able to demonstrate and develop mediation skills and become familiar with the mediation process, the ethics of mediation, and various models of mediation. Credits will not be awarded for both ADRI 5384 and ADRI 6384. Prerequisites: ADRI 5341 and ADRI 5343.

**ADRI 5390. Independent Study. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Specific topic and contents of the course will be determined by the student in consultation with the instructor, with whom the student meets regularly for supervision of the study. May be repeated to a maximum of six semester hours. Permission of the graduate advisor required. Prerequisite: Instructor permission.

**ADRI 6341. Mediation-Methods of Dispute Resolution. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to the principles and methods of mediation and dispute resolution. Students will develop mediation skills and become familiar with the mediation process, the ethics of mediation, and various models of mediation. Credit will not be awarded for both ADRI 5341 and ADRI 6341.

**ADRI 6343. Advanced Mediation Strategies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an advanced alternative dispute resolution principles and methods of mediation and dispute resolution. Students will develop mediation skills and become familiar with the mediation process, the ethics of mediation, and various models of mediation with a focus of family dynamics and the parent-child relationship. Credit will not be given for both ADRI 5343 and ADRI 6343. Prerequisites: ADRI 5341 or ADRI 6341.

**ADRI 6344. Effective Communication Skills for ADR Specialists. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will develop the student's written and verbal skills which will be necessary for effective communication in the mediation and arbitration environment. The course includes document preparation, and interpretation, pre-mediation report evaluation, and effective internet and social media communication in the ADR (Alternative Dispute Resolution) environment. Credit will not be allowed for both ADRI 5344 and ADRI 6344.

**ADRI 6345. Arbitration-Method of Alternative Dispute Resolution. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Arbitration involves an impartial third party responsible for collecting facts, interviewing witnesses and parties, weighing evidence and arriving at a just and appropriate decision given all the circumstances and facts. Upon completion, individuals are certified as Qualified Arbitrators, and able to provide all arbitration services as recognized by the State Bar of Texas and other state and federal jurisdictions. Credit will not be awarded for both ADRI 5345 and ADRI 6345.

**ADRI 6346. Advanced Arbitration Theory and Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced Arbitration Theory and Methods will provide the student the opportunity to develop critical thinking skills and demonstrate competencies involved with complex legal issues as an impartial third party responsible for collecting facts, interviewing witnesses and parties, weighing evidence and arriving at a just and appropriate decision given all the circumstances and facts. Credit will not be awarded for both ADRI 6346 and ADRI 5346. Prerequisites: ADRI 5345 or ADRI 6345.

**ADRI 6347. Negotiations and Collective Bargaining. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In this course students will examine the practical aspects of negotiations, collective bargaining, motives of participants, the labor contracts; strategy and tactics of bargaining as it applies to the world of Criminology and Criminal Justice. Emphasis will be on negotiations and collective bargaining in both unions and bargaining in the private sector and a special focus on Ethics. This course is intended to give students an understanding of why collective bargaining occurs, the nature and complexity of its operation, what effects it has on workers, organizations, and consumers, and how it fits into the American economic, political, and social systems. Credit will not be allowed for both ADRI 5347 and ADRI 6347 Prerequisite: ADRI 5341 or ADRI 6341.

**ADRI 6384. Mediation Practicum/Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an application of the skills learned in the Basic Mediation and Advanced Mediation courses. Students will participate in 'live' mediation settings to enhance their ability to conduct mediations and practice using the principles and methods of mediation. Students will be able to demonstrate and develop mediation skills and become familiar with the mediation process, the ethics of mediation, and various models of mediation. Credit will not be awarded for both ADRI 6384 and ADRI 5384. Prerequisites: ADRI 5341 or ADRI 6351 and ADRI 5343 or ADRI 6343.

## Agricultural Economics

### Courses

**AGEC 1309. Microcomputer Applications in Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Microcomputer technology applied to management, record keeping, and agribusiness. Emphasis on the application of database, spreadsheet, and other business software in various agricultural environments. Lab fee: \$2.

**AGEC 2305. Consumer Issues & Decision Making. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Designed to make the student an intelligent consumer of goods and services and to understand consumer decision-making in the marketplace. Major influences on consumer problems, fraud, protection, and consumer behavior.

**AGEC 2317. Introductory Agricultural Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to economics principles and concepts in agriculture today as they relate to the American economic system. Emphasis will be on management problem-solving techniques under various situations, especially those agricultural in nature, including producing, processing, distributing, and consuming farm and ranch products.

**AGEC 3312. Production Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Application of economic production principles in solving resource allocation problems in agriculture and agribusiness. Prerequisites: MATH 1324 or MATH 1325, and either AGRI/AGEC 2317 OR ECON 2302, or permission of instructor.

**AGEC 3314. The Agricultural Marketing System. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introductory course covering the principles, practices, institutions, functions, and problems involved in the marketing of agricultural commodities. Prerequisite: AGRI 2317/AGEC 2317 or ECON 2302.

**AGEC 3317. Agricultural Statistics. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Statistical principles and methods in analyzing agricultural and economic data to solve problems relating to production, consumption, and cost/profit optimization. Provides a basic background in statistical analysis and related computer applications. Prerequisite: MATH 1314 or higher, or approval of instructor. Lab fee: \$2.

**AGEC 3330. Agricultural Credit. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Emphasis will be on building Balance Sheets, Income/Expenses Statements, Collateral Analysis, Credit Action Forms and Financial Analysis. Prerequisites: AGRI 2317/AGEC 2317 and MATH 1314 or higher, or approval of instructor.

**AGEC 3333. Agriculture Prices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Factors affecting commodity prices, price trends and seasonal variations, parity prices, methods of forecasting demand and prices, and economic tools and techniques for making decisions. Prerequisites: AGRI 2317/AGEC 2317, AGRI 1309/AGEC 1309, and AGEC 3314. Lab fee \$15.

**AGEC 3359. Personal & Family Financial Management I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Planning, managing, and purchasing decisions to achieve individual and family financial goals.

**AGEC 3360. Personal & Family Financial Management II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Individual and family planning for insurance, risk management, investments, retirement, and estates.

**AGEC 4086. Agricultural Economics Problems. 1-4 Credit Hours (Lecture: 0 Hours, Lab: 1-4 Hours).**

Individualized study of current topics in student's major concentration of study or supporting discipline. Specific content and credit dependent upon student's interest, needs, and depth of study. Maximum undergraduate credit, four semester hours. Prerequisite: Senior classification and advance approval by instructor of record.

**AGEC 4088. Undergraduate Research. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

Fundamental research methods will be addressed through a faculty-directed project. Participation in an abbreviated lecture series may be required. Project components may include a literature review, data collection and analysis, testing, planning, project design, and/or computer modeling. The student is required to prepare a final report and produce a presentation. No credit is awarded until the report and presentation are submitted. Only one undergraduate research experience will be counted toward degree requirements. Prerequisite: Junior Standing, completion of 12 hours in AGEC, and approval of department head.

**AGEC 4090. Special Topics. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Selected topics in agriculture or agribusiness. May be repeated for credit when content varies, to a maximum of six hours.

**AGEC 4301. Public Agricultural Food Programs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Identification and analysis of alternative governmental programs and policies affecting prices and quantities of agricultural commodities, farmer-rancher incomes, food supplies and consumer prices, and domestic and foreign food distribution and trade. Consideration of relevant political and economic factors, administrative aspects, and the policy participants. Prerequisites: AGRI 2317/AGEC 2317 or two semesters of economics and junior classification.

**AGEC 4302. International Trade and Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Role of U.S. agriculture in a dynamic world economy; national and international policies, institutions, exchange rates, tariffs, and non-tariff barriers that impact US agribusiness trade. Prerequisites: AGEC 2317 or 3 hours of economics and junior or senior classification. Prerequisite: AGEC 2317 or 3 hours of economics and junior or senior classification.

**AGEC 4306. Commodity Futures Markets. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the organization and functioning of futures markets. Analysis of the economic function performed by markets, and study of fundamental and technical approaches to market forecasting. Examination of various trading strategies applied primarily to agricultural commodities. Prerequisites: AGRI 2317/AGEC 2317 or ECON 2302; AGRI 1309/AGEC 1309 and AGEC 3314.

**AGEC 4317. Applied Quantitative Methods. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Application of quantitative techniques used to support managerial decision-making and resource allocation. Exposure to mathematical and statistical tools (regression analysis, mathematical programming, simulation) used in economic analysis in Agribusiness. Credit for AGEC 4317 or AGEC 5317 not both. Prerequisite: AGEC 3317 or BUSI 3317 or instructor approval.

**AGEC 4321. Regional Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Analysis of regional/community economic problems in the United States. Application of economic principles and theory to regional/community development. Evaluation of current methods and public programs for economic development. Application of analytical methods to development problems. Credit for both AGEC 4321 and ECON 4321 will not be awarded. Prerequisite: AGEC 2317/AGRI 2317 or ECON 2302.

**AGEC 4325. Recreation and Tourism Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Benefit-cost frameworks in public planning for outdoor recreation development, pricing problems, market demand assessment, and impacts of recreational development on regional economies. Prerequisites: ECON 2301, and either AGECE/AGRI 2317 or ECON 2302.

**AGEC 4330. Agricultural Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analysis of the capital requirements for farming and ranching; principles involved in the use of each type of farm credit. Prerequisites: AGECE 3330 and ACCT 2302.

**AGEC 4333. Economics of Agribusiness Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Economic aspects of the agribusiness system. Management techniques related to problem recognition and decision making in organizations involved in the agricultural sector. Prerequisites: AGECE 2317/AGRI 2317 or ECON 2302 and AGECE 3314.

**AGEC 4335. Farm Appraisal. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Techniques for evaluating the market value of agricultural real estate using three common approaches: sales comparison, cost, and income. Analyzing effects of different farm characteristics on farm value. Prerequisite: AGECE 3330 or AGECE 4330.

**AGEC 4336. Estate Planning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Tools and techniques to plan for the accumulation, conservation, and distribution of wealth. Synthesis of financial, legal, and personal considerations to achieve estate planning and wealth transfer goals. Students are encouraged to have completed ACCT 4305, AGECE 3359, AGECE 3360, BLAW 4333.

**AGEC 4341. Financial Planning/Development Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Retirement planning, qualified and non-qualified retirement plans, Social Security provisions, government and private sector healthcare plans, and basics of employee benefits. Focus on quantitative (i.e., calculating retirement needs and plan limits) and qualitative (i.e., retirement age decisions, retirement income management) aspects of retirement. Prerequisite: Students must have completed one of the following courses: ACCT 4305, AGECE 3359, AGECE 3360, FINC 3301, FINC 4308.

**AGEC 4350. Natural Resource Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Natural resource availability, use, conservation, and government policy relevant to crop and livestock production. Current and emerging natural resource issues affecting production agriculture and agribusiness firms. Evaluation of the farm economic impacts of natural resource policies at the state and federal levels. Prerequisites: AGECE 2317 or ECON 2302 and Junior or Senior classification.

**AGEC 4370. Family and Economic Issues. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focus is the intricate relationship between family management, the economic environment, non-economic and social changes and related planning and decisions in the family life cycle. Prerequisite: AGECE 3359 or AGECE 3360.

**AGEC 4384. Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An approved, supervised, comprehensive work experience consisting of a minimum of 240 hours(6 weeks) for career preparation in an agribusiness enterprise. Prerequisite: Completion of 24 hours in AGECE and instructor approval.

**AGEC 5086. Agricultural Economics Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Advanced independent study and research in agricultural economics topics. A written report will be submitted to the supervising professor. Prerequisite: Approval of instructor of record.

**AGEC 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when student is ready to begin the thesis. No credit until thesis is accepted. Prerequisites: Approved research methodology course and consent of major professor.

**AGEC 5301. Environmental Issues and Agricultural Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Current and emerging problems in economics of environmental issues relating to agriculture and agribusiness firms. Examination of policy issues, institutions, and legal and political constraints in relation to environmental quality and agricultural resources. Prerequisites: Principles of Macroeconomics and Intermediate Microeconomics, or approval of instructor of record.

**AGEC 5310. Advanced Farm and Ranch Management. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Economic theory and business principles applied to the organization and operation of farm and ranch businesses. Emphasis will be on farm budgeting and decision making, selecting and combining enterprises, analyzing farm investment alternatives, farm growth strategies, risk, and uncertainty. Prerequisite: Introductory course on Agricultural Marketing. Lab fee: \$2.

**AGEC 5312. Production & Operations Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analysis of the production and operations function from a problem-solving and quantitative models approach. Prerequisite: Approval of instructor of record.

**AGEC 5314. Advanced Agricultural Marketing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Market development concepts, practices, and strategies for food and fiber products. Causes, effects, and relationships to business and consumer economics. Strategies for price risk management in buying and selling agricultural products. Prerequisites: Intermediate Microeconomics and an introductory course on Agricultural Marketing, or approval of instructor of record.

**AGEC 5317. Adv. Applied Quantitative Methods. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Advanced application of quantitative techniques used to support managerial decision-making and resource allocation. Exposure to mathematical and statistical tools (regression analysis, mathematical programming, simulation) used in economic analysis in Agribusiness. Credit for AGECE 4317 or AGECE 5317 not both.

**AGEC 5333. Management Practices of Agribusiness. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the choices, decisions, strategies and organizational behavior of agribusiness firms and their management. Primary emphasis will be given to the managerial practices of food and agricultural supply firms in the agri-food industry. Prerequisites: Agricultural Finance or equivalent finance course, an introductory course in Agricultural Marketing or equivalent marketing course, and Principles of Management; or approval of instructor of record.

**AGEC 5390. Advanced Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies in mathematical economics, input-output analysis, linear programming, social benefit-cost analysis, risk management, or other advanced topics as offered. Prior academic training requirements vary with topic. May be repeated once as topic varies. Prerequisite: Consent of instructor.

**AGEC 5396. Analysis of Social Research Data. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Application of contingency tables, and descriptive, differential, and correlational statistics to social research data. Data formatting, syntax operations, procedure options, and interpretation of statistical program output.

**AGEC 5399. Agricultural and Consumer Resources Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised professional activities in agricultural and consumer resources education/clinical teaching/AgriLife extension/industry/business settings. Emphasis is placed on the student's involvement in successful practices in the area of professional interest. Experience may be on the local, state, national, or international level. May be repeated once for credit. Prerequisites: Graduate standing.

## Aerospace Studies

### Courses

**AEST 1101. Foundation of the US Air Force I. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Air Force AEST 1101 in the fall and AEST 1102 in the spring: A survey course designed to introduce students to the U.S. Air Force and Air Force ROTC. Featured topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems, and an introduction to communication skills. Leadership Laboratory L100 must be taken and complements this course by providing cadets with followership experiences.

**AEST 1102. Foundation of the US Air Force II. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Air Force AEST 1101 in the fall and AEST 1102 in the spring: A survey course designed to introduce students to the U.S. Air Force and Air Force ROTC. Featured topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems, and an introduction to communication skills. Leadership Laboratory L100 must be taken and complements this course by providing cadets with followership experiences.

**AEST 2101. Evolution of US Air & Space Power I. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Air and Space Power (AEST 2101 in the fall and AEST 2102 in the spring): A survey course designed to examine general aspects of air and space power through a historical perspective. Utilizing this perspective, the course covers a time period from the first balloons and dirigibles to the space-age global positioning systems of the Persian Gulf War. Historical examples are provided to extrapolate the development of Air Force capabilities (competencies), and missions (functions) to demonstrate the evolution of what has become today's USAF air and space power. Furthermore, the course examines several fundamental truths associated with war in the third dimension: e.g. Principles of War and Tenets of Air and Space Power. As a whole, this course provides the student with a knowledge level understanding for the general element and employment of air and space power, from an institutional, doctrinal, and historical perspective. In addition, the students will continue to discuss the importance of the Air Force Core Values with the use of operational examples and historical Air Force leaders and will continue to develop their communication skills. Laboratory L100 must be taken and complements this course by providing cadets with followership experiences.

**AEST 2102. Evolution of US Air & Space Power II. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Air and Space Power (AEST 2101 in the fall and AEST 2102 in the spring): A survey course designed to examine general aspects of air and space power through a historical perspective. Utilizing this perspective, the course covers a time period from the first balloons and dirigibles to the space-age global positioning systems of the Persian Gulf War. Historical examples are provided to extrapolate the development of Air Force capabilities (competencies), and missions (functions) to demonstrate the evolution of what has become today's USAF air and space power. Furthermore, the course examines several fundamental truths associated with war in the third dimension: e.g. Principles of War and Tenets of Air and Space Power. As a whole, this course provides the student with a knowledge level understanding for the general element and employment of air and space power, from an institutional, doctrinal, and historical perspective. In addition, the students will continue to discuss the importance of the Air Force Core Values with the use of operational examples and historical Air Force leaders and will continue to develop their communication skills. Laboratory L100 must be taken and complements this course by providing cadets with followership experiences.

**AEST 3301. Leadership Studies I. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

AEST 3301 is a study of leadership, management fundamentals, professional knowledge, leadership ethics and the communication skills required of a junior military officer. Case studies are used to examine leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. Course objective is for student to comprehend and apply the concepts of ethical behavior as well as comprehend the selected concepts, principles and theories of leadership and management. Laboratory L100 must be taken and consists of activities classified as leadership and management experiences. It involves the planning and controlling of military activities of the Cadet Corps; and the preparation and presentation of briefings and other oral and written communications.

**AEST 3302. Leadership Studies II. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

AEST 3302 builds upon the concepts established in AEST 3301. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. Course objective is for the student to comprehend and apply the concepts of conflict management, mentorship and counseling in a military environment, understand the principles of leadership authority and responsibility as it pertains to the military officer. Laboratory L100 must be taken and consists of activities classified as leadership and management experiences. It involves the planning and controlling of military activities of the Cadet Corps; and the preparation and presentation of briefings and other oral and written communications. Prerequisite: AEST 3301 or permission of the instructor.

**AEST 4301. National Security Affairs I. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Course is designed to examine the national security process, regional studies, advanced leadership ethics, and Air Force doctrine. Special topics of interest focus on the military as a profession, officership, military justice, civilian control of the military and current issues affecting military professionalism. Course objective is for student to comprehend basic elements of national security policy, Air Force functions and competencies and role of the military as it pertains to national security policy. Laboratory L100 must be taken and consists of activities classified as leadership and management experiences. It involves the planning and controlling of military activities of the Cadet Corps; and the preparation and presentation of briefings and other oral and written communications.

**AEST 4302. National Security Affairs II. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

AEST 4302 builds upon the concepts established in AEST 4301. Course is designed to examine the national security process, regional studies, advanced leadership ethics, and Air Force doctrine. Special topics of interest focus on responsibility, authority and functions of an Air Force Commander, the military Major Commands Area of Responsibilities, basic introduction of military law and the Code of Conduct. Laboratory L100 must be taken and consists of activities classified as leadership and management experiences. It involves the planning and controlling of military activities of the Cadet Corps; and the preparation and presentation of briefings and other oral and written communications. Prerequisite: AEST 4301 or permission of the instructor.

**AEST L100. Leadership Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 1 Hour).**

Leadership Lab (LLab) is the "hands-on" leadership training portion of the Air Force ROTC program. The Leadership Lab (LLab) also includes studying the environment of an Air Force officer and learning about areas of opportunity available to commissioned officers. The AEST3000 and AEST4000 LLabs consist of activities classified as leadership and management experiences. They involve the planning and controlling of military activities of the cadet corps; and the preparation and presentation of briefings and other oral and written communications. LLabs also include interviews, guidance, and information which will increase the understanding, motivation, and performance of other cadets. (This course is only offered as P/NC.).

## Agriculture and Natural Resources

### Courses

**AGNR 1188. Introduction to Research. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Fundamentals of conducting scientific research in agriculture and natural resources. Overview of project development, design, methodology, ethics, and reporting.

**AGNR 4088. Undergraduate Research. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

Scientific research under the direction of an assigned faculty mentor. Components of the research project may include, but are not limited to, review of literature, project design, data collection, chemical analysis, data analysis, and synthesis of results for dissemination.

**AGNR 4199. Undergraduate Research Forum. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Synthesis of research results, composition of scientific writing, and presentation of undergraduate research to departmental faculty.

# Agriculture

## Courses

**AGRI 1100. Transitioning to University Studies in Environmental and Agricultural Management. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective.

**AGRI 1107. Agronomy Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

This laboratory-based course accompanies AGRI 1307. Laboratory activities will reinforce the fundamental principles in the development, production, and management of field crops including growth and development, climate, plant requirements, pest management, and production methods. Prerequisite: AGRI 1307 or concurrent enrollment.

**AGRI 1307. Agronomy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles and practices in the development, production, and management of field crops including growth and development, climate, plant requirements, pest management, and production methods.

**AGRI 1309. Microcomputer Applications in Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Microcomputer technology applied to management, record keeping, and agribusiness. Emphasis on the application of database, spreadsheet, and other business software in various agricultural environments. Lab fee \$2.

**AGRI 1311. Dairy Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the dairy industry, dairy breeds, standards for selection and culling, herd replacements, feeding, management, and health maintenance. The food value, composition and quality, utilization, and processing of market milk and dairy products will be discussed.

**AGRI 1419. General Animal Science. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

The scientific study of animal agriculture involving beef cattle, dairy cattle, swine, sheep, goats, and horses. Topics covered will include general management practices, reproduction, nutrition, health, handling, genetic selection, shelter/housing and marketing strategies and procedures. Lab fee: \$2.

**AGRI 2301. Agricultural Power Units. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Fundamentals of internal combustion engine operation to include gasoline, diesel, and liquefied petroleum. Preventative maintenance and general servicing of tractor engine systems: intake & exhaust; fuel; lubrication; cooling; electrical; power trains; and hydraulic. Also covered are tractor tune-up; small engine operation maintenance & reconditioning; and plumbing & irrigation power systems. Lab fee: \$2.

**AGRI 2303. Agricultural Construction I. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

A course designed to acquaint students with principles and application of carpentry, tool maintenance, tool and hardware nomenclature, preparation of drawings and bills of materials, blueprint reading, and the preparation and use of concrete. Also included are maintenance needs for the home and agricultural buildings. Lab fee: \$2.

**AGRI 2304. Introductory Metals and Welding. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Cold metal work, soldering, pipe fitting, tool conditioning, hardware nomenclature, arc and oxyacetylene welding. Lab fee: \$2.

**AGRI 2317. Introductory Agricultural Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to economics principles and concepts in agriculture today as they relate to the American economic system. Emphasis will be on management problem-solving techniques under various situations, especially those agricultural in nature, including producing, processing, distributing, and consuming farm and ranch products.

**AGRI 2330. Wildlife Conservation and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles and practices used in the conservation and management of wildlife resources. Aesthetic, ecological, and recreational uses of public and private lands. Intended for non-wildlife and non-science majors; will not count toward Wildlife Science option in the BS in Wildlife, Sustainability, and Ecosystem Sciences and is not a prerequisite for advanced WSES courses.

**AGRI 3409. Genetics. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Fundamental principles of genetics: variation, heredity, and interaction of genes, linkage, sex linkage, and mutation. Special emphasis given to breeding of farm crops and domestic animals. Laboratory includes demonstration of Mendelian ratios with field crops and *Drosophila* and an introduction to statistical methods as applied to agricultural research. Prerequisite: BIOL 1406 or 1407 and junior classification. Lab fee \$7.

**AGRI 4350. Retail Merchandising of Agricultural Products. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

Management of a retail store with emphasis on agricultural products, including meat, produce, live plants, and processed foods. Display, care, merchandising, inventory control, customer relations, and point of sale. Laboratory involves working shifts in the College of Agricultural and Environmental Sciences retail center and associated facilities.

# Agri Services and Development

## Courses

**AGSD 1100. Transitioning to University Studies in Agriculture Services and Development. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective.

**AGSD 1110. Introduction to Agricultural Services & Development. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

An introduction to the careers, opportunities, and skills needed within the agricultural services professions. Topics will include agricultural education, agricultural extension, agricultural industries, and general agriculture.

**AGSD 2306. Introduction to Mechanical Agriculture. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Introduction to current and emerging topics and industry related to agricultural mechanization and the use of mechanical principals in agricultural settings. Includes safe facility practices, construction practices, electrical energy, precision agriculture, nanotechnology, theory of the fusion of metals, efficiency of internal combustion engines, and other mechanical technology-related subjects.

**AGSD 2307. SAE Development in Agricultural Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will foster information assimilation, critical thinking and problem solving skills necessary to successfully manage a supervised agricultural experience (SAE) or any business that uses generally accepted accounting principles and business management knowledge and skills. Information, concepts and skills applied in this course will provide a foundational knowledge to be used in the implementation of recordkeeping practices in a supervised agricultural experience (SAE).

**AGSD 2311. Applied Agricultural Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Collection and computer analysis of data and records related to production agricultural enterprises. Problem-solving techniques related to the areas of animal science, agronomy, agricultural business, and agricultural mechanization are stressed.

**AGSD 2330. History and Philosophy of the Cooperative Extension Service. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the Cooperative Extension Service, the philosophy of Cooperative Extension, and Extension's role within the Land-Grant system. History, organization, program areas, and guiding principles of Cooperative Extension are discussed in detail.

**AGSD 3101. Analysis of Agricultural Occupations. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

A course to advance student understanding of professional occupations in agriculture and the professional and technical competencies required.

**AGSD 3301. Advanced Agricultural Power Units. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Investigation of modern power systems on agricultural equipment, agricultural safety, internal combustion operation, preventative maintenance and general servicing of tractor systems, hydraulics, and powertrain operations. Prerequisite: Sophomore classification.

**AGSD 3302. Agricultural Sales and Services. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Application of successful selling. Principles and practices in providing farm and ranch operations with agricultural materials, supplies, equipment, and services. Seller aspects involved in the marketing of farm and ranch products by farm-related agribusinesses. Career opportunities and preparation in agricultural sales and services will be explored.

**AGSD 3306. Lab Techniques in Agricultural Mechanics. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

The development of mechanical laboratory skills used in the teaching of agriculture with emphasis on electrical, construction, and environmental topics. Laboratory management and maintenance for effective teaching will also be emphasized. Lab fee: \$2.

**AGSD 3307. Premier Leadership in Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Study and application of leadership skills related to agricultural education in middle/secondary agricultural education programs.

**AGSD 3318. Land Surveying and Soil/Water Conservation Practices. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Surveying principles including leveling, total station, laser levels, and mapping as applied to agriculture. The utilization of GPS in the agricultural industry. Planning and development of structures for surface water and waste water management. Lab fee \$10.

**AGSD 3325. Agricultural Electrical Systems. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Elements of: electric current generation and transmission, agricultural applications of electric heating, lighting and power, wiring, motors, and power rates. Also includes National Electrical Code and maintenance of air conditioning and cooling systems. Lab fee \$16.

**AGSD 3326. Precision Agricultural Equipment Management and Operation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course provides an overview of current precision agriculture technologies, mapping methods, equipment operation, equipment setup, and equipment troubleshooting. Students can expect to be engaged in equipment operation in a broad range of agricultural experiences that deal with current precision equipment and techniques.

**AGSD 3329. Farm Utilities. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Farm water supply, sewage disposal, heating and ventilating system, farm refrigeration and farmstead layouts. Lab fee \$6.

**AGSD 3330. 4-H and Youth Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of 4-H and Youth Development programs within the Cooperative Extension Service. Volunteer management and guiding principles of the 4-H and Youth Development program will be discussed. Information, concepts and skills applied in this course will provide a foundational knowledge to be used in the implementation of developing and/or managing a 4-H and Youth Development program within the Cooperative Extension System.

**AGSD 3340. Agricultural Field Machinery. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Principles of construction, operation, adjustment, calibration, and repair of agricultural tillage, planting, cultivating, spraying, fertilizing, and harvesting machinery. Laboratory activities include set-up of new equipment, wear analysis and repair of used equipment, calibration of equipment, and field operations. Lab fee \$12.

**AGSD 3380. Formulation of Agriculture & Food Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the past and present development of agriculture and food policy at the state and national levels. Topics include a history of the legislative process, current agricultural issues, and the place of agriculture in the American political system.

**AGSD 4086. Problems in Agricultural Services. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Independent study in an area of specialization. May be repeated for a maximum of 6 hours credit when topics differ. Prerequisite: Approval of department head.

**AGSD 4185. Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

A review of current problems and developments in agricultural services; professional opportunities and responsibilities; individual investigations and reports. Prerequisite: Senior classification.

**AGSD 4302. Processing and Storage of Agricultural Products. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The mechanical processes used in the processing and storage of grains, forages, nuts, and other agricultural products along with factors important to maintaining product quality during storage and processing. Lab fee \$6.

**AGSD 4305. Agricultural Mechanical Services. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Applications of advanced phases in agricultural mechanics. The course will emphasize the organization, management, service, and use of equipment in all areas of agricultural mechanics. Prerequisite: Senior classification Lab fee: \$2.

**AGSD 4306. Agricultural Mechanical Services and Instruction. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Field-based applications of agricultural mechanics instruction. This course will emphasize the organization, management, service, and use of equipment in all areas of agricultural mechanics instruction. Prerequisite: AGRI 2301 OR AGRI 2304 Lab fee: \$2.

**AGSD 4307. Program Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of curriculum and programmatic management for all aspects of the secondary/middle school agricultural science and technology program. Topics include pre-employment laboratories, work-based learning, advisory committees, supervised agricultural experience programs, new program development/implementation, foundations of agricultural education, program activism, and incorporating Agricultural Science and Technology into the total school curriculum.

**AGSD 4310. Leadership Development. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Field-based experiences designed to develop leadership ability for teaching, entrepreneurship, and conducting adult and youth organizations. Includes systems of record keeping. Lab fee: \$2.

**AGSD 4320. Agriscience Course Building. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Field-based experiences are provided in a school setting where students will prepare and deliver units of instruction for middle school and secondary programs; develop unit and daily lesson plans, reports; manage curriculum issues; examine various models of instruction; implement brain-based teaching and learning techniques, analyze classroom management strategies, and demonstrate competencies in effective teaching practices. Prerequisite: EDUC 3321, EDUC 4331, EDSP 4361 and READ 3351 Lab fee \$2.

**AGSD 4325. Agriculture Safety and Health. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Protecting agricultural workers and the general public in our age of technological and scientific advancement has become one of the most challenging and rewarding career fields. This online agricultural safety and health class will prepare you to respond to these needs, to analyze hazardous agricultural and rural public health situations, to develop and implement safety programs, and apply governmental regulations associated with production agriculture.

**AGSD 4326. National Agricultural Education Outreach Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in-depth course designed to give students hands-on experience with developing a national agricultural education outreach program. Student will be required to travel to the National FFA Convention in the fall semester to deliver the program at the National FFA Convention. Students will need to submit an application for course enrollment. Prerequisite: Instructor approval.

**AGSD 4330. Agricultural Extension and Industry Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Agricultural extension in agriculture and the agriculture industry. Objectives include organization, methods, and program building. Prerequisite: Approval of department head.



**AGSD 4350. Animal Related Systems. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Specialized feeding, training, and fitting livestock for sales and advertising. Specialized topics in identifying, selecting, and evaluating poultry and poultry products, horses, and dairy and dairy products. Prerequisites: Senior classification and AGRI 1419 Lab fee: \$2.

**AGSD 4355. Mexican Agricultural Relations. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

A study of international agricultural technology, educational methodology, and diverse cultural activities related to Mexico. A required one-week trip at student's expense to Mexico will be one of the requirements necessary to meet the course objectives. Prerequisites: Junior or senior classification and approval of the instructor.

**AGSD 4383. Internship in Classroom Teaching in Agricultural Services and Development. 3 Credit Hours (Lecture: 1 Hour, Lab: 9 Hours).**

This internship includes supervised, field-based activities in public school classrooms. Major emphasis is placed on the development of instructional strategies and professional practices designed to improve teaching performance. Students are required to conduct a reflective analysis of their teaching performance. May be repeated for credit. Prerequisite: admission to the Teacher Education Program and approval of department head. Field experience fee \$50.

**AGSD 4390. Special Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Deals with selected topics in Agricultural Services and Development. May be repeated for credit when topics vary. Prerequisite: approval of department head.

**AGSD 4601. Clinical Teaching. 6 Credit Hours (Lecture: 1 Hour, Lab: 16 Hours).**

Twelve weeks or equivalent of off-campus supervised clinical teaching in an Agricultural Science and Technology Program in selected public schools in Texas. Prerequisite: Senior classification.

**AGSD 4684. Internship. 6 Credit Hours (Lecture: 0 Hours, Lab: 12-16 Hours).**

The student will complete an approved supervised work experience with an agricultural service organization or related industry. Prerequisites: Senior classification and advisor approval. Lab fee: \$2.

## Animal Science

### Courses

**ANSC 1100. Transitioning to University Studies in Animal Sciences. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective.

**ANSC 1105. Introduction to Veterinary/Medical Terminology. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Introduction to veterinary/medical terminology. The foundation of veterinary terminologies and medical language roots, prefixes, suffixes, and combining forms are covered along with musculoskeletal and dissection/spatial body positions. Designed to provide a comprehensive entry-level study of medical language for health career learners.

**ANSC 1202. Barbeque Science. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

An introduction to the science of meat preparation, incorporating food quality and safety, ingredients and flavors, cooking techniques, cut selection and consumer preferences. Lab fee: \$2.

**ANSC 1309. Introduction to Horse Production. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An introduction to some of the fundamental aspects of horse production, including health, genetics and disease, nutrition, reproduction, and exercise physiology.

**ANSC 1310. Introduction to Horse Management. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An introduction to fundamental aspects of horse management, including the status of the equine industry. Other topics include functional anatomy, locomotion, identification, equine behavior in relation to modification to training, health care management and stable management. Lab fee: \$2.

**ANSC 1320. Rodeo Production and Skills. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

A study of rodeo activities including organization, promotion, and management of rodeos. Skill development in all standard events will be emphasized with special attention to student needs. Lab fee \$10.

**ANSC 2101. Animal Science Industry. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

A review of the opportunities available to Animal Science students upon graduation, and the appropriate concentrations to achieve career goals. Prerequisites: Must be an ANSC major and must have completed AGRI 1419 or equivalent.

**ANSC 2301. Foaling Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Management of the pregnant mare, parturition, and the neonatal foal. Students are required to attend overnight foal watch sessions as partial requirement for the course. Prerequisite: ANSC 1309 or instructor approval.

**ANSC 2305. Horse Handling Techniques. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Skills development in basic horse handling and application of general principles of equine psychology and behavior. Students will be assigned a young horse to halter train for fundamental groundwork. Prerequisite: instructor approval Lab fee: \$2.

**ANSC 2307. Meat Animal Evaluation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Evaluation of market animals including beef cattle, swine, sheep and goats. Emphasis is on selection of breeding animals and evaluation of market animals and economically important characteristics for each species. Prerequisite: AGRI 1419.

**ANSC 2308. Meat and Carcass Evaluation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Evaluation of meat cuts and carcasses from cattle, swine, sheep and goats. Emphasis is on factors affecting quality and yield for each species. Techniques for evaluation and for preparation of written reasons. This course is required for participation in the meat judging program, but is open to all students meeting the prerequisites. Prerequisite: AGRI 1419.

**ANSC 2350. Anatomy and Physiology of Domestic Animals. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Introduction to comparative anatomy and physiology of domestic animals. The roles of the various systems of the animal body will be studied with practical applications made to animal production. Topics include anatomy and physiology of the skeletal, muscular, cardiovascular, pulmonary, digestive and reproductive systems. Prerequisite: AGRI 1419.

**ANSC 3301. Livestock Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Application of animal handling and management techniques for livestock. A study of the principles of breeding, feeding, disease and parasite control for beef, sheep, goats and swine. Prerequisites: AGRI 1319 or AGRI 1419; Agriculture Services and Development majors only.

**ANSC 3303. Pastures and Forages. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Identification, management, and utilization of forage crops as they pertain to the production of livestock and related species, including pastures, hay, and silage.

**ANSC 3305. Equine Evaluation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

A Study of the influence of heredity, conformation, training and environmental effects on performance. A detailed evaluation of the athletic performance and conformation as it relates to function, and the criteria used for evaluation and selection of breeding, race and performance animals. Prerequisite: ANSC 1310.

**ANSC 3307. Livestock and Meat Evaluation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Comparative evaluation of breeding and market animals with emphasis on live animal selection, official carcass grading, carcass contest, wholesale cut selection and pricing, and performance testing. Oral reasons and written justifications on placing classes will be emphasized. Prerequisite: AGRI 1325 or approval of department head and instructor. Lab fee \$2.

**ANSC 3308. Principles of Animal Nutrition. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An evaluation of the anatomical, physiological, and biochemical processes of digestion, absorption, and metabolism; overview of nutrients (water, carbohydrates, lipids, proteins, minerals, and vitamins) and their use within the body of animals. Prerequisites: BIOL 1406 or 1407; and CHEM 1407, 1411 or 1412.

**ANSC 3309. Applied Animal Nutrition and Feeding. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Application of nutritional concepts; understanding of nutrient requirements and development of appropriate rations for livestock. Prerequisite: ANSC 3308.

**ANSC 3314. Applied Equine Nutrition. 3 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Detailed examination of the unique anatomy and physiology of the digestive system of the horse. Dietary requirements nutrients as well as the major sources, needs, functions, and physiological aspects of inadequate and excess intake of nutrients. Common feedstuffs and use in formulating equine diets will be introduced. Prerequisite: ANSC 1309 or ANSC 3308 or instructor approval.

**ANSC 3315. Animal Diseases and Parasites. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Exploratory study of infectious and non-infectious farm animal diseases, parasites, and parasitic diseases. Introduction to disease and parasite prevention through sanitation and treatment. Prerequisite: AGRI 1419.

**ANSC 3319. Animal Breeding. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Specialized study of the application of genetic principles to livestock breeding. Improvement of the economic traits of farm animals by utilizing the principles of heritability and selection. Breeding and selection systems in cattle, swine, sheep, and horse production. Prerequisites: AGRI 3409, or BIOL 3303 and BIOL 3103, or BIOL 3403, or equivalent.

**ANSC 3320. Livestock Event Production. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Planning and implementing livestock events. Publicity, promotion, budgeting, scheduling, soliciting sponsors, and event production.

**ANSC 3323. Ethical Issues in Agriculture and the Natural Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will examine the several major ethical issues facing agriculture and natural resources sciences in our current society. Readings, discussions and lectures will focus on the scientific, capitalistic, and philosophical motivation in common ethical issues. Upon completion of the course, students will be able to construct and dissect ethical arguments and hopefully become more aware of the ethical dilemmas we all face each day.

**ANSC 3325. Equine Exercise Physiology and Conditioning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Influence of exercise and conditioning on muscle physiology, cardiovascular physiology, the biomechanics of locomotion, and energy utilization. Fundamental rehabilitation and treatment of sports injuries will be introduced. Prerequisites: ANSC 1309 and ANSC 2350; OR instructor approval.

**ANSC 3330. Basic Equine and Assisted Therapy. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

Study and application of the methods of using the horse in a therapy program. Guidelines from the North American Riding for the Handicapped Association. Students will gain practical experience in the development and conduct of an equine-assisted therapy program. Prerequisite: Approval by instructor or Department Head.

**ANSC 3331. Advanced Equine Assisted Therapy. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Advanced studies in the use of the horse in a therapeutic riding program. Students will gain the hands-on experience and the information about riding, instruction and safety necessary to become a Certified Therapeutic Riding Instructor with the North American Riding for the Handicapped Association. Prerequisites: ANSC 1309, 3330, and approval of the instructor.

**ANSC 3335. Equine Behavior Modification. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Application of the principles of equine psychology to train horses. Prerequisite: Approval of instructor.

**ANSC 3340. Basic Therapeutic Riding. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

Study and application of the methods of using the horse in a therapeutic riding program. Guidelines from Professional Association of Therapeutic Horsemanship International will be used. Students will gain practical experience in the development and conduct of a therapeutic riding program.

**ANSC 3341. Advanced Therapeutic Riding. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

Advanced studies in the use of the horse in a therapeutic riding program. Students will gain the hands-on experience and the information about riding, instruction and safety necessary to become a Certified Therapeutic Riding Instructor with the Professional Association of Therapeutic Horsemanship International. Prerequisite: ANSC 3340 or instructor approval.

**ANSC 3360. Dairy Farm Evaluation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

On-site dairy farm inspections, evaluating management systems, and developing recommendations to enhance farm performance. Topics include dairy economics, management, and records. Prerequisite: AGRI 1419.

**ANSC 3408. Physiology of Reproduction. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Fundamental aspects of animal reproduction: basic reproductive anatomy, physiology, endocrinology, histology and behavior and how to apply it to production and effective management of domestic livestock. Prerequisites: AGRI 1419 and ANSC 2350.

**ANSC 3409. Feeds and Feeding. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Study of principal feeds and feed-stuffs from a practical point of view. Feeding standards and calculation of rations for maintenance, growth, fattening, and for milk, wool, and egg production. Prerequisite: Junior classification and AGRI 1419 with a C or better. Lab fee \$2.

**ANSC 3410. Principles of Equine Reproduction. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Theory and practices associated with equine reproduction, including mare and stallion anatomy, endocrinology, folliculogenesis, breeding soundness exams, record keeping, and health care. Prerequisite: ANSC 1309 or equivalent.

**ANSC 3421. Meat Science. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Basic physical and chemical components of meat and their influence on specific attributes of meat and meat products. Scientific and technical procedures involved in processing food animals, and anatomy, nomenclature, and evaluation of meats. Food safety issues in the meat industry and Hazard Analysis Critical Control Points. Prerequisites: AGRI 1419 and ANSC 2350.

**ANSC 4084. Internship. 3,6 Credit Hours (Lecture: 0 Hours, Lab: 48 Hours).**

Formally arranged and approved on-the-job training with cooperating sponsor in a commercial or private sector of the livestock or meats industries. A minimum of 120 hours of training is required for completion. Actual required hours will be determined by the nature of the internship and the internship coordinator. Oral and written reports of internship experience are required. This course may be offered pass/fail. Prerequisite: Approval of department head.

**ANSC 4086. Animal Science Problems. 1-4 Credit Hours (Lecture: 0 Hours, Lab: 1-4 Hours).**

Individualized study of current topics in student's major concentration of study or supporting discipline. Specific content and credit dependent upon student's interest, needs, and depth of study. May be repeated for a maximum of 6 semester hours credit. Prerequisite: Senior classification and advance approval by academic advisor.

**ANSC 4090. Special Topics in Animal Science. 1-4 Credit Hours (Lecture: 1-4 Hours, Lab: 0 Hours).**

Special Topics. (Credit-variable) This course deals with selected topics in animal science not covered by existing courses and may be repeated for credit when topics vary, with a maximum of six hours counting toward the degree. Prerequisite Course(s): Approval of department head.

**ANSC 4185. Senior Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

A review of current problems and developments in agriculture; professional opportunities and responsibilities; individual investigations and reports. Prerequisite: Senior classification.

**ANSC 4300. Research and Writing in Animal Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Detailed discussions and literature review of current knowledge in areas such as reproductive and alimentary physiology, nutrition, parasitology, pharmacology, and genetics. Topics will include experimental design and statistical evaluation of agricultural research. Students will prepare various types of writings based on scientific literature. Prerequisite: senior classification in agriculture.

**ANSC 4301. Equine Breeding Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Advanced theory and practices associated with equine reproduction, including breeding soundness exams, record keeping, and health care. Practices related to personnel management and economics of a equine breeding operation will be introduced. Prerequisite: ANSC 3410 or ANSC 3408 or instructor approval.

**ANSC 4302. Dairy Cattle Production. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Principles of dairy science and their application to the feeding and management of dairy cattle. Topics include herd improvement, selection, feeding, replacement stock development, disease control, animal welfare, milk marketing, and associated management practices. Prerequisites: ANSC 3408; ANSC 3409 or ANSC 3309 or ANSC 4306; or permission of instructor.

**ANSC 4303. Beef Cattle Production. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An overview of the beef cattle industry, with emphasis on the seedstock and cow-calf sectors. A study of the fundamental concepts and principles of beef cattle production. Integration of principles of nutrition, breeding, physiology, and marketing into complete production and management programs. In-depth coverage of seedstock and cow-calf segments of the industry, with introduction to stocker cattle production and feedlot management. Prerequisite: ANSC 3408; ANSC 3309 or ANSC 3409.

**ANSC 4308. Environmental Physiology of Farm Animals. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies of farm animals and interactions with their physical environment. Detailed attention is given to the effects of changes and extremes in natural and artificial animal environments, including temperatures, shelter, altitude, humidity, crowding, and other stress factors associated with modern livestock production and handling practices. Prerequisites: AGRI 1419 or AGRI 1319 with a C or better, and ANSC 2350 or approval of instructor.

**ANSC 4310. Swine Production. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Applications of nutrition, genetics, breeding, and reproduction to swine production. All aspects of production, with a focus on production systems. Prerequisite: ANSC 3408; ANSC 3309 or ANSC 3409.

**ANSC 4312. Meat Processing and Merchandising. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The chemical and physical characteristics of meats and their relations to the processing and manufacturing of meat food items. Carcass value as influenced by merchandising techniques and practices. Sanitation control and commercial and retail operations will be stressed. Laboratory work will include meat processing and the development of competencies in processing all classes of livestock. Prerequisite: ANSC 3421 or approval of department head. Lab fee \$10.

**ANSC 4313. Sheep and Goat Production. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Practical applications of breeding, feeding, management, disease and parasite control with regard to range and farm conditions; fitting and showing. Wool and mohair production; grading; sorting; and marketing. Prerequisites: ANSC 3408; ANSC 3409 or ANSC 4306 or ANSC 3309 or permission of instructor.

**ANSC 4314. Food Quality Assurance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The basis behind food quality control/assurance is discussed along with its application to various food systems to control and improve the quality and safety of our food supply. Credit will not be awarded for ANSC 4341 and ANSC 5314. Lab fee: \$2.

**ANSC 4319. Biotechnology in Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of modern biotechnology in agriculture today. This course will explore important advancements and tools in fields such as genetics, agronomy, and bioinformatics. It will also examine the legal constraints and ethical debates that surround these technologies. Credit will not be awarded for both ANSC 4319 and ANSC 5319. Prerequisites: AGRI 3409, or BIOL 3303 and 3103, or instructor approval.

**ANSC 4320. Stocker Cattle Production and Feedlot Management. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An in-depth examination of nutrition, marketing, consumer relations, and management of beef cattle stocker and feedlot operations. . Prerequisite: ANSC 3421; ANSC 3309 or ANSC 3409, or instructor approval.

**ANSC 4325. Equine Sales Prep and Marketing. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Preparing and marketing horses for sale. Business strategies, marketing, catalog preparation, public relations, product presentation, fitness, and sale preparation of horses. Prerequisite: ANSC 3305 or instructor approval.

**ANSC 4330. Horse Enterprise Management. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Individualized instruction in management techniques for horse enterprises. Record systems, marketing, and business operation procedures. Prerequisite: ANSC 3410 or ANSC 3408; ANSC 3309 OR ANSC 3314 or approval of instructor.

**ANSC 4338. Value-Added Processed Meats. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The application of scientific principles and practices to further processed meat products. Interrelationships among tissue characteristics, ingredients, handling practices, processing technologies and storage conditions as they affect the quality, safety, and stability of muscle foods. Prerequisite: ANSC 3421 Lab fee: \$2.

**ANSC 4350. Feed Analysis. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Analytical techniques for determining the nutrient content of animal feeds. Students will learn to measure moisture, protein, fiber, carbohydrates, fats, and minerals. Different methods for estimating the useable energy content of feeds will be presented. Prerequisite: CHEM 1412 or approval of department head.

**ANSC 4351. Environmental Stewardship in Animal Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Techniques and practices in animal production for good stewardship of land, water, and air. Review of applicable state and federal environmental laws. Prerequisite: AGRI 1419; CHEM 1411 or CHEM 1407; BIOL 1406 or BIOL 1407; or permission of instructor.

**ANSC 4360. Lactation Physiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A systematic overview of lactation physiology using dairy cattle as the primary model. Topics include mammary gland anatomy, milk secretion, mammary gland development, and disease impacts. Prerequisites: ANSC 2350 and ANSC 3408.

**ANSC 4361. Animal Science Study Tour. 3 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

Field course in animal agriculture designed to acquaint students with live animal operations, related businesses, and food/feed facilities. Includes travel to various sites. Prerequisite: Instructor approval.

**ANSC 4390. Special Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected topics in the animal sciences. May be repeated for credit when topics vary, with a maximum of six hours. Prerequisite: approval of department head.

**ANSC 4401. Ethology. 4 Credit Hours (Lecture: 3 Hours, Lab: 4 Hours).**

An introductory course in the behavior of animals, with emphasis on the natural selection, ontogeny, and function of behaviors as they relate to feeding, reproduction, predator-avoidance, and other traits. Both proximate (sensory, hormonal, genetic) and ultimate (ecological and evolutionary) mechanisms are addressed. Prerequisite: C or better in BIOL 1406 and BIOL 1407, and a C or better in either AGRI 1419 or WSES 2322. Lab fee: \$2.

**ANSC 4440. Sustainable Livestock Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Overview of beef, dairy, swine, small ruminant and poultry production systems and their applications. Modern concepts, ideas, and methodology associated with the application of technology to reproduction, breeding, health, nutrition and nutrient utilization, across various management schemes. Prerequisite: non-Animal Science majors only; ANSC 3408 or ANSC 3309 or ANSC 3409; or approval of instructor.

**ANSC 5048. Animal Science Applied Project. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Design, implement, and complete an independent project; integrate the knowledge and skills learned in the program; advance the application of scientific principles. Written report and oral communication of the results.

**ANSC 5086. Animal Science Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Advanced studies in animal science problems and procedures. Problems assigned according to experience, interest, and needs of individual student.

**ANSC 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to complete the thesis. No credit until the thesis is completed. Prerequisite: Approved research methodology course and approval of the instructor of record.

**ANSC 5090. Special Topics in Animal Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Selected topics in Animal Sciences offered as needed and dependant upon departmental, faculty, and student interests. May be repeated as topics vary. Instructor approval required prior to registration.

**ANSC 5185. Animal Science Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Graduate seminar with content varying according to student and curricular needs. May be repeated for a total of three credit hours. Prerequisite: Graduate classification.

**ANSC 5301. Experimental Design in Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Common and anomalous designs encountered in conduct of research in the agricultural and environmental sciences. Proper analysis of these designs and common pitfalls in experimental design. Students are expected to enter with a cursory knowledge of introductory statistics.

**ANSC 5302. Forage Biology and Physiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Biology of forage growth, metabolic pathways of the plant, and physiological response to stressors that contribute to pasture management.

**ANSC 5303. Rumen Microbiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Scientific and practical evaluation of the rumen microbiome, with emphasis on functional classes and substrate preferences, and its impact on animal nutrition and performance.

**ANSC 5304. Ruminant Nutrition. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Survey of current knowledge and concepts in ruminant physiology and biochemistry, their literature and experimental basis and relation to current and future practice and investigation. Prerequisites: ANSC 4306 and graduate classification.

**ANSC 5306. Assisted Breeding Technology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theory and practice of assisted breeding technology in modern breeding programs for farm livestock and other animal species.

**ANSC 5308. Measuring Animal Behavior. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced course in the principles and methods of quantitative studies of behavior, with an emphasis on techniques of observation, recording, and analysis.

**ANSC 5309. Assessing the Welfare of Livestock and Poultry. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Basic components of animal welfare assessments, review of current industry assessment tools and animal welfare audits. Prerequisite: Graduate status.

**ANSC 5314. Food Quality Assurance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The basis behind food quality control/assurance is discussed along with its application to various food systems to control and improve the quality and safety of our food supply. Credit will not be awarded for ANSC 4341 and ANSC 5314. Lab fee: \$2.

**ANSC 5315. Animal Growth and Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the processes related to animal growth. Emphasis on cellular changes allowing for muscle, bone and adipose tissue growth as well as the role and functions of hormones related to development and age-related adaptation. Composition of muscle, bone, and adipose tissue in market animals will be discussed. Prerequisites: AGRI 1319 and approval of instructor.

**ANSC 5316. Grant Writing and Funding Aquisition. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course in terminology and processes associated with grant writing and the acquisitions of research funds.

**ANSC 5318. Ethical/Environmental Issues in Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Ethical and environmental issues affecting public policy as related to agrieducation/industry/business. Credit for both ANSC 5218 and AGCR 5318 will not be awarded. Prerequisites: Approval of instructor.

**ANSC 5319. Biotechnology in Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of modern biotechnology in agriculture today. This course will explore important advancements and tools in fields such as genetics, agronomy, and bioinformatics. It will also examine the legal constraints and ethical debates that surround these technologies. Credit will not be awarded for both ANSC 4319 and ANSC 5319.

**ANSC 5325. Equine Exercise Physiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies of the influence of training and conditioning on muscle physiology, cardiovascular physiology, the biomechanics of locomotion, and energy utilization. Fundamental rehabilitation and treatment of sports injuries. Students can not receive credit for both ANSC 3325 and ANSC 5325. Prerequisite: Instructor approval.

**ANSC 5328. Environmental Physiology of Farm Animals. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Environmental influence on biological rhythms; body temperature regulation; heat sources and conserving mechanisms; feed intake, behavior, growth and development and reproduction in farm animals. Credit given for only ANSC 5328 OR ANSC 4308. Prerequisite: Graduate classification.

**ANSC 5338. Value-Added Processed Meats. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The application of scientific principles and practices to further processed meat products. Interrelationships among tissue characteristics, ingredients, handling practices, processing technologies and storage conditions as they affect the quality, safety, and stability of muscle foods.

**ANSC 5350. Laboratory Methods in Animal Research. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Skill development in laboratory techniques and analysis related to animal science research. Application of live animal data collection. Introduction to institutional animal care and use protocols and ethical use of animals in research. Prerequisites: Graduate standing; instructor approval. Lab fee: \$2.

**ANSC 5355. Animal Metabolism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is structured to provide an overview of various regulatory mechanisms of metabolism and changes due to exercise, stress, pregnancy, nutrient imbalance, disease and toxic effects. Prerequisites: Graduate standing; 3 hours of animal or human nutrition AND 3 hours of anatomy and physiology OR department head approval.

**ANSC 5356. Non-Ruminant Nutrition. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced course in nutritional science focusing in advanced topics in intergrated nutrient metabolism; advanced digestive physiology, nutritional requirements and nutritional imbalances and subsequent disease states in non-ruminant animals. Prior coursework in metabolism or biochemistry is recommended.

**ANSC 5360. Lactation Physiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Systematic overview of lactation physiology using dairy cattle as the main model. Course topics will include mammary gland anatomy, milk secretion, mammary gland development and disease impacts. Prerequisites: Graduate standing.

**ANSC 5380. Research and Writing for Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Preparation of writing samples, technical reviews, and/or professional manuscripts related to various topics in agriculture. Prerequisites: Approved research methodology course and approval of instructor of record.

**ANSC 5399. Internship. 3 Credit Hours (Lecture: 1 Hour, Lab: 8 Hours).**

Prepared and supervised work experience in an Animal Science-related position with a public or private business organization. May be repeated for a total of 6 hours credit. Prerequisite: Approval of the student's graduate committee. Field experience fee \$50.

## Anthropology

### Courses

**ANTH 2302. Introduction to Archeology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of human prehistory and the origins of civilization. Topics covered include archeological theory and methodology, the evolution of humans, the origins of culture, development of agriculture, and the early history of world civilizations. Theory reinforced by field experience.

**ANTH 2351. Cultural Anthropology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A comparative study of culture, cultural patterns, and sociocultural change with the emphasis on preliterate societies.

## Art

### Courses

**ARTS 1100. Transitioning to University Studies in Art and Digital Media. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of art and digital media disciplines.

**ARTS 1301. Art Appreciation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A theory course designed to introduce the trends, techniques, styles, and major personalities of the visual arts.

**ARTS 1303. Art History I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A chronological examination of painting, sculpture, architecture and related visual arts. Emphasis is placed on Western art, from prehistoric times to the end of the Gothic Period, but will include aspects of non-European art as well.

**ARTS 1304. Art History II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A chronological examination of painting, sculpture, architecture and related visual arts. Emphasis is placed on Western art, from early Renaissance to the present, but will include aspects of non-European art as well.

**ARTS 1311. Design I. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Emphasis on two-dimensional design; includes the fundamentals of line, color, form, texture, shape, space, and arrangement. Medias such as drawing, painting, and digital design will be introduced.

**ARTS 1312. Design II. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Continuation of Design I with emphasis on three-dimension concepts. Tools for construction of 3D objects will be covered including digital fabrication, manual and electronic equipment, and 3D display techniques. Lab fee: \$2.

**ARTS 1316. Drawing I. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A beginning course investigating a variety of media, techniques, and subjects, exploring perceptual and descriptive possibilities and consideration of drawing as a development process as well as an end in itself.

**ARTS 1317. Drawing II. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Expansion of Drawing I stressing expressive and conceptual drawing aspects, including the human figure within a spatial environment. Prerequisite: ARTS 1316.

**ARTS 2316. Painting I. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An introduction to painting media with an emphasis on color, composition, and self expression. Prerequisites: ARTS 1311, 1316, 1317, or approval of department head. Lab fee \$2.

**ARTS 2326. Sculpture I. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Sculpture is a introductory course designed to develop skills in building three-dimensional form by learning to work with a variety of tools and techniques. Special emphasis will be put on artistic and conceptual development. Prerequisite: ARTS 1312 or instructor permission.

**ARTS 2344. Game Design. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This introductory course, which explores both digital and non-digital games, aims to provide a critical vocabulary and historical context for analyzing games as an art form and mode of expression. Students will be encouraged to create meaningful play and interactive experiences in various forms of media. Lab fee: \$10.

**ARTS 2348. Digital Art I. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Introduction to the concepts and techniques utilized in the creation of digital media design and art, including digital imaging, vector graphics, animation, and page layout for print and web. Lab fee \$2.

**ARTS 2356. Photography I. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course covers basic to intermediate digital camera operation, production, software, and professional display techniques. The course will focus on developing technical proficiency, aesthetic skills, and will examine the medium's history and use in contemporary society. Lab fee \$10.

**ARTS 3310. Introduction to Art Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to assist the preparing classroom teacher in developing a basic knowledge of art and art teaching at the grade school level so they can integrate meaningful visual art experiences into effective lesson plans and curriculum development. Prerequisite: Design 1 ARTS 1311.

**ARTS 3311. Experimental Media Studio. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A studio course in experimentation in two- and three-dimensional media and techniques. May be taken for credit twice. Prerequisite: ARTS 1312, 1317 or department head approval. Lab fee: \$2.

**ARTS 3321. Life Drawing. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An advanced drawing course based on the observation of the human figure and interpretation through a variety of drawing techniques. May be taken for credit twice. Prerequisite: ARTS 1316 Lab fee \$2.

**ARTS 3331. Art History of America. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the art of America from pre-Columbian periods to the present.

**ARTS 3332. Contemporary Movements in Art. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will survey the Visual Arts since the Second World War, primarily in the United States and Europe, but with some consideration of developments in the larger international arena.

**ARTS 3333. Art History of the Non-Western World. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to introduce students to works of art in various media developed outside of the European tradition.

**ARTS 3334. History of Photography and Lens-Based Media. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will survey the history of photography from its origins to our present digital image culture. Important movements, photographers, theoretical and technical innovations will be examined as to how they define photography's broader role in the visual arts and in modern life. Prerequisite: n/a.

**ARTS 3341. Painting II. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A continued investigation of the technical qualities and expressive possibilities of painting media with emphasis on personal and stylistic development. Prerequisite: ARTS 2316 or approval of department head. Lab fee \$2.

**ARTS 3351. Sculpture II. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An advanced investigation of the cultural techniques, methods and media of Sculpture. Prerequisites: ARTS 1312, 1316 or approval of department head. Lab fee \$2.

**ARTS 3360. Graphic Design I. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course is designed to provide a survey of the role of the computer in contemporary graphic design. Students will receive basic training on the primary types of software and peripherals with which digital artists and designers must be familiar. Typographic practice will be heavily emphasized. Prerequisite: ARTS 2348 or instructor permission.

**ARTS 3361. Photography II. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

An intermediate level studio art course intended for students wishing to further their creative abilities using contemporary photographic techniques. Students will be further their technical skills and artistic vision through hands-on practice, lectures and demonstrations. Prerequisites: ARTS 2348 or instructor approval. Lab fee: \$2.

**ARTS 3362. Narrative Illustration I. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This studio course is an introduction to the ever-changing and exciting world of contemporary narrative illustration in all its capacities. Through lectures, assignments and research, students become exposed to and experience the multiple facets of illustration, such as narrative/book illustration, editorial, advertising/marketing, sequential art (such as storyboarding for commercials, etc.), concept art, character development, etc. Prerequisites: ARTS 2348 or instructor approval. Lab fee: \$2.

**ARTS 3363. Tradigital Animation I. 3 Credit Hours (Lecture: 4 Hours, Lab: 2 Hours).**

This class is an intermediate study of 2D animation with digital software. Techniques may include stop motion, cut out animation, and digital based drawing animation. Short films and scenes of feature animated and live action feature film will be used to illustrate the many concepts studied in this class. Lab fee: \$2.

**ARTS 3364. 3D Animation I. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to the art of 3D animation. Students learn how to plot, script, storyboard, present, and create animations using the principles of animation and basic techniques, including staging, timing, mechanics and kinetics. Also, this class will introduce students to the process of technical creation of animated imagery through various media including traditional hand-drawn methods up to 3D computer applications. Prerequisite: ARTS 3383, or instructor approval Lab fee: \$2.

**ARTS 3365. Special Effects and Compositing I. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This intermediate studio course explores various aspects of special effects and compositing multimedia. Students will learn how to composite robust and immersive experiences by combining the elements of graphics, special effects and visual effects, animation, video, and audio to make effective multimedia works. Prerequisites: ARTS 2344 or instructor approval. Lab fee: \$2.

**ARTS 3366. 3D Video Game Environment I. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This studio art course will cover 2D- and 3D-level setting design for video games and animation. Students will learn tools and concerns as well as develop the skills used to create 2D and 3D game level designs by using architectural theory, concepts of critical path and flow, balancing, lighting, game play experience, and various storytelling techniques for level design. Prerequisite: ARTS 2344 or instructor approval. Lab fee: \$2.

**ARTS 3368. Narrative Film Arts I. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This intermediate studio course will cover production of short films using digital video and other experimental approaches. Emphasis on video concepts, techniques, composition, sequencing of ideas, and narrative structures. Lab Fee: \$2.

**ARTS 3371. Printmaking. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The basic printmaking processes including planographic, intaglio, stencil, and relief. May be taken for credit twice. Prerequisite: ARTS 1311, 1316, or approval of department head. Lab fee: \$2.

**ARTS 3383. 3D Modeling. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Introduction to the basic modeling tools and techniques within 3D computer applications. Students will create 3D models, simple animations, basic lighting/rendering, texturing while using the basic modeling tool sets; NURBS, Polygons and Subdivision Surfaces. Lab fee: \$10.

**ARTS 4086. Individual Problems in Art. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Art problems assigned in the area of the student's individual interest with emphasis on individual development. Prerequisite: ARTS 1317.

**ARTS 4341. Painting III. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An advanced investigation of the technical qualities and expressive possibilities of painting media with emphasis on research and presentation strategies. Lab fee: \$2.

**ARTS 4351. Sculpture III. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This advanced studio course focuses on specific topics and practices in contemporary sculptural installation works. Technical instruction may include sculptural and architectural model building, wood, metal, and plastic fabrication, lighting, sound works, video works, and cloth and alternative material fabrication methods. Lab fee: \$2.

**ARTS 4360. Graphic Design II. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Advanced problems in both the print and web areas of graphic design, emphasizing a versatile, well-rounded and high-quality portfolio that will serve students as they pursue employment in the design field. Prerequisite: ARTS 2348 or instructor permission.

**ARTS 4361. Photography III. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Advanced studio course in photography and digital image production with an emphasis on conceptual development and professional display and publication in a variety of media, such as print, web, and mobile devices. Emphasis on visual communication strategies and creative thinking. Prerequisites: ARTS 3361. Lab fee: \$2.

**ARTS 4362. Narrative Illustration II. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course is an advanced studio course that explores digital illustration as a form of creative expression. Students will create a larger body of work in preparation for an artistic exhibition or a public presentation. Students will use their advanced skills in illustration to construct a professional portfolio and investigate possible artistic, commercial, and industrial opportunities. Students will be encouraged to develop a personal style in a variety of media. Prerequisite: ARTS 3362 Lab fee: \$2.

**ARTS 4363. Tradigital Animation II. 3 Credit Hours (Lecture: 4 Hours, Lab: 2 Hours).**

This class is an advanced study of 2 dimensional animation with digital software. Techniques may include stop motion, cut out animation, and digital based drawing animation. Students will be encouraged to develop their own projects and short films from the concept stage to completion. Prerequisite: ARTS 3363 Lab fee \$2.

**ARTS 4364. 3D Animation II. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Advanced studio course in animation. Students will be expected how to plan, develop, and produce animations using the principles of animation and advanced techniques. Advanced topics such as character kinematics, gait movement, lighting and textures will be covered. Prerequisites: ARTS 3364. Lab fee: \$2.

**ARTS 4365. Special Effects and Compositing II. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This advanced studio course explores various aspects of special effects and compositing multimedia. Students will further their skills in how to composite robust and immersive experiences by combining the elements of graphics, special effects and visual effects, animation, video, and audio to make an effective multimedia presentation. Prerequisites: ARTS 3365. Lab fee: \$2.

**ARTS 4366. 3D Video Game Environment II. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This advanced studio art course will cover 2D- and 3D-level setting design for video games and animation. Students will create content from commercial game engines that show advanced levels of skill and expression of content. Prerequisite: ARTS 3366. Lab fee: \$2.

**ARTS 4367. 3D Rendering and Lighting. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This advanced course is designed to cover concepts involved in the digital application of texture maps for virtual 3D models, 3D material qualities and characteristics, digital lighting concepts and design, and rendering methods. The importance of digital cinematography, scene arrangement, and compositing of 3D elements of color, camera and light are goals of aesthetic integration. Prerequisite: ARTS 2344. Lab fee: \$10.

**ARTS 4368. Narrative Film Arts II. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This advanced studio course will cover production of short films using digital video and other experimental approaches. Emphasis on more independently directed short films. Prerequisite: ARTS 3368 or COMS 3308.

**ARTS 4370. Interaction Design. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This is an advanced studio art course that explores the use of programming skills in the creation of creative mobile web applications, as well as other kinds of digital environments. Technical skills that will combine the use of graphics, audio, and video along with sensible interface design will be covered. Resources will be provided for students with no programming background. Lab fee: \$10.

**ARTS 4371. Advanced Studio Production. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A guided project-based course with emphasis on portfolio preparation for Art and Digital Media students. Lab fee: \$2.

**ARTS 4372. Collaborative Production. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course is a product driven course for the Art and Digital Media Studies Program. Students will form teams and collaborate with another using their talents and expertise to develop a digital media project as assigned by the instructor. Emphasis will be placed on collaboration both inside the classroom, and across disciplines.

**ARTS 4380. Post Studio Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Students encounter art methods that are primarily executed outside of the studio setting. Students will become aware of the importance of place and how a work can be situated in response to it. This will include object-based participatory works, installation methods in response to specific locations, ephemeral works, social engagement and interactions with audiences, and other collaborative methods. Lab fee: \$2.

**ARTS 4384. Internship in Art or Digital Media. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Approved and supervised work experience in the art or digital media related positions. May be repeated once for a total of 6 hours of academic credit. Prerequisite: Junior standing and 12 hours Art or approval of department head.

**ARTS 4385. Art Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Content varies according to the needs of students and opportunities available. When topic varies, course may be repeated for credit. Prerequisite: Junior classification or approval of department head.

**ARTS 4390. Art/ Digital Media Portfolio Capstone. 3 Credit Hours (Lecture: 1 Hour, Lab: 12 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An integrative course providing an overview of pertinent issues in creating a professional art portfolio. Students will produce a body of art works that are representative of their style and abilities. Written discourse on the visual arts will be stressed. Prerequisite: Senior level status. Art majors seeking education certification must take this course before the semester in which they are student teaching. Lab fee \$5.

## Athletic Training

### Courses

**ATRN 5191. Clinical I. 1 Credit Hour (Lecture: 0 Hours, Lab: 9 Hours).**

Clinical I is designed to allow integration and evaluation of athletic training competencies and proficiencies in a clinical environment under the supervision of an approved preceptor. Clinical settings for hands on, supervised experience might include (but is not limited to) university, high school, clinic/outreach, hospital, industrial, or military. Prerequisite: ATRN 5351.

**ATRN 5192. Clinical II. 1 Credit Hour (Lecture: 0 Hours, Lab: 9 Hours).**

Clinical II is designed to allow integration and evaluation of athletic training competencies and proficiencies in a clinical environment under the supervision of an approved preceptor. Clinical settings for hands on, supervised experience might include (but is not limited to) university, high school, clinic/outreach, hospital, industrial, or military. Prerequisites: ATRN 5191, 5452, 5453.

**ATRN 5194. Clinical IV. 1 Credit Hour (Lecture: 0 Hours, Lab: 9 Hours).**

Clinical IV is designed to allow integration and evaluation of athletic training competencies and proficiencies in a clinical environment under the supervision of an approved preceptor. Clinical settings for hands on, supervised experience might include (but is not limited to) university, high school, clinic/outreach, hospital, industrial, or military. Prerequisites: ATRN 5293, 5458, 5360.

**ATRN 5293. Clinical III. 2 Credit Hours (Lecture: 0 Hours, Lab: 18 Hours).**

Clinical III is designed to allow integration and evaluation of athletic training competencies and proficiencies in a clinical environment under the supervision of an approved preceptor. Clinical settings for hands on, supervised experience might include (but is not limited to) university, high school, clinic/outreach, hospital, industrial, or military. This course provides students the opportunity to experience fall two-a-day workouts with an assigned setting. Prerequisite: ATRN 5356.

**ATRN 5351. Athletic Training Techniques. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview and practice of basic athletic training techniques used for the prevention and care of injuries to the physically active patient. Prerequisite: Acceptance into the MSAT degree program.

**ATRN 5356. Evidence Based Practice & Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course addresses the role of research in the athletic training profession including conducting research, research sources utilization and dissemination, and principles of evidence based practice. This class will help you learn to take challenging clinical issues and apply a step by step process of evidence based practice in order to find solutions. Prerequisites: ATRN 5454, ATRN 5455, ATRN 5192.

**ATRN 5357. Leadership in Athletic Training. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to instruct and develop leadership skills in athletic training. Prerequisites: ATRN 5454, ATRN 5455, ATRN 5192.

**ATRN 5359. Trends in Athletic Training. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will learn about and discuss current trends and issues within the athletic training profession. Prerequisites: ATRN 5458, ATRN 5360, and ATRN 5293.

**ATRN 5360. Healthcare Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Overview of administrative principles related to the operation of an athletic training program and healthcare facility. Prerequisite: Co or pre-requisite of ATRN 5356.

**ATRN 5361. Empowering Success. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an integrative learning experience drawing on all previous coursework in order to complete a project that is impactful in the healthcare community. Additionally, students are required to register and prepare for their BOC certification exam as part of this course. Prerequisites: ATRN 5458, ATRN 5360, and ATRN 5293.

**ATRN 5362. Study Abroad/Cultural Healthcare. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to allow a cultural healthcare experience abroad. Students may be exposed to non-Western medical techniques or assist in teaching prevention and care techniques to coaches/athletes in third-world countries. Locations and experiences will vary by year.

**ATRN 5363. Orthopedic Assessment III. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study and integration of orthopedic assessment techniques to distinguish axial skeletal injuries common to the physically active patient. Posture and gait analysis are also applied to the assessment process. Prerequisites: ATRN 5453 and ATRN 5354.

**ATRN 5452. Therapeutic Interventions. 4 Credit Hours (Lecture: 4 Hours, Lab: 4 Hours).**

Investigation of the scientific principles and the application of therapeutic modalities and pharmacological agents in athletic training. Includes therapeutic purposes, indications, contraindications, and adverse effects. Prerequisite: ATRN 5351.

**ATRN 5453. Orthopedic Assessment I. 4 Credit Hours (Lecture: 4 Hours, Lab: 4 Hours).**

The study and integration of orthopedic assessment techniques to distinguish lower extremity injuries common to the physically active patient. Posture and gait analysis are also applied to the assessment process. Prerequisite: ATRN 5351.

**ATRN 5454. Orthopedic Assessment II. 4 Credit Hours (Lecture: 4 Hours, Lab: 4 Hours).**

The study and integration of orthopedic assessment techniques to distinguish upper extremity and spinal injuries common to the physically active patient. Prerequisites: ATRN 5452, ATRN 5453, and ATRN 5191.

**ATRN 5455. Therapeutic Exercise. 4 Credit Hours (Lecture: 4 Hours, Lab: 4 Hours).**

The theory and application of therapeutic exercise tools and techniques in the rehabilitation of injuries to the physically active patient. Prerequisites: ATRN 5452, ATRN 5453, and ATRN 5191.

**ATRN 5458. General Medical Assessment. 4 Credit Hours (Lecture: 4 Hours, Lab: 4 Hours).**

This course provides an understanding of injury, illness and/or disease of various body systems (including cardiovascular, gastrointestinal, dermatological, neurological, etc). The course includes discussion of diagnostics and interventions, as well as participation considerations for physically active patients. Prerequisite: ATRN 5356.

## Business Analytics

### Courses

**BANA 5085. Business Analytics Seminar. 1-6 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course addresses selected topics of current importance in business analytics. May be repeated for credit when topics vary.

**BANA 5086. Problems. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

This course offers students the opportunity to study analytics topics and perform research within the student's area of interest as directed by the responsible professor. Prerequisite: Approval of the department head.

**BANA 5090. Special Topics in Business Analytics. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

An examination of current topics in business analytics. Readings required from current analytics publications and other related periodicals. May be repeated for credit when topics vary.

**BANA 5301. Business Analytical Statistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course emphasizes statistical data analysis using statistical programming languages, and the reporting of results in a manner consistent with contemporary business practice. This course starts with a review of descriptive statistics, probability theory, and a review of probability under various distribution conditions. It then advances into univariate hypothesis testing and introduces non-parametric data analysis. Statistical programming is introduced and applied across the course. Prerequisite: undergraduate statistics (a minimum of 3 semester credit hours).

**BANA 5310. Business Applied Data Mining. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on using statistical techniques to solve business problems across the enterprise and create competitive advantage from information held in data warehouses. The techniques covered include decision trees, cluster analysis, pattern matching, vector auto-regression, co-integration, and event study methodology. Prerequisite: BANA 5301 or Department Head approval.

**BANA 5320. Prescriptive Analytics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Business prescriptive analytics seek the best course of action among many choices. This course focuses on using techniques to solve complex business problems that involve trade-offs between goals and constraints. The course addresses resource allocation problems under uncertainty. Topics covered include optimization, sensitivity analysis, linear integer and nonlinear programming, network models, decision making under uncertainty, inventory and supply chain models, and an introduction to simulation and queuing models. Prerequisite: BANA 5301, BUSI 5365 or Department Head approval.

**BANA 5391. Business Analytics Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The goal of the business data analyst is to give the business enterprise a competitive advantage. This capstone course combines database management, data visualization, statistical data exploration, data mining, and predictive modeling to address business problems. The student is required to interpret and understand the business problem and develop an analytical approach to solving the problem. The course introduces the student to Python programming and requires the student to communicate the solution to the problem following contemporary business communication. Prerequisites: ECON 5311, BANA 5310, and BANA 5320.

## Business Computer Information Systems

### Courses

**BCIS 1305. Business Computer Applications. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduces and develops foundational skills in applying essential and emerging business productivity information technology tools. The focus of this course is on business productivity software applications, including word processing, spreadsheets, databases, presentation graphics, data analytics, and business-oriented utilization of the internet.

**BCIS 1315. Principles of Web Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course teaches students how to plan, design, and create professional websites using the latest industry tools. Students will gain a basic understanding of web design and will explore topics such as planning, accessibility, and operational issues surrounding web design.

**BCIS 1317. Personal Computer Maintenance and Hardware. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An enhanced study of technology and hardware operation of microcomputers, their peripherals, and operating systems. Also considered are hardware configuration and selection, installation, test procedures, and maintenance.

**BCIS 3300. Computer Technology and Impact. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course explores the relationship between technology and society examining past, present, and future technologies. Many topics are present including hardware and software fundamentals, the relationship between technology and society, technology and values, sociotechnical systems, and future challenges of technology and society. An emphasis is placed on businesses and the place of business in society utilizing information technologies.

**BCIS 3302. Database and Data Management for Small Businesses. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies relational database packages. In addition, students improve their knowledge and skill with a current personal computer operating system.



**BCIS 3305. Operating Systems Theory and Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the history, development, and principles of computer operating systems and their variants in mainframe, minicomputer, server, and microcomputer application environments. Topics will include related software issues, programming capabilities, and job control languages. Selected operating systems representing various hardware environments will be studied.

**BCIS 3315. Web Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will explore the underlying technical foundations of web design and programming. Emphasis will be placed on HTML and CSS coding as well as principles of client side scripting languages such as Javascript.

**BCIS 3332. Java Programming. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A first course in the Java programming language. Covers the basic structure of Java, all standard features, data representation, and simple I/O. Students will analyze and program several representative programs.

**BCIS 3333. C# Programming. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A first course in the C# programming language. Covers the basic structure of C#, all standard features, data representation, and simple I/O. Students will analyze and program several representative problems.

**BCIS 3342. Advanced Java Programming. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced course in the Java programming language. Covers advanced Java capabilities such as class features, error handling, graphical user interfaces, applets, and advanced object-oriented programming techniques. Students will analyze and program several representative problems. Prerequisite: BCIS 3332 or BCIS 3333 or approval of department head.

**BCIS 3343. Advanced C# Programming. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced programming using the C# programming language to create Windows applications in an Internet and intra-network environment. Explores object-oriented design, client-server interaction, event-driven programming, graphical user interfaces, distributed data, and distributed applications. Prerequisite: BCIS 3332 or BCIS 3333 or approval of department head.

**BCIS 3347. Data Communications. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of voice and data communications technologies, concepts, and applications, including communications terminology, hardware, software, protocols, and managerial issues in data and voice communications. Topics will include alternatives available in hardware, software, and transmission facilities, design integration, selection and implementation of communications solutions. In addition, students will explore the current and future impact and direction of these technologies.

**BCIS 3348. Network Architecture Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of network architecture, industry standards and communications protocols, the placement of networking devices and components, transmission media selection, logical and physical topologies, data transmission, and structured cabling for local area networks (LANs) and wide area networks (WANs). Network designs will include required components and address services as specified in an industry specific Request for Proposal (RFP). Application exercises will include preparing and presenting a design proposal in response to an RFP and installation, configuration, testing and troubleshooting of WAN/LAN wiring interface technologies. Prerequisite: BCIS 3347 or the approval of the department head.

**BCIS 3389. System Analysis and Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A study of the systematic analysis, design, and implementation of software systems with special emphasis on the processes and skills used in the first four stages of the System Development Life Cycle. Traditional and current methodologies, including computer aided analysis and design tools will be considered. Topics will be approached through project-oriented cases and projects, which integrate theory and practical application. Prerequisite: BCIS 3332 or BCIS 3333 or approval of department head.

**BCIS 4084. Internship. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-20 Hours).**

Preapproved and supervised work experience in a Computer Information Systems related position with a public or private business organization. May be repeated for a total of 6 hours credit. Prerequisite: Approval of department head.

**BCIS 4086. Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0-0 Hours).**

Selected individual topics in business on technical computer applications, practicum, field project, or other suitable computer studies. May be repeated for a maximum of 6 semester hours credit. Prerequisites: Approval of instructor and department head.

**BCIS 4090. Special Topics in Computer Information Systems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0-0 Hours).**

An examination of current topics in computer information systems. Readings required from current computer information systems publications and other related periodicals. May be repeated for credit when topics vary. Prerequisite: 9 hours in BCIS.

**BCIS 4301. Database Theory and Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Database concepts and structures. File and data management principles underlying database construction. Fundamental types of database models, with emphasis on relational databases as well as on major non-relational forms. Practice in analysis, design, development, and optimization of working database applications on a variety of problems. Small and large system databases will be considered. Prerequisite: BCIS 3332 or BCIS 3333 or approval of department head.

**BCIS 4308. Advanced Programming Language. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Develops the programming proficiency in a modern programming language. Students complete many programming assignments to achieve necessary knowledge and skills. May be repeated as topics vary. Prerequisite Approval of instructor or department head. Prerequisite: Approval of instructor or department head.

**BCIS 4315. Interactive and Applied Multimedia. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An exploration of multimedia tools and their relationships to various disciplines of study. A review of the principles of multimedia and the effective uses of multimedia will be conducted. The production and design of multimedia systems will culminate the course of study.

**BCIS 4320. Computer Forensics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine the principles and practice of conducting computer forensics investigations for both criminal and business application. Students will apply investigative methods to properly conduct a computer forensics investigation beginning with a discussion of ethics. Students will examine and use various technologies, software and procedures applicable to forensic investigation. The course will also cover the legal responsibilities and key evidentiary procedures necessary to conduct the computer forensics process. Students should have a working knowledge of hardware and operating systems to maximize their success on projects and exercises in this course. Prerequisite: Junior Standing or the approval of the instructor or department head.

**BCIS 4342. Ethical Hacking & Network Defense. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduces intrusion security testing as a method for improving network defense to computer users with a solid grounding in computer and networking basics. Students will learn how to identify network security vulnerabilities by employing the techniques and software normally used by hackers to compromise networks. Students will then learn the process of determining the best practices in how to secure those vulnerabilities. Topics will include the mission and limitations of security and penetration testers along with the legal ramifications and restrictions involved. Students will be study the various methods of hackers, operating systems threats for Windows and UNIX based systems, cryptography, and modern network protection systems. Prerequisite: Junior standing or approval of instructor or department head.

**BCIS 4343. Advanced Systems Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course concentrates on advanced systems analysis concepts with an emphasis in data and process decomposition and modeling. CASE tools support both the models and the interaction analysis of processes and data. The enterprise-wide view of system analysis stresses the theory behind and the generation of normalized relational database tables. Course includes material on user-centered requirements gathering and analysis. Prerequisites: BCIS 3389, and 4301 or approval of department head.

**BCIS 4344. Advanced System Design and Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This capstone course places a strong emphasis on combining the best practices of system design, including the professional, interpersonal, and technical skills required to analyze, propose, develop, and build modern large-scale business information software systems. The student will apply information engineering principles and theory to the design and development of a complex interactive system using software engineering and data management tools. This approach will involve all the stages of the full system development life cycle, through construction and implementation. This course serves to integrate the skills of the senior CIS student. Prerequisite: BCIS 4343 or approval of the instructor or department head.

**BCIS 4345. Network and Systems Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies the issues of Network and Systems Security as a continuous process involving analysis, implementation, evaluation and maintenance. Topics will include addressing computer-related risks, case analysis, and future trends. The course will provide approaches, techniques, and best practices for securing modern electronic data systems. Areas covered include electronic information and message security, database and file integrity, physical security, security management, security risk analysis, and encryption. Prerequisite: BCIS 3347 or approval of department head.

**BCIS 4347. Advanced Database Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies the theory and practice in the analysis, design, development, implementation, and optimization of working database applications on a variety of problems focusing on topics such as database administration. Prerequisite: BCIS 4301 or approval of instructor or department head.

**BCIS 4350. Management Information Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course investigates management issues related to business information systems designed to meet the informational needs of the various business subsystems. The concepts of systems development, security, privacy and ethics associated with information systems are stressed. Prerequisite: BCIS 1305 or department head approval.

**BCIS 4352. Structured Query Language. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of SQL, including relational database schema in SQL, formulating SQL queries and sub queries of varying complexity, embedding SQL statements in a host language, defining and querying data views in SQL, and other related topics. Prerequisite: BCIS 4301 or approval of instructor or department head.

**BCIS 4355. Global Information Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the international issues surrounding the planning, implementation, and management of global information systems. Topics covered include development and planning of offshoring programs, cultural aspects of information systems development and deployment and legal issues of global information systems. Prerequisite: Junior Standing.

**BCIS 4359. Strategic Application of Information Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A capstone course exploring the strategic alignment between business and information systems, the integration of information systems and other business functions to solve problems and facilitate decision making. Using case studies extensively, this course is designed to be taken by seniors during their last semester so they may demonstrate their ability to synthesize what they have learned over their course of study. Prerequisites: BCIS 3333 (or BCIS 3332), BCIS 3347, BCIS 3389, BCIS 4301, and BCIS 4350 or approval of department head.

**BCIS 4376. Network Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Studies communications architectures, protocols, and interfaces as they relate to network operating systems. Topics will include communications networking techniques such as circuit switching, packet switching, broadcast networking and internetworking. Also included will be installation, configuration, client handling, basic security, and troubleshooting of a network operating system. A modern network operating system will be used to provide extensive hands-on experience in configuring and administering a network. Prerequisite: BCIS 3347 or approval of instructor or department head Lab fee: \$2.

**BCIS 4378. Comprehensive Networking. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

A comprehensive course requiring the student to plan, analyze, design, install, and configure a working computer network. Application exercises include the installation and configuration of a network operating system, the creation of required used interfaces, establishing network security, and establishing print services for a network. A modern network operating system will be used for extensive hands-on computer exercises to practice and demonstrate network skills. Prerequisite: BCIS 3347 or approval of instructor or department head Lab fee: \$2.

**BCIS 4379. The Technology of E-Business. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the linkage of organizational strategy and electronic methods of delivering products, services and exchanges in inter-organizational, national, and global environments. Information technology strategy and technological solutions for enabling effective business processes within and between organizations in a global environment are considered.

**BCIS 4385. Professional Development Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Professional-level enrichment for CIS majors with activities which may include participation in professional organizations, current events, research and presentations, job market analysis, interviewing and resume preparation. Prerequisite: 24 hours of BCIS/CIS courses or approval of department head.

**BCIS 5086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

This course offers students the opportunity to study CIS topics and perform research within the student's area of interest as directed by the responsible professor. May be repeated as topics vary for a maximum of 6 semester hours. Prerequisite: Approval of the department head.

**BCIS 5090. Selected Topics in BCIS. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

An examination of various topics in the Computer Information Systems area with focus on current and recent developments. May be repeated as topics vary. Prerequisite: Approval of department head.

**BCIS 5304. Telecommunications for Managers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines the management and utilization of data communication technologies including technical components, configurations, applications, protocols, legal issues, software and management issues, Local Area Network (LAN) technologies, and security issues. Prerequisite: BCIS 5311 or Approval of Department Head.

**BCIS 5307. Systems Analysis for Managers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Investigates and compares various analysis approaches for application automation while highlighting management considerations for planning and developing automated systems. Systems life cycle models and case studies are used. Prerequisite: BCIS 5311 or Approval of Department Head.

**BCIS 5311. Managing Information Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies the management and use of information and technology as a resource to create competitive businesses, manage global operations, provide useful products and quality services to customers, whether public or private. Examines information systems management, intellectual property, privacy, organizational and societal impact, legal issues, ethics, security issues, decision making, strategic information systems, and management and organizational support systems.

**BCIS 5316. Applied Database Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines the objectives and methodologies of database management. Topics include data models, database design, data dictionaries, fourth generation programming languages, data integrity, security, and privacy. Students use a commercial database. Prerequisite: BCIS 5311 or Approval of Department Head.

**BCIS 5317. Special Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of various issues, products, and technology current to computer information systems. May be repeated once for credit as topics vary. Prerequisite: Varies with topic.

**BCIS 5318. Quantitative Concepts in Computing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of measurements related to software projects and applying measurement techniques to information technology related problems. Analyses of programs and selected algorithms are performed. A statistical program will be used to analyze data.

**BCIS 5319. Decision Support Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies the use of decision support systems within organizations to support operational decisions. Explores the various systems used to collect, store, and analyze data, as well as systems to support collaborative decision making. Examines current topics within the field of decision support including: managerial decision models, collaborative decision environments, and knowledge management.

**BCIS 5320. Seminar on Computer Based Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will vary according to timeliness and special needs. May be repeated once for credit as topics vary.

**BCIS 5349. Topics in Programming. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Develops programming proficiency in a modern programming language. Students complete many programming assignments to achieve necessary knowledge and skills. May be repeated once for credit as topics vary. Prerequisite: Approval of instructor.

**BCIS 5351. IT Project Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies the genesis of project management and its importance to improving the success of information technology projects. Project management concepts and techniques are emphasized, and students are required to apply these concepts by working on a group project as a project manager or active team member. Prerequisite: BCIS 5311 or Approval of Department Head.

**BCIS 5360. Multimedia Application Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theory and application of the multimedia application development process. A review of the principles of user interface, design, graphic design, and interactivity including the appropriate application of these principles to multimedia will be conducted. Students will explore computer-based multimedia development tools and their use in the creation of various types of multimedia applications. The planning, design, production, and evaluation of interactive multimedia projects for delivery through a variety of media will culminate the course of study.

**BCIS 5365. Multimedia: Web Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theory and application of the multimedia application development process of the creation of web-based authoring and scripting tools and their use in the creation of various types of web-based projects. The planning, design, projection, and evaluation of interactive web-based projects for delivery through a variety of media will culminate the course of study.

**BCIS 5366. Human Computer Interaction. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the principles of human computer interaction including planning, design, and testing of effective application interfaces. Review of current literature in the field and its application to improving the interaction between people and computers.

**BCIS 5368. Topics in Multimedia. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of issues, theory, and application of current technology specific to multimedia development.

**BCIS 5379. The Technology of E-Business. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the technical and business considerations for creating and operating an electronically based business. Students will study the environment from an operational and legal perspective, analyze the technologies available and implement an e-commerce project integrating database, web pages, and script languages.

**BCIS 5380. E-Business Application Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines issues related to supporting a business that uses the Internet and other on-line implementations. The course operates in a team environment simulating a business organization and requires the team develop and implement database and Internet technologies.

**BCIS 5388. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thesis. No credit until the thesis is accepted. Prerequisite: BCIS 5351, consent of major advisor or approval of department head.

**BCIS 5392. Business Intelligence Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Develops research skills related to the reactive and proactive use of data to analyze business decisions. Business environmental and internal data sets will be designed using data warehousing techniques. Students will use datamining, text mining, OLAP, or analytics used to improve decision making. Prerequisites: BCIS 5311 and BCIS 5316 or Approval of Department Head.

**BCIS 5395. Research Project with Laboratory. 3 Credit Hours (Lecture: 1 Hour, Lab: 5 Hours).**

Independent study course in specific areas of Information Systems. May be repeated for credit once when topics change. Prerequisites: Approval of department head. Lab fee \$15.

**BCIS 5398. Research Methods in Information Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines timely topics related to computer-based systems. The course develops research skills, problem-solving skills, applies the scientific method, refines presentation skills, and promotes team involvement. The course operates in a distributed team environment using the Internet as its communication vehicle. Prerequisites: BCIS 5304, BCIS 5307, BCIS 5311, BCIS 5316, BCIS 5351, and BCIS 5392 or Approval of Department Head. Students can be concurrently enrolled in BCIS 5392 while taking BCIS 5398.

**BCIS 5399. Internship. 3 Credit Hours (Lecture: 1 Hour, Lab: 8 Hours).**

Supervised work experience in an information technology-related position with a public or private organization. May be repeated for a total of 6 hours credit. Prerequisite: 6 semester hours of prefix BCIS courses or equivalent and approval of internship coordinator or department head. Field experiences fee \$50.

## Biology

### Courses

**BIOL 1100. Transitioning to University Studies in Biology/Biomedical Sciences. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of biology and biomedical disciplines.

**BIOL 1185. Career Pathways in Biomedical Science. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Exploration of opportunities in the health professions, biomedical research, biomedical industry, and related fields. Course is open to all majors interested in life science careers related to health and disease.

**BIOL 1406. Biology for Science Majors. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Fundamental principles of living organisms will be studied, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Concepts of cytology, reproduction, genetics, and scientific reasoning are included. Laboratory activities will reinforce the fundamental principles of living organisms, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Study and examination of the concepts of cytology, reproduction, genetics, and scientific reasoning are included. Lab fee: \$2.

**BIOL 1407. Biology for Science Majors II. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

The diversity and classification of life will be studied, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals. Laboratory activities will reinforce study of the diversity and classification of life, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals. Lab fee: \$2.

**BIOL 2020. Biology Connect 2020. 0 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).****BIOL 2300. Cell Biology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the study of cells, including structure and function of cellular components, bioenergetics, cellular transport and communication, and the cell cycle. Prerequisites: BIOL 1406.

**BIOL 2310. Essential Elements of Biology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

The study of morphology, anatomy, growth, life cycles, ecology, behavior, classification, and uses of organisms. Human systems and tissues and mechanisms of heredity and metabolism will be introduced. The laboratory will give experience in the use of the microscope, dissecting procedures, and problem solving. Enrollment in this course is restricted to Interdisciplinary Studies Majors. Prerequisite: 3 hours of CHEM, PHYS, or GEOL Lab fee: \$2.

**BIOL 2401. Anatomy and Physiology I. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Basic physiological principles and their applications in the study of the skeletal, muscular, and nervous systems are emphasized. Substantial microscopic observation required. Lab fee: \$2.

**BIOL 2402. Anatomy & Physiology II. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Integrated study of human anatomy and physiology. Includes study of the structure and function of the human body including the following systems: endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics). Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis. The lab provides a hands-on learning experience for exploration of human system components and basic physiology. Lab fee: \$2.

**BIOL 2420. Microbiology for Non-Science Majors. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

A survey of the microorganisms, their environments, and their interactions with multicellular organisms, particularly man. The course concentrates on the microorganisms which are pathogenic to man, human diseases, treatments for the diseases, and their prevention. Microorganisms need time to grow and therefore there will be several laboratory assignments throughout the course of the semester where students will be required to return the next day for about 15-45 minutes for culture analysis. Course is appropriate for pre-nursing majors. Prerequisites: 8 hours of BIOL or CHEM Lab fee: \$2.

**BIOL 3103. Genetic Techniques. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Application of modern genetic techniques to generate, analyze, and interpret data. Emphasis will be placed on the development of practical laboratory skills. Prerequisites: BIOL 3303 or concurrent enrollment. Lab fee: \$2.

**BIOL 3303. Genetics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the study of genetics including the nature of genetic material, mechanisms of gene expression and inheritance, population genetics and evolution, and application of modern DNA technology. Prerequisites: 8 hours of BIOL with a grade of C or higher and CHEM 1411 or higher.

**BIOL 3340. Introduction to Marine Biology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

General considerations of the marine environment including habitats, biota, zoogeography, and humans' impact. Prerequisites: BIOL 1406, 1407.

**BIOL 3353. Ecology and Evolution. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The objective of this course is to convey a basic understanding of how life evolves, how organisms interact with their environments, and how evolutionary and ecological principles can be applied to a wide range of questions. Prerequisites: BIOL 1406, 1407 and 3303.

**BIOL 3363. Study Abroad: Ecology and Evolution. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is intended to convey a basic understanding of how life evolves, how organisms interact with their environments, and how evolutionary and ecological principles can be applied to a wide range of questions. Emphasis will be placed on the writing process. This course will be an Applied Learning Experience. Prerequisite: BIOL 1406, BIOL 1407, BIOL 3303.

**BIOL 3380. Introduction to Virology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the basic principles in the study of viruses. It will provide a foundation to understanding virus architecture and nomenclature, virus replication cycles, mechanisms of viral entry and spread of infection, host responses to viral infections, laboratory research and diagnostics of viral diseases, and epidemiology of viral infections. Prerequisites: BIOL 3407.

**BIOL 3395. Pathogenic Microbiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the disease-producing capacities of various microorganisms with emphasis on the diagnostic procedure of isolation and identification. Prerequisites: BIOL 3407 with minimum grade of "C" or approval by the department head.

**BIOL 3402. Histology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to cellular ultrastructure. Study of vertebrate tissues and their arrangement in various organs. Prerequisite: 8 hours of BIOL Lab fee: \$2.

**BIOL 3406. Comparative Vertebrate Anatomy. 4 Credit Hours (Lecture: 3 Hours, Lab: 4 Hours).**

The morphology, physiology, and phylogeny of the organ systems of vertebrates. Laboratory study of representative vertebrates. Prerequisite: 8 hours of biology. Lab fee: \$2.

**BIOL 3407. Microbiology. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Study of microorganisms; characteristics, physiology, genetics, and their interrelations with humans. Substantial microscopic observation required. Microorganisms need time to grow and therefore there will be several laboratory assignments throughout the course of the semester where students will be required to return the next day for about 15-45 minutes for culture analysis. Prerequisites: 2 semesters of BIOL and 1 semester of CHEM, or 1 semester of BIOL and 2 semesters of CHEM, or approval by the department head. Lab fee \$2.

**BIOL 3413. Molecular Biology. 4 Credit Hours (Lecture: 3 Hours, Lab: 4 Hours).**

Fundamentals of gene expression, gene regulation, DNA metabolism and nucleic acid structure, recombinant DNA techniques and protein structure. Prerequisites: BIOL 3303 and 3103, and either CHEM 2423 or both CHEM 2323 and CHEM 2123.

**BIOL 3415. Plant Taxonomy. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Principles of plant taxonomy. Field and laboratory studies of common Texas wild flowers and trees with emphasis on identification, collection, and preparation of herbarium specimens. Prerequisites: 8 hours of BIOL with a grade of C or better, junior classification, or department head approval. Lab fee \$2.

**BIOL 3420. Plant Pathology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Study of the various types of plant diseases and specific examples of each type. Emphasis upon identification, host-parasite interactions, pathogen dissemination, and control methods. Prerequisite: BIOL 1406, 3407 or approval by department head. Lab fee: \$2.

**BIOL 3430. Phycology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Hands-on training in the taxonomy, ecology, and ecophysiology of algae. Discussion of current uses of algae for water quality, biofuel, food production, forensic science, and nanotechnology. Prerequisites: BIOL 1406 and BIOL 1407 Lab fee: \$2.

**BIOL 3436. Plant Physiology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of physiology of green plants with emphasis on nitrogen metabolism, respiration, mineral nutrition, photosynthesis, and growth. Prerequisite: BIOL 1406 or BIOL 1407 Lab fee: \$2.

**BIOL 3449. Animal Diversity. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of the morphology, taxonomy, biology, and phylogeny of the invertebrate animals. In lecture, students concentrate on basic concepts of structures, function and evolutionary development of major invertebrate groups. In lab, students are exposed to a large collection of invertebrates, learning about systematics, ecology, structure and phylogenetic relationships. Prerequisite: 12 hours of BIOL or approval by the department head. Lab fee: \$2.

**BIOL 3485. Immunology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Emphasis on the basic concepts of humoral and cell-mediated immunity. Laboratory: current techniques in experimental immunology and serology. Prerequisites: BIOL 2300, BIOL 3407 and one year of CHEM or approval by the department head. Lab fee: \$2.

**BIOL 4086. Biology Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

A course open by invitation to capable juniors and seniors wishing to pursue a biological problem. Students are permitted and encouraged to work independently under the guidance of an instructor. May be repeated for credit, subject to the approval by the department head. Prerequisite: 14 hours of BIOL Lab fee: \$2.

**BIOL 4090. Special Topics. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 3-9 Hours).**

Deals with selected topics in biology. May be repeated for credit when topics vary. Prerequisite: approval of department head.

**BIOL 4185. Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Survey of biological literature, biological instrumentation, history of biology, and current trends in biological sciences. Grading in this course is satisfactory/unsatisfactory. Prerequisite: 12 hours BIOL or approval of department head.

**BIOL 4320. Behavioral Ecology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The aim of this course is to understand variation in behavior among species and among individuals within a species. The course will focus on how behavior affects an animal's ability to survive and reproduce. Prerequisites: 12 hours of biology or approval by department head.

**BIOL 4325. Conservation Biology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles of conservation biology and the major issues that define the discipline. Study of value, threats to, and conservation of biodiversity. Conservation issues at the population and species levels, policy, and practical applications of the science will be included. Prerequisite: Course in Ecology, or department head approval.

**BIOL 4340. Developmental Biology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to basic principles of developmental biology. The course will include sections on classical embryology, the molecular basis of development, and evolution of development. In addition, students will read/discuss relevant articles from the primary literature. Prerequisites: BIOL 3303 or BIOL 3403.

**BIOL 4350. Vaccines. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will cover the basic principles in the study of vaccines by providing a foundation to the understanding of the immune response to vaccinations, development of vaccinations, and the significance of individual human and animal vaccines. Prerequisites: BIOL 3407.

**BIOL 4370. Organisms and Ecosystems of Texas. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

A comparison of the organisms and ecosystems of Texas. Prerequisites: BIOL 1406, BIOL 1407, CHEM 1411, CHEM 1412, and either CHEM 2423 or both CHEM 2323 and CHEM 2123, or approval of department head. Lab fee: \$2.

**BIOL 4374. Biochemistry I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the basic principles of biological chemistry and to fundamental processes of plants, animals and microorganisms. Credit for both BIOL 4374 and CHEM 4374 will not be awarded. Prerequisites: BIOL 3407 with "C" or better, and either CHEM 2423 or both CHEM 2323 and 2123 with "C" or better.

**BIOL 4375. Biochemistry II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A detailed survey of intermediary metabolism. The metabolism of carbohydrates, lipids, proteins and nucleic acids, and the regulation of metabolism are emphasized. Credit for both BIOL 4375 and CHEM 4375 will not be awarded. Prerequisites: BIOL/CHEM 4374, or approval of department head.

**BIOL 4378. Biochemistry Lab. 3 Credit Hours (Lecture: 1 Hour, Lab: 5 Hours).**

Principles and applications of basic methodology for the isolation, purification, characterization, and quantitative determination of biologically important compounds. Credit for both BIOL 4378 and CHEM 4378 will not be awarded. Prerequisite: BIOL 4374 or CHEM 4374 Lab fee: \$2.

**BIOL 4398. Current Topics in the Life Sciences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Students will apply knowledge and skills learned in previous courses to address biological issues through writing, oral presentations, and other assessments. All majors must complete this course to graduate with a BS in Biology or BS in Biomedical Science. Prerequisites: Major in Biology or Biomedical Science and at least 80 hours of coursework completed, including BIOL 1406, BIOL 1407, BIOL 2300, BIOL 3103 and BIOL 3303, BIOL 3353, and BIOL 3407, or Department Head Approval.

**BIOL 4401. Ecology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The scientific study of the biotic and abiotic interactions that determine the distribution and abundance of organisms. Prerequisites: BIOL 1406, BIOL 1407, and 4 hours of chemistry Lab fee: \$2.

**BIOL 4420. Terrestrial Field Ecology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the structure and functioning of terrestrial communities with an emphasis on plants. Laboratories will be conducted over three weekends. Prerequisite: Plant Taxonomy (BIOL 3415) or department head approval Lab fee: \$2.

**BIOL 4430. Ornithology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the basic biology of birds, including origins, systematics, ecology, biogeography, physiology, anatomy, and reproductive biology. Laboratory emphasizes identification of regional avifauna and includes multiple field trips. Prerequisite: BIOL 1406 and BIOL 1407. Lab fee \$2.

**BIOL 4440. Herpetology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A survey of the biology of amphibians and reptiles, with emphasis on phylogenetics, ecology, physiology, morphology, zoogeography, conservation, and taxonomy. Laboratory and field work will provide students with practical experience in collecting, identifying, and preparing specimens of regional species, as well as observing populations in natural settings. Prerequisites: BIOL 1406 and BIOL 1407. Lab fee: \$2.

**BIOL 4441. Freshwater Biology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of aquatic communities and the biogeochemical factors affecting the productivity of ponds, reservoirs, and streams (Limnology). Labs focus on field collections and student-driven experimental research. Prerequisites: 1 year of CHEM and 12 hours of BIOL, including BIOL 1406 and 1407 (or department head approval). Lab fee: \$2.

**BIOL 4445. Parasitology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A survey of the various invertebrate parasites of medical importance with particular reference to epidemiology and the host-parasite relationship. Prerequisites: 12 hours of BIOL or approval by the department head. Lab fee \$10.

**BIOL 4451. Mammalogy. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the evolution, anatomy, behavior, ecology, systematics, and basic biology of mammals. Laboratory work includes identification of regional mammals as well as techniques for the collection and preparation of mammalian specimens. Prerequisite: BIOL 1406 and BIOL 1407. Lab fee \$2.

**BIOL 4460. Animal Physiology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An advanced course in the fundamentals of vertebrate physiology emphasizing physiologic mechanisms from a basic molecular/cellular level up to the level of organ systems, which include the nervous, endocrine, muscular, cardiovascular, respiratory, digestive and urinary systems. The basic physiologic mechanisms are presented in the context of human physiology, however, how selected animals are adapted to particular environments is addressed. Laboratory exercises involve the use of electronic instrumentation to measure physiologic responses non-invasively in human volunteers or in surgically prepared animals. Prerequisite: 12 hours of BIOL and one semester of organic chemistry with laboratory. Lab fee: \$2.

**BIOL 4462. Ichthyology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the anatomy, behavior, ecology, evolution, taxonomy, and zoogeography of fishes. Field and laboratory work provide students with practical experience in collecting, identifying, and studying fishes. Emphasis will be placed on local fauna. Prerequisite: BIOL 1406 and BIOL 1407. Lab fee \$2.

**BIOL 5086. Biological Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Independent research under the supervision of an instructor. A formal report will be submitted to the instructor. A student may not count more than 6 hours of biological problems toward a degree. Lab fee \$10.

**BIOL 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thesis. No credit until thesis is completed. Prerequisite: BIOL 5398 and consent of major professor.

**BIOL 5185. Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

A graduate seminar course providing the opportunity for students to lead discussions on a current topic in Biology. Topics vary according to interests of faculty and/or students. May be repeated for credit as topics vary. Prerequisite: 12 hours of biology.

**BIOL 5302. Ecological Plant Physiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The interrelations of plants and their environments with emphasis on those which are subject to manipulation. Critical processes such as dormancy, photosynthesis, nutrition, reproduction, and water relations and their interactions in survival and biomass production. Prerequisite: BIOL 3426 or approval by the department head.

**BIOL 5309. Cellular Biology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of cellular morphology and function at the ultrastructural and molecular level. Prerequisites: Organic chemistry and 18 hours of BIOL or approval by the department head.

**BIOL 5310. Developmental Biology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to basic principles of developmental biology. The course will include sections on classical embryology, the molecular basis of development, and evolution of development. In addition, students will read/discuss relevant articles from the primary literature. Students cannot receive credit for both BIOL 5310 and BIOL 4340. Prerequisite: A course in genetics.

**BIOL 5315. Vaccines. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will cover the basic principles in the study of vaccines by providing a foundation to the understanding of the immune response to vaccinations, development of vaccinations, and the significance of individual human and animal vaccines. Students cannot receive credit for both BIOL 5315 and BIOL 4350. Prerequisite: A course in microbiology.

**BIOL 5320. Environmental and Restoration Biology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of human interactions with plants and animals within ecosystems with an emphasis on conservation and restoration ecology. Outdoor laboratories and restoration of plant communities are required.

**BIOL 5321. The Aquatic Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the basic principles involved in the ecology of the aquatic community including biotic and abiotic relationships. Emphasis placed on the sources of water contamination to include the effects of the contamination upon the changes in water chemistry and their possible biological implication. Prerequisite: 18 hours of BIOL and 2 semesters of CHEM or approval by the department head.

**BIOL 5330. Development of Modern Biological Concepts. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the development of biological concepts and their impact upon science and society. Biographical as well as contemporary readings will be involved. Prerequisite: Graduate classification or approval by the department head.

**BIOL 5331. Conservation Biology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles of conservation biology and the major issues that define the discipline. Study of value, threats to, and conservation of biodiversity. Conservation issues at the population and species levels, policy, and practical applications of the science will be included. Prerequisites: Genetics and Ecology, or approval of department head.

**BIOL 5340. Pathogenic Microbiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the disease-producing capacities of various microorganisms with emphasis on the diagnostic procedure of isolation and identification. Students cannot receive credit for both BIOL 5340 and BIOL 3395. Prerequisite: A course in microbiology Lab fee: \$2.

**BIOL 5345. Behavioral Ecology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The aim of this course is to understand variation in behavior among species and among individuals within a species. The course will focus on how behavior affects an animal's ability to survive and reproduce. Students cannot receive credit for both BIOL 5345 and BIOL 4320.

**BIOL 5350. Environmental Microbiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This online course will examine the microbial populations in various environments and assess how they interact to impact these environments. Prerequisite: enrolled in graduate school.

**BIOL 5360. Bacterial Genetics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A graduate course in genetics using bacteria as a model organism. Prerequisite: Enrolled in graduate school. Undergraduate level cell biology or genetics.

**BIOL 5361. Evolutionary Biology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examination of evolutionary patterns, mechanisms and processes at the organismal, chromosomal and molecular levels; modes of adaptation and the behavior of genes in populations. Prerequisite: Genetics.

**BIOL 5374. Biochemistry. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the basic principles of biological chemistry and to fundamental processes of plants, animals and microorganisms. Students cannot receive credit for both BIOL 5347 and BIOL 4374. Prerequisite: Organic Chemistry with "C" or better.

**BIOL 5375. Biochemistry II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A detailed survey of intermediary metabolism. The metabolism of carbohydrates, lipids, proteins and nucleic acids, and the regulation of metabolism are emphasized. Students cannot receive credit for both BIOL 5375 and BIOL 4375. Prerequisites: Courses in Organic Chemistry and Biochemistry.

**BIOL 5378. Biochemistry Lab. 3 Credit Hours (Lecture: 1 Hour, Lab: 5 Hours).**

Principles and applications of basic methodology for the isolation, purification, characterization, and quantitative determination of biologically important compounds. Students cannot receive credit for both BIOL 5310 and BIOL 4378. Prerequisites: Courses in Organic Chemistry and Biochemistry Lab fee: \$2.

**BIOL 5380. Biological Scientific Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the basic principles of scientific writing with an emphasis on writing for the biological sciences. A specific focus of the course will be on the design, planning and writing of a research proposal in terms of problem selection, objectives, methodology, and formatting. Students will learn the types of literature and complete a literature search and review. Students will present their research proposal in an oral presentation.

**BIOL 5390. Special Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected topics in an identified area of biology, biochemistry or biotechnology. May be repeated for credit as topics vary. Prerequisites: 12 hours of biology and 8 hours of chemistry or approval of department head.

**BIOL 5398. Research Design and Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Statistical principles and techniques applicable to the procurement, analysis, and evaluation of quantitative data. Prerequisite: MATH 1314 or approval by the department head.

**BIOL 5399. Practicum, Field Problem, or Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised practice in specialized laboratory or professional settings. Prerequisites: 12 hours of biology and 8 hours chemistry or approval of department head.

**BIOL 5401. Ecology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The scientific study of the biotic and abiotic interactions that determine the distribution and abundance of organisms. Students cannot receive credit for both BIOL 5401 and BIOL 4401. Lab fee: \$2.

**BIOL 5402. Histology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to cellular ultrastructure. Study of vertebrate tissues and their arrangement in various organs. Students cannot receive credit for both BIOL 5402 and BIOL 3402. Lab fee: \$2.

**BIOL 5406. Comparative Vertebrate Anatomy. 4 Credit Hours (Lecture: 3 Hours, Lab: 4 Hours).**

The morphology, physiology, and phylogeny of the organ systems of vertebrates. Laboratory study of representative vertebrates. Students cannot receive credit for both BIOL 5406 and BIOL 3406. Lab fee: \$2.

**BIOL 5410. Terrestrial Field Ecology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the structure and functioning of terrestrial communities with an emphasis on plants. Laboratories will be conducted over three weekends. Students cannot receive credit for both BIOL 5410 and BIOL 4420. Prerequisite: A course in plant taxonomy or department head approval Lab fee: \$2.

**BIOL 5413. Molecular Biology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Fundamentals of gene expression, gene regulation, DNA metabolism and nucleic acid structure, recombinant DNA techniques and protein structure. Students cannot receive credit for both BIOL 5413 and BIOL 3413. Prerequisites: Course in genetics and organic chemistry Lab fee: \$2.

**BIOL 5415. Plant Taxonomy. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Principles of plant taxonomy. Field and laboratory studies of common Texas wild flowers and trees with emphasis on identification, collection, and preparation of herbarium specimens. Students cannot receive credit for both BIOL 5415 and BIOL 3415. Lab fee: \$2.

**BIOL 5420. Plant Pathology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Study of the various types of plant diseases and specific examples of each type. Emphasis upon identification, host-parasite interactions, pathogen dissemination, and control methods. Students cannot receive credit for both BIOL 5420 and BIOL 3420. Lab fee: \$2.

**BIOL 5430. Ornithology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the basic biology of birds, including origins, systematics, ecology, biogeography, physiology, anatomy, and reproductive biology. Laboratory emphasizes identification of regional avifauna and includes multiple field trips. Students cannot receive credit for both BIOL 5430 and BIOL 4430. Lab fee: \$2.

**BIOL 5436. Plant Physiology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of physiology of green plants with emphasis on nitrogen metabolism, respiration, mineral nutrition, photosynthesis, and growth. Students cannot receive credit for both BIOL 5436 and BIOL 3436. Lab fee: \$2.

**BIOL 5440. Herpetology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A survey of the biology of amphibians and reptiles, with emphasis on phylogenetics, ecology, physiology, morphology, zoogeography, conservation, and taxonomy. Laboratory and field work will provide students with practical experience in collecting, identifying, and preparing specimens of regional species, as well as observing populations in natural settings. Students cannot receive credit for both BIOL 5440 and BIOL 4440. Lab fee: \$2.

**BIOL 5441. Freshwater Biology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of aquatic communities and the biogeochemical factors affecting the productivity of ponds, reservoirs, and streams (Limnology). Labs focus on field collections and student-driven experimental research. Students cannot receive credit for both BIOL 5441 and BIOL 4441. Lab fee: \$2.

**BIOL 5445. Parasitology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course will cover parasite diversity (focusing on parasitic organisms of medical and veterinary importance) and parasite biology including aspects of morphology, identification, pathology, treatment, and ecology of the parasite-host relationship. Students cannot receive credit for both BIOL 5445 and BIOL 4445. Lab fee: \$2.

**BIOL 5449. Animal Diversity. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of the morphology, taxonomy, biology, and phylogeny of the invertebrate animals. In lecture, students concentrate on basic concepts of structures, function and evolutionary development of major invertebrate groups. In lab, students are exposed to a large collection of invertebrates, learning about systematics, ecology, structure and phylogenetic relationships. Students cannot receive credit for both BIOL 5449 and BIOL 3449. Lab fee: \$2.

**BIOL 5451. Mammalogy. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the evolution, anatomy, behavior, ecology, systematics, and basic biology of mammals. Laboratory work includes identification of regional mammals as well as techniques for the collection and preparation of mammalian specimens. Students cannot receive credit for both BIOL 5451 and BIOL 4451. Lab fee: \$2.

**BIOL 5460. Animal Physiology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An advanced course in the fundamentals of vertebrate physiology emphasizing physiologic mechanisms from a basic molecular/cellular level up to the level of organ systems, which include the nervous, endocrine, muscular, cardiovascular, respiratory, digestive and urinary systems. The basic physiologic mechanisms are presented in the context of human physiology, however, how selected animals are adapted to particular environments is addressed. Laboratory exercises involve the use of electronic instrumentation to measure physiologic responses non-invasively in human volunteers or in surgically prepared animals. Students cannot receive credit for both BIOL 5460 and BIOL 4460. Lab fee: \$2.

**BIOL 5462. Ichthyology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the anatomy, behavior, ecology, evolution, taxonomy, and zoogeography of fishes. Field and laboratory work provide students with practical experience in collecting, identifying, and studying fishes. Emphasis will be placed on local fauna. Students cannot receive credit for both BIOL 5462 and BIOL 4462. Lab fee: \$2.

**BIOL 5470. Phycology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Hands-on training in the taxonomy, ecology, and ecophysiology of algae. Discussion of current uses of algae for water quality, biofuel, food production, forensic science, and nanotechnology. Students cannot receive credit for both BIOL 5470 and BIOL 3430. Lab fee: \$2.

**BIOL 5475. Immunology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Emphasis on the basic concepts of humoral and cell-mediated immunity. Laboratory: current techniques in experimental immunology and serology. Students cannot receive credit for both BIOL 5475 and BIOL 3485. Lab fee: \$2.

## Business Law

### Courses

**BLAW 4084. Internship. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-20 Hours).**

Preapproved and supervised work experience in a business law related position with a public or private business organization. May be repeated for a total of 6 hours credit. Prerequisite: Approval of department head.

**BLAW 4086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A directed study of selected problems in business law. May be repeated with approval of the head of the Department. Prerequisite: Approval of department head.

**BLAW 4090. Special Topics in Business Law. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

An examination of current topics in business law. Readings required from current business law publications and other related periodicals. May be repeated for credit when topics vary. Prerequisite: 9 hours in BLAW.

**BLAW 4333. Business Law II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the principles of law concerning agency, employment, partnerships, corporations, bankruptcy, secured transactions, creditor/debtor rights, insurance, real and personal property, laws impacting the regulatory environment of business such as consumer protection, environment, anti-trust, and securities law.

**BLAW 4334. Employment Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the laws relating to employment. Includes defining the employer-employee relationship; regulation of discriminatory practices in employment (Title VII, the 1964 Civil Rights Act, and other statutes); regulation of the employment environment; and testing and evaluation of employee job performance.

**BLAW 4384. International Business Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of international commercial business and the legal environment within which it operates. The study of traditional international concepts of treaties, sovereignty, public and private laws, customs laws, licensing, franchising, environmental and employment law. Special emphasis on contracts for international sale of goods (CISG), GATT and WTO Treaties, NAFTA, regional trade areas. Credit for both BLAW 4384 and BLAW 5384 will not be awarded.

**BLAW 4385. Seminar in Business Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of selected topics dealing with problems or unique needs of business law. May be repeated for credit as topics vary. Prerequisite: Approval from department head.

**BLAW 5303. Healthcare Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the federal and Texas legal system with an overview of the statutory and regulatory process as well as significant laws and regulations as applicable to the provision of and business of health care in this country.

**BLAW 5384. International Business Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of international commercial business and the legal environment within which it operates. The study of traditional international concepts of treaties, sovereignty, public and private laws, customs laws, licensing, franchising, environmental and employment law. Special emphasis on contracts for international sale of goods (CISG), GATT and WTO Treaties, NAFTA, regional trade areas. In addition, a research based project will be required. Graduate standing required. Credit for both BLAW 4384 and BLAW 5384 will not be awarded.

## Business

### Courses

**BUSI 1100. Transitioning to University Studies in Business. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective.

**BUSI 1301. Business Principles. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Business as an integral part of society. Emphasis on ethics, social responsibility, the legal environment, and global perspectives.

**BUSI 1307. Personal Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of individual and family problems, includes financial planning, budgeting, use of credit, home ownership, savings, investment, and tax problems.

**BUSI 2301. Business Law I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the principles of law relating to law and ethics, the judicial system, constitution, tort and criminal law, law of sales, and commercial property.

**BUSI 2311. Business Statistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Methods of sampling, classifying, analyzing, and presenting numerical data; frequency distribution, averages, dispersion, times series analysis, correlation, and forecasting for business purposes.

**BUSI 3312. Business Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A study of effective communication, both verbal and written. Provides students the opportunity to gain practice in making decisions involving selection and organization of communication content, in choosing appropriate medium for presentation of information and developing effective business writing styles.

**BUSI 4084. Internship. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-20 Hours).**

Preapproved and supervised work experience in a business related position with a public or private business organization. May be repeated for a total of 6 hours credit. Prerequisite: Approval of Instructor and Department Head.

**BUSI 4086. Business Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A directed study of selected problems in business. May be repeated with approval of the head of the Department. Prerequisites: Approval of Instructor and Department Head.

**BUSI 4090. Special Topics in Business. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

An examination of current topics in general business. Readings required from current general business publications and other related periodicals. May be repeated for credit when topics vary. Prerequisite: Approval of Instructor and Department Head.

**BUSI 4344. Introduction to International Business. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Broad coverage of key concepts and issues in international business. Emphasis on the environment of international business and the operations of the multinational firm.

**BUSI 4359. Business Strategy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A capstone course involving the integration of concepts and principles studied in accounting, economics, finance, management, marketing, quantitative methods, and other relevant disciplines. Includes problem solving and business decision making. Designed to be taken by senior business majors during their last semester. Prerequisite: FINC 3301, BUSI 2311, MGMT 3300, MKTG 3312; or approval of department head.

**BUSI 4385. Seminar in General Business. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of selected topics dealing with problems or unique needs of business. May be repeated for credit as topics vary. Prerequisite: Approval of Instructor and Department Head.

**BUSI 4387. Small Business Consulting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will develop skill in diagnosing and analyzing problems of actual small business clients and will prepare formal written reports and recommendations for client implementation.

**BUSI 4389. Global Business Practices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of basic international business concepts, cultural literacy, and discipline specific content are then applied to practical experiences and activities related to the foreign country visited. A required study abroad at the student's expense is required. Student may complete a maximum of six hours of COBA sponsored study abroad toward degree completion. Field assignment fee of \$50.

**BUSI 4398. Capstone for Applied Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A capstone course designed for students to synthesize the knowledge, skills, and attitude learned throughout the undergraduate applied degree. Students will demonstrate their ability to articulate career pathways, contribute to the organizational structure of business/industry or other institutions, and examine strategies needed to make difficult decisions. Work may include individual/group research and critical reviews of existing bodies of knowledge. Prerequisites: Restricted to student pursuing the Bachelor of Science in Applied Science degree and in their final semester(s).

**BUSI 5086. Business Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

This course offers students the opportunity to become acquainted with current research being conducted within the student's area of interest, directed reading of a number of sources selected in concert by the student and professor.



**BUSI 5090. Special Topics in Business. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

An examination of current topics in business. Readings required from current business publications and other related periodicals. May be repeated for credit when topics vary.

**BUSI 5354. Seminar in International Business. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Concepts and issues related to global business operations. Emphasis on the environment of international business and the operations of the multinational firm.

**BUSI 5365. Managerial Statistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Review of applied descriptive and inferential statistical calculations. Examination of statistics as a decision-making tool under uncertainty; focusing on probability, univariate/inferential and multivariate statistics. Emphasis is on interpretation of statistical information. Student will evaluate and interpret data, and report on current problems in the student's field of study.

**BUSI 5387. Small Business Consulting. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Students will develop skill in diagnosing and analyzing problems of actual small business clients and will prepare formal written reports and recommendations for client implementation. Prerequisites: 12 hours of graduate work and approval of SBI director.

**BUSI 5388. Seminar in Business Strategy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An integrated view of the business functions addressed in the MBA core curriculum. Applies case analysis methodology for evaluating complex business situations, developing strategic alternatives, and recommending effective solutions. Prerequisites: FINC 5303 and MKTG 5308. Pre- or corequisites: the remaining MBA core courses.

**BUSI 5389. Global Business Practices. 3 Credit Hours (Lecture: 4.5 Hours, Lab: 0 Hours).**

A study of basic international business concepts, cultural literacy, and discipline specific content are then applied to practical experiences and activities in the foreign country visited. A study abroad at the student's expense is required. Graduate students will be required to complete an extensive research project in addition to other course requirements. Student may complete a maximum of six hours of COBA sponsored study abroad toward degree completion. Prerequisites: Admission into a COBA graduate program and permission of the instructor.

**BUSI 5391. Seminar in Business. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected business topics of current importance to business. May be repeated for credit when topics vary.

**BUSI 5397. Evidence Based Decision Making. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theory and practice of Evidence-Based Decision Making are explored. Evidence from scientific literature, organization data, professional expertise and stakeholder interests are considered. Students will demonstrate that business decisions are the result of in depth research, data analysis and not the simple application of common sense.

## Chemistry

### Courses

**CHEM 1302. Essential Elements of Chemistry. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

An introduction to the science of chemistry with a broad overview of the essential elements of chemistry and real-life applications. Enrollment in this course is restricted to Interdisciplinary Studies majors. Lab Fee \$2.

**CHEM 1407. Fundamentals of Chemistry. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

A beginning chemistry course for students in applied sciences who need only one semester of general chemistry. The course includes the structure, properties and changes in matter, quantitative relationships in reactions, solutions, equilibrium, pH, buffers and nuclear chemistry. Not recommended for science majors or pre-professional students in health related fields. Does not meet prerequisite for CHEM 1412 or 2423. Lab fee \$2.

**CHEM 1409. College Chemistry for Engineers. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to important concepts and principles of chemistry with an emphasis on areas considered most relevant in an engineering context. Registration will be restricted to engineering majors only. Engineering students may not receive credit for both CHEM 1408 and CHEM 1411. Prerequisites: MATH 1314, or MATH 2412, or MATH 2413, or concurrent enrollment. Lab fee: \$2.

**CHEM 1411. College Chemistry I. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Topics to be covered include an introduction to fundamental chemical laws, atomic structure and its relationship to chemical bonding and the periodic properties of elements and compounds, stoichiometry, states of matter, and solutions. Suggested for science majors and pre-professional students. Prerequisite: Choose one of the following: MATH 1314, MATH 1316, MATH 2412, MATH 2413, or concurrent enrollment. Lab fee: \$2.

**CHEM 1412. College Chemistry II. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Topics to be covered include a study of the chemical and physical properties of selected families of elements, an introduction to energy changes in chemical reactions, chemical equilibria, electrochemistry, rates of chemical reactions, nuclear chemistry, and semi-micro qualitative analysis. This course is a prerequisite for Organic Chemistry I (CHEM 2323 & CHEM 2123). Prerequisite: CHEM 1411. Lab fee: \$2.

**CHEM 2123. Organic Chemistry I Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 4 Hours).**

Laboratory portion associated with lecture CHEM 2323 Prerequisite: CHEM 1412 or CHEM 1409(for Engineering Majors only) prerequisite or co-enrollment in CHEM 2323 Lab fee: \$2.

**CHEM 2125. Organic Chemistry II Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 4 Hours).**

Laboratory portion associated with lecture CHEM 2325 Prerequisite: CHEM 2123; CHEM 2323; prerequisite or co-enrollment in CHEM 2325 Lab fee: \$2.

**CHEM 2323. Organic Chemistry I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The first semester of a year sequence in the chemistry of carbon compounds involving their synthesis, reaction mechanisms, nomenclature, physical and spectral properties. Includes compounds of theoretical, biological, agricultural, and industrial importance. Prerequisite: CHEM 1412 or CHEM 1409(for Engineering Majors only).

**CHEM 2325. Organic Chemistry II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A continuation of CHEM 2323. The laboratory includes an introduction to qualitative organic analysis. This course is a prerequisite to all organic chemistry courses at the junior or higher level. Prerequisite: CHEM 2323 (2423).

**CHEM 2423. Organic Chemistry I. 4 Credit Hours (Lecture: 3 Hours, Lab: 4 Hours).**

The first semester of a year sequence in the chemistry of carbon compounds involving their synthesis, reaction mechanisms, nomenclature, physical and spectral properties. Includes compounds of theoretical, biological, agricultural, and industrial importance. Prerequisite: CHEM 1412 or CHEM 1409(for Engineering Majors only) Lab fee: \$2.

**CHEM 2425. Organic Chemistry II. 4 Credit Hours (Lecture: 3 Hours, Lab: 4 Hours).**

A continuation of Organic Chemistry I (CHEM 2323 and CHEM 2123). The laboratory includes an introduction to qualitative organic analysis. This course is a prerequisite to all organic chemistry courses at the junior or higher level. Prerequisites: CHEM 2423 or both CHEM 2323 and CHEM 2123. Lab fee: \$2.

**CHEM 3124. Physical Chemistry II Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

A laboratory introduction to the microscopic properties of nature, including an introduction to quantum mechanics and its applications to atomic and molecular spectroscopy. Prerequisite: CHEM 3423 Lab fee: \$2.

**CHEM 3314. Geochemistry. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

A survey of the application of chemical principles to problems of geology. Topics include the origin and distribution of the elements in addition to exploring the behavior and distribution of various elements in igneous, metamorphic, and sedimentary rocks. Basic concepts of thermodynamics, solution chemistry, and isotope geochemistry will be discussed. Credit for both CHEM 3314 and GEOL 3314 will not be awarded. Prerequisite: CHEM 1412. Lab fee \$10.

**CHEM 3324. Physical Chemistry II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the microscopic properties of nature, including an introduction to quantum mechanics and its applications to atomic and molecular spectroscopy. Prerequisite: CHEM 3423.

**CHEM 3407. Quantitative Analysis. 4 Credit Hours (Lecture: 2 Hours, Lab: 6 Hours).**

A study of the experimental and theoretical principles concerning gravimetric and volumetric analysis. Topics include data treatment, equilibrium, precipitation, neutralization, oxidation, reduction, potentiometry, and introduction to spectroscopy. Prerequisites: A grade of C or better in 8 hours of freshman CHEM; junior classification or approval of department head. Lab fee \$10.

**CHEM 3423. Physical Chemistry I. 4 Credit Hours (Lecture: 3 Hours, Lab: 4 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A study of chemical thermodynamics and its application to chemical equilibrium; the macroscopic properties of matter including real gases, solutions, and phase changes; chemical kinetics. Prerequisites: MATH 2414; PHYS 1402 or 2426 or approval of department head. Lab fee \$10.

**CHEM 4086. Chemistry Problems: Undergraduate Research. 1-4 Credit Hours (Lecture: 0 Hours, Lab: 1-4 Hours).**

Conducting an undergraduate research project in Chemistry. May be repeated for credit. A maximum of four hours may be applied toward degree requirements in chemistry. Prerequisite: Approval of department head.

**CHEM 4160. Professional Lab Safety Techniques and Ethics in Chemistry. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

A capstone course intended for a chemistry major to take during their senior year. Lectures will cover the issues of ethics and lab safety in chemistry as well as the societal impacts of chemistry. The lab portion will be devoted to analyzing case studies, doing literature research, and giving professional style presentations. Prerequisite: Student must be within one year of graduation.

**CHEM 4327. Structural Organic Analysis. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

The identification of the principal classes of organic compounds. Prerequisites: CHEM 2425 or both CHEM 2325 and CHEM 2125. Lab fee: \$2.

**CHEM 4328. Inorganic Chemistry. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussion of the models of inorganic chemistry including atomic structure, chemical bonding, periodic properties, stereochemistry, reaction mechanisms, and coordination chemistry. Properties of specific elements and families are also presented. Prerequisites: CHEM 2425 or both CHEM 2325 and CHEM 2125, and junior classification or approval of department head.

**CHEM 4329. Polymers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A basic study of polymer chemistry, with special emphasis on the effect of the structure of monomers upon the structure of the polymers, is presented. Prerequisites: CHEM 2425 or both CHEM 2325 and CHEM 2125.

**CHEM 4345. Medicinal Chemistry. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the principles of drug action including receptor-effector theories and the effects of physico-chemical properties on biological activity. The principles of drug design, synthesis, and metabolism will be presented. Prerequisites: CHEM 2425 or CHEM 2325 and CHEM 2125, and BIOL 1407.

**CHEM 4374. Biochemistry I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the basic principles of biological chemistry and to fundamental processes of plants, animals, and microorganisms. Credit for both BIOL 4374 and CHEM 4374 will not be awarded. Prerequisites: One semester of organic chemistry (2 semesters recommended), and 8 hours of biological science or approval of department head.

**CHEM 4375. Biochemistry II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A detailed survey of intermediary metabolism. The metabolism of carbohydrates, lipids, proteins and nucleic acids, and the regulation of metabolism are emphasized. Credit for both BIOL 4375 and CHEM 4375 will not be awarded. Prerequisites: BIOL/CHEM 4374, or approval of department head.

**CHEM 4378. Biochemistry Lab. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

Principles and applications of basic methodology for the isolation, purification, characterization, and quantitative determination of biologically important compounds. Credit for both BIOL 4378 and CHEM 4378 will not be awarded. Prerequisite: BIOL 4374 or CHEM 4374 or concurrent enrollment, or approval of the department head. Lab fee \$15.

**CHEM 4408. Instrumental Analysis. 4 Credit Hours (Lecture: 2 Hours, Lab: 6 Hours).**

A study of the theory and use of instruments for chemical analysis. Techniques include absorption spectroscopy, nuclear magnetic resonance, atomic absorption, flame emission, mass spectroscopy, chromatography, potentiometry, and polarography. Prerequisites: CHEM 3407 and 1 semester of organic chemistry or approval of department head. Lab fee \$10.

**CHEM 4477. Environmental Chemistry. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This is an undergraduate course intended for any student who has completed College chemistry 1 and college chemistry II with an interest towards Environmental Science. This course includes both lecture and laboratory components. Lectures will cover topics which provide the understanding of interactions between chemical compounds whether anthropogenic or natural with the ecosystem. This course will provide qualitative and quantitative knowledge on effects of changes in water, soil, air and its effects on the environment. The lab portion includes bench scale and field scale experiments to put theory to practice. Water and soil samples will be collected from different sources and lab made samples will be used to detect and analyze the various types of pollutants and their mitigation methods will be discussed. Prerequisite: CHEM 1412. Lab fee: \$2.

**CHEM 5086. Chemical Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Independent research in the laboratory or in the library under the guidance of a member of the graduate faculty. Up to 6 hours may be taken.

**CHEM 5310. Environmental Chemistry. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of the impact of chemistry on the environment to include topics on air, water, and soil pollution, with special emphasis on water. Beneficial chemical modification of the environment will be covered.

## Child and Family Studies

### Courses

**CHFS 1100. Transitioning to University Studies in Child and Family Studies. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

An introduction to and analysis of the culture child and family studies. Students will examine best practices when working with families and children from diverse backgrounds and needs through directed field experiences. This course also meets the First Year Seminar requirement.

**CHFS 1304. Infant and Toddler Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Emphasis is on the child from conception through younger years with a study of growth and development in the family setting. Directed observation in approved settings is required. Prerequisite: Moved course into CUI department per approval from THECB 2.8.2021.

**CHFS 3300. Child Development: Theory, Research, and Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the child's physical, mental, social, and emotional development from birth to 18 years old. Emphasis is placed on the three year old to adolescent child and those factors which influence his/her growth. Credit for both CHFS 3300 and FACS 3300 will not be awarded. All CHFS majors must earn a grade of C or better in the course. Prerequisite: Junior classification or approval of department head.

**CHFS 3305. Management of a Licensed Child Care Program. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Basic principles of the management of licensed child care programs are studied. Experience is gained in using guidance techniques, methods and materials appropriate to the pre-school level. The class plans and operates a child care center. Credit for both CHFS 3305 and FACS 3305 will not be awarded.

**CHFS 3306. Application of Management of a Licensed Child Care Program. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is designed for application of the basic principles of the management of licensed child care programs. Experience and skills are gained in using guidance techniques, methods and materials that are developmentally appropriate. Field experience is required. Prerequisite: CHFS 3305.

**CHFS 3310. Methodology of Family Life Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An understanding of the philosophies and principles of family life education, including knowledge of the family life certification process and content areas. This course will include a survey and critique of various existing family life education programs as well as the development, implementation, and evaluation of new evidence-based programs. Prerequisite: Junior Classification or Approval of Department Head.

**CHFS 3315. Concept Development in Early Childhood. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An exploration of theory and practice in teaching science, mathematics, social studies/diversity and technology to young children. An emphasis is placed on developmentally appropriate practices that facilitate skill development. This course includes 8 hours of field experience in an early childhood classroom. Prerequisite: CHFS 3300 or approval of Department Head.

**CHFS 3316. Human Intimacy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A functional approach to the understanding of the interpersonal dynamics and choices in primary and secondary relationships such as those with friends, dating partners, and potential mates. The study will include a brief historical and cross-cultural perspective with emphasis on the roots of modern American customs and the rituals of dating and mate selection. Current issues in human sexuality are included. A major component of the class is a study of interpersonal communication. Prerequisite: PSYC 2301.

**CHFS 3333. Family Financial Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Special emphasis is given to the use of family finances in achieving goals. Consideration made for financial protection and financial planning for the family life cycle.

**CHFS 3344. Creative Arts and Literature for Children. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An exploration of theory, practice, and materials for teaching young children music, movement, visual arts, and literacy. An emphasis will be placed on developmentally appropriate practice including process-focused activities and skill development. Direct observation and practice in approved off-campus settings is required. Prerequisites: CHFS 3300.

**CHFS 3353. Child and Youth Guidance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines positive guidance strategies for children from birth to eight years. Students will explore theoretical foundations related to child development and the implementation of various models to foster self-control, organize environments and curriculum for pro-social skills, methods for addressing persistent and challenging behaviors. Emphasis will be on behavior management and on guidance strategies for preschool and early elementary children. The course will also explore a wide variety of issues in relation to parenting, child-rearing practices, and child-family relations. Direct observation and practice in approved off-campus settings is required. Prerequisites: CHFS 3300.

**CHFS 4085. Internship Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

This internship includes supervised, field-based activities in licensed daycare facilities. Major emphasis is placed on the developmentally appropriate instructional strategies and professional practices designed to improve teaching and child care performance. Students are required to conduct a reflective analysis of their internship activities. May be repeated for credit. Direct observation and practice in approved off-campus settings is required. Prerequisite: CHFS 3300.

**CHFS 4309. Parenting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A contemporary approach to basic principles and skills needed for effective parenting. Study will include assessment of parenting programs and techniques. Emphasis is placed on creating nurturing home environments through the life cycle. Prerequisite: CHFS 3300.

**CHFS 4317. Environments in Early Childhood. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An exploration of the Early Childhood environments, including plans, procedures, physical environment (use of learning centers) and activities for development and assessment of young children. Additionally, this course will examine current issues facing professionals in early childhood settings. Prerequisites: CHFS 3300.

**CHFS 4320. Early Intervention Services. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the systems of services available in various states around the country that assists infants and toddlers with developmental delays or disabilities. Students will learn what constitutes a developmental delay, developmental milestones, screening and/or evaluations, Individual Family Service Plans, and the personnel and their roles involved in early intervention services.

**CHFS 4340. Play Theory and Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Exploration of historical and contemporary therapeutic play theory and research from infancy through young adulthood. Play environments, learning objectives for various age groups, and play therapy are covered.

**CHFS 4345. Child Life. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A review of the historical and theoretical perspectives on the development of the child life field and information on fundamental skills required to help children and families cope with the stress of the health care experience. Prerequisites: CHFS 1304, 3300.

**CHFS 4350. Policies and Ethical Standards. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A study of moral, ethical, and legal issues faced by professionals working with children and families. Students will learn to assess each situation independently and evaluate alternative approaches to promoting optimal development. Information on the legal aspects of early childhood intervention, working with young children with special needs, and the ethical treatment of families in poverty will be included. Prerequisite: CHFS 3300, Senior Classification or approval of Department Head.

**CHFS 4355. Grief, Loss & Bereavement. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to concepts surrounding the nature of loss, suffering, grief, and issues of death and dying. Historical, current, cultural, spiritual, and religious perspectives will be examined with attention to ethical and moral issues. Theoretical foundations will be explored as related to death and dying, as well as other types of loss to include divorce, adoption, foster care, palliative care, transitions and symbolic loss and how it impacts children and families.

**CHFS 4356. Research Methods in Human Sciences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Current research issues and the importance of research in Human Sciences will be discussed. Main tasks include review of literature, introduction to the scientific method of inquiry, analysis of results, and completion of a research paper. All CHFS majors must earn a grade of C or better in the course. Prerequisite: CHFS 3300.

**CHFS 4360. Preprofessional Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Basic information for professional growth including: information relevant to human sciences careers; business interactions; global business-related social and cultural differences; professional correspondence; development of professional marketing tools such as interview skills, preparation of cover letters and resumes. All CHFS majors must earn a grade of C or better in the course.

**CHFS 5086. Special Problems. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor and department head. Prerequisite: Graduate major in College of Education. Prerequisite: Graduate major in College of Education.

**CHFS 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thesis. No credit until the thesis is completed. Prerequisites: Completion of all course work required by the degree and consent of the major professor.

**CHFS 5313. Advanced Human Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of theories that relate to human development and contemporary research findings in areas of the field of human development. Developmental domains and children's relationships within family and society will be emphasized.

**CHFS 5320. Social and Emotional Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Contemporary theory and research related to social and emotional development from infancy through young adulthood. Discussion of the impact of social and emotional development on behavior and interpersonal relationships.

**CHFS 5321. Family Theories and Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of family theories and research which employ the contextual framework of the family as a system and which explain family of origin, family functioning, family structure, and family process. Application of theory and research will include an understanding of the various levels of family functioning as a model for developing family support and intervention plans.

**CHFS 5330. Interpersonal Relationships. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A functional approach to the understanding of the interpersonal dynamics and choices in primary and secondary relationships such as those with friends, dating partners, and potential mates. The study will include a brief historical and cross-cultural perspective with emphasis on the roots of modern American customs and the rituals of dating and mate selection.

**CHFS 5339. Language and Cognitive Development in Childhood. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analysis of current research in preschool language and cognitive development; methods for continuing language and cognitive growth based on the demonstrated processes of brain development.

**CHFS 5340. Advanced Child Life. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A review of the historical and theoretical perspectives on the development of the child life field and information on fundamental skills required to help children and families cope with the stress of the health care experience. This course is required for the Child Life Specialist Certification.

**CHFS 5347. Child and Family Advocacy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the knowledge, skills, and strategies necessary to understand the impact of social policies and institutional practices on the well being of children and families.

**CHFS 5350. Advanced Methods of Family Life Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An understanding of the philosophies and principles of family life education, including knowledge of the family life certification process and content areas. This course will include a survey and critique of various existing family life education programs as well as the development, implementation, and evaluation of new evidence-based programs.

**CHFS 5360. Research Methods in Human Sciences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Course will provide an in-depth review of study design and data analysis methods. Both qualitative and quantitative approaches will be covered, and the publication and peer-review process will be discussed.

## Criminal Justice

### Courses

**CRJ 1100. Transitioning to University Studies in Criminal Justice. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of criminal justice, military, and civil service disciplines.

**CRJ 1301. Introduction to Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the history, philosophy, and operations of the American criminal justice system. Topics include the nature of crime and justice, the history and development of the modern criminal justice system and the role of police, judiciary, and corrections in society.

**CRJ 1306. Court Systems and Practices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to the role of the judiciary in the criminal justice system. Topics include right to counsel, pre-trial release, grand juries, adjudication process, and sentencing. Prerequisite: In progress CRJ 1301.

**CRJ 1310. Fundamentals of Criminal Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the nature of criminal law, philosophical and historical development, major definitions and concepts, classification of crime, elements of crimes and penalties using Texas statutes as illustrations, and criminal responsibility. Prerequisite: in progress CRJ 1301.

**CRJ 1313. Juvenile Justice System. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the juvenile justice process to include specialized juvenile law, role of the juvenile law, role of the juvenile courts, role of police agencies, role of correctional agencies, and theories concerning delinquency. Prerequisite: CRJ 1301 Intro to CJ.

**CRJ 2313. Correctional Systems and Practices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to corrections as a profession. Topics include organization of correctional agencies, the role of corrections in society, correctional philosophies and agency operations, and current and emerging issues. Prerequisite: in progress CRJ 1301.

**CRJ 2314. Criminal Investigation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the investigative theory, collection, and preservation of evidence, sources of information, interview and interrogation, uses of forensic sciences, and case and trial preparation. Prerequisite: In progress CRJ 1301 Intro to CJ.

**CRJ 2328. Police Systems and Practices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to the police profession. Topics include organization of law enforcement agencies, the police role in society, police operations, discretion, corruption, and current and emerging issues. Prerequisite: In progress CRJ 1301.

**CRJ 3301. Survey of Forensic Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduces the scientific methods that currently play a major role in solving crimes. It provides background information on various forensic disciplines together with the basic techniques utilized by forensic scientists in analyzing common types of physical evidence.

**CRJ 3305. Criminology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study and critical appraisal of various theories of crime causation, including an examination of classical, biological, psychological, and sociological perspectives on the etiology of crime.

**CRJ 3308. Comparative Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of criminal justice systems around the world. The organization, administration, and philosophy of various criminal systems will be examined, along with the cultural and historical environment in which they developed and exist.

**CRJ 3309. Victimology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is an introduction to the field of victimology. Emphasis will be given to characteristics of crime victimization and victims, the impact of victimization, and the treatment of victims within the criminal justice system.

**CRIJ 3310. Criminal Justice Supervision and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of theories and principles of supervision as applied to criminal justice agencies. Topics include organization, leadership, motivation, human resources flow, and managerial ethics.

**CRIJ 3311. Techniques of Interviewing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of interview and interrogation techniques. Topics include preparation, environmental and psychological factors, legal issues, and ethics.

**CRIJ 3313. Professional Writings in Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

The process of developing and documenting information related to criminal justice field work and graduate studies in criminology and criminal justice, including researching, editing, revising, and creating technical reports, case narratives, grant applications and reports, academic and field related research proposals, training modules, and correspondence. Students will use word processing and related graphic software. Prerequisite: Criminal Justice major (BS and BAAS) and ENGL 1301 and ENGL 1302.

**CRIJ 3315. Rules of Criminal Evidence. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An analysis of the procedures and rules of evidence applied to the acquisition, offering, admissibility, and presentation of evidence from the crime scene, courtroom, and appellate court perspectives.

**CRIJ 3320. Serial Killers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the evolution of serial homicide and the role of social influences on serial killers. Various criminological and psychological theories are discussed and applied to some of the more infamous serial killers in American society.

**CRIJ 3330. Community Corrections. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the philosophy, administrative procedures, and operational techniques used in the community based treatment and supervision of offenders.

**CRIJ 3340. Homeland Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in-depth study of strategic, legal, policy, operational, and organizational issues associated with the defense of the U.S. homeland from foreign and domestic terrorist threats. Topics include psychology of mass movements, terrorists' ideology, religion and terror, legal issues in homeland security, weapons of mass destruction, effective interfacing between local, state, and federal agencies, emergency management operations and dealing with mass casualties.

**CRIJ 3341. Terrorism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an in depth study of domestic and international terrorism. Major issues to be considered include history and development of terrorism, types of terrorism and terrorist groups, the role of terrorist organizations, motivations for terrorism, and the techniques of terrorism.

**CRIJ 3350. Media, Crime, and Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine the representation of crime and criminal justice in popular culture, in particular in television and film. The purpose of this class is to explore the role of media representation in the understanding of criminal justice issues and policies.

**CRIJ 3360. Sex Crimes. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine sexual offenses and sexual offenders; including pornography, rape, sexually motivated homicides, and nuisance and dangerous sex crimes. The course will study the various typologies of these offenders, as well as their impact on the Criminal Justice System.

**CRIJ 3370. Introduction to Crime Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides introductory skills needed for efficient data management. The manipulation and conversion of crime data to useful information are a basic requisite to accomplish data-driven management and support intelligence-led policing. Several data management applications are examined including MS Excel and Access. No prerequisites.

**CRIJ 3371. Introduction to Crime Mapping. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course provides conceptual knowledge and practical skills to design and implement a GIS-based analysis of community crime problems. This course constitutes an introduction to the scope and methods of crime mapping and analysis. The theory, logic, and practical applications of mapping and analysis are examined with a focus on developing a knowledge base, skills, and integration of mapping and analysis concepts that are applicable to crime detection and prevention. No prerequisites.

**CRIJ 4086. Problems in Criminal Justice. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Independent reading, research and discussion. Entry into this course will be arranged with the department head.

**CRIJ 4301. Gender, Crime, and the Criminal Justice System. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to the issues related to women as victims, offenders, and professionals in the criminal justice system.

**CRIJ 4303. Crime, Justice, and Social Diversity. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to the complex interrelationship between cultural diversity, crime, and the American Criminal Justice System.

**CRIJ 4312. Criminal Justice Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course presents an analysis of contemporary ethical issues in crime and justice. Classical and contemporary ethical theories will be applied to the discussion of such issues as discretion, corruption, use of force, racism, deception, professionalism, and the nature and meaning of justice.

**CRIJ 4316. Methods of Criminal Justice Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course is an introduction to the methods of criminological and criminal justice research, with emphasis on research ethics, research design, and methods of data collection and analysis. Prerequisites: Criminal Justice major (BS and BAAS) and ENGL 1301 and ENGL 1302.

**CRIJ 4318. Criminal Justice Statistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to the elementary forms of statistical analysis, including measures of central tendency, variation, the normal curve and Z scores, measures of difference, regression analysis, and correlations. Emphasis will be placed on application of statistical analysis to criminal justice research and planning using the SPSS data analysis program. Prerequisite: CRIJ 4316.

**CRIJ 4324. Penology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the structure and function of correctional systems and how various philosophies of correctional treatment affect the operation of confinement institutions.

**CRIJ 4325. Advanced Investigation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced criminal and civil investigation topics will be covered. An examination of frequently used, yet special investigative techniques will also be introduced. Emphasis will be placed on crime scene processing, crime scene analysis, forensic evaluations, investigative techniques, and investigative surveys.

**CRIJ 4326. Criminal Procedure. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the fundamental principles of criminal procedural, including key concepts related to the Fourth, Fifth, Sixth, and Fourteenth Amendments.

**CRIJ 4331. Criminal Justice Internship. 3 Credit Hours (Lecture: 0 Hours, Lab: 8 Hours).**

This course examines the application and integration of academic content and development of skills within a criminal justice setting. Entry into this course will be arranged with the internship coordinator. The student is required to complete 100 documented hours with a criminal justice-related agency and approved by the coordinator. The internship cannot be completed at a student's place of current or former employment. May be taken more than once for credit. Maximum 6 hours of credit. Prerequisite: In progress Junior Classification.

**CRIJ 4332. Field Experience in Crime Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Application and integration of academic content and development of skills within a criminal justice setting. Entry into this course will be arranged with the internship coordinator. May be taken more than once for credit.

**CRIJ 4353. Global Cyber-Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course presents a conceptual overview of information security and its impact on the global stage. Topics include: current trends and over all landscape in information warfare, cybercrime techniques, cyber-terrorism, and information security fundamentals. Included is an emphasis on policy implications for law enforcement at the national level.

**CRIJ 4383. Seminar: Special Topics in Criminal Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics pertaining to criminal law and the criminal court system. Specific topics will vary according to timeliness and need. May be taken more than once for credit as the topic varies.

**CRIJ 4384. Seminar: Special Topics in Homeland Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will vary according to timeliness and need. May be taken more than once for credit as topic varies.

**CRIJ 4385. Seminar: Special Topics in Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will vary according to timeliness and special needs. May be taken more than once for credit. Prerequisites: CRIJ 1301 or approval of the department head.

**CRIJ 4387. Seminar: Study Away/Abroad. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will vary according to timeliness and special needs. May be taken more than once for credit. This course requires travel within the US or internationally.

**CRIJ 4398. Criminal Justice Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course is designed for upper level students in Criminal Justice. Students will learn the applicability of research methods, criminal justice theory; along with current issues into real-life job related scenarios. Specifically, students will have the opportunity to implement what they have learned in prior criminal justice classes to their current and/or future careers. This is a writing intensive course. Prerequisites: In progress Senior classification. Restricted to Criminal Justice majors. CRIJ 3305 and CRIJ 4316 and ENGL 1301 and ENGL 1302.

**CRIJ 4431. Criminal Justice Field Experience. 3 Credit Hours (Lecture: 0 Hours, Lab: 8 Hours).**

Application and integration of academic content and development of skills within a criminal justice setting. Entry into this course will be arranged with the internship coordinator. May be taken more than once for credit. Prerequisite: In progress junior classification.

**CRIJ 5086. Problems in Criminal Justice. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Independent reading, research, and discussion. Entry into this course will be arranged with the department head. Students may repeat this course for a total of 6 hours credit.

**CRIJ 5097. Thesis. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

The completion and defense of the Thesis. The student must be registered in thesis hours the semester in which he/she receives his/her master's degree. Students must enroll in thesis hours every semester (except summer) for at least 1 credit hour until graduation. Prerequisite: Approval of graduate program director.

**CRIJ 5300. Statistical Methods for Criminal Justice I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of basic and advanced descriptive and inferential statistics, with an emphasis on applications in the criminal justice system. Credit will not be awarded for both CRIJ 5300 and CRIJ 6300. Prerequisite: CRIJ 5398.

**CRIJ 5301. Foundations of Criminological Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In-depth examination of major theoretical perspectives of crime and deviancy. Theories will be analyzed for their logical and empirical adequacy in light of what is known about the distribution of crime and deviant behavior. Credit will not be awarded for both CRIJ 5301 and CRIJ 6301.

**CRIJ 5304. The American Judiciary. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A critical evaluation of the role courts play in the American criminal justice system. Topics include the structure, function, and operations of the courts at the state and federal level. Credit will not be awarded for both CRIJ 5304 and CRIJ 6304.

**CRIJ 5305. The Juvenile Justice System. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A critical analysis of the policies and practices of the juvenile justice system.

**CRIJ 5308. Corrections. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A critical analysis of the issues, problems, trends, and prospects faced by the administration of the American correctional system to include the impact of legal and social change on the correctional agencies and an evaluation of current research in the field.

**CRIJ 5309. Victimology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to the field of victimology. General topics covered in this course will include, but are not limited to: an analysis of the characteristics of crime victims; victim reporting and non-reporting patterns; the treatment of victims by the various segments of the criminal justice system; victim assistance programs; and the issue of compensation and/or restitution for victims of crime.

**CRIJ 5310. The Criminal Justice System. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the criminal justice system in the United States. This course includes a systems approach to the study of criminal justice and the interrelationships of the various components. The social and political issues related to the criminal justice system are examined in depth.

**CRIJ 5314. Directed Study in Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Demonstration of competency in a specialized area of criminal justice through the completion of a substantial research project incorporating independent study and critical analysis of the topic area. May be repeated one time for credit as topic varies. Prerequisite: Departmental permission is required.

**CRIJ 5315. Special Topics in Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of selected topic(s) directly related to criminal justice. May be repeated for credit as topic varies. (Course will be offered not more than one semester each year.)

**CRIJ 5316. Special Topics in Criminology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of selected topic(s) directly related to criminology. May be repeated for credit as topic varies (Course will be offered not more than one semester each year).

**CRIJ 5317. Special Topics in Homeland Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of selected topics within the field of homeland security. May be repeated for credit when the topics vary.

**CRIJ 5320. Policing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in depth study of the philosophical, operational, and social aspects of law enforcement.

**CRIJ 5321. Management of Criminal Justice Personnel. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An investigation of the personnel decision-making process used within criminal justice agencies. Areas to be investigated include recruitment, training, continuing education requirements, performance evaluation, fair employment practices, termination, and allocation of personnel. Credit will not be awarded for both CRIJ 5321 and CRIJ 6321.

**CRIJ 5322. Advanced Criminal Justice Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The practical implications of moral philosophy and ethics in a free society during the day-to-day administration of a criminal justice agency will be discussed. Credit will not be awarded for both CRIJ 5322 and CRIJ 6322.

**CRIJ 5323. Organizational Communications in Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the study of organizational skills in criminal justice systems. Student cannot receive credit for both CRIJ 5323 and CRIJ 6323.

**CRIJ 5330. Criminal Justice in a Diverse Society. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a study of the complex interrelations of crime, justice, and social diversity in a free society. The effect of justice system policy on social inequality is studied, and theories of social and economic justice are presented in terms of their effect on crime and criminal justice.

**CRIJ 5335. Gender, Crime and Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an overview of issues related to women as victims, offenders, and professionals in the criminal justice system.

**CRIJ 5340. Legal Aspects of Criminal Justice Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A consideration of the major legal issues of criminal justice management and the effect of constitutional provisions, statutes, ordinances, and judicial decisions in justice administrations. A discussion of the legal aspects of selection, promotion, assignment, and termination of justice employees. Emphasis is on the possible liabilities of managers and agencies for failure to adhere to legal requirements. Credit will not be awarded for both CRIJ 5340 and CRIJ 6340.

**CRIJ 5343. Grant Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to provide students with the knowledge and skills to perform one of the most critical functions for any public or nonprofit sector agency today: gaining funds through proposals. Students learn how to find a funding source among various public and private sources and how to plan and write a proposal.

**CRIJ 5344. Grant Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Designed for grant management for public agencies and nonprofit organizations. Understanding budget development, accepting and managing grant and contract awards, grants-management system(s), reporting, record keeping, and accountability, audit requirements, ethics in the grants environment, and program evaluation.

**CRIJ 5345. Program Evaluation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Describes the theory and methodology for the design of social research and demonstration projects and the application of analytic and statistical methods for evaluating public programs. Focus is on the application of evaluation methods and techniques of data interpretation. Report preparation is emphasized.

**CRIJ 5346. Advanced Program Evaluation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In this course, students will design and carry out an evaluation of a program that incorporates current evaluation methods and principles derived from research, theory, practice wisdom, and their own experience. These occur within a field placement agency or their own workplace agency. Prerequisite: CRIJ 4345 Program Evaluation.

**CRIJ 5349. Transnational Trafficking. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine transnational trafficking issues such as human trafficking, drug trafficking, illegal arms trafficking, and other trafficking of illicit substances. The course will explore: key theories, domestic and international policy, enforcement strategies and the role of non-governmental organizations. Students may not receive credit for both CRIJ 5349 and CRIJ 6349.

**CRIJ 5351. Terrorism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the origins, nature, and operational characteristics of terrorist groups. Students are exposed to topics ranging from the definition of "terrorism" to the unique characteristics of terrorist cells in the United States and abroad. Particular emphasis is on historical and contemporary terrorist attacks against the United States. Students may not receive credit for both CRIJ 5351 and CRIJ 6351.

**CRIJ 5352. Homeland Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines principles and practices associated with the emerging discipline of homeland security, including key policies, directives, national plans, and legislation that shape and homeland security. Students may not receive credit for both CRIJ 5352 and CRIJ 6352.

**CRIJ 5353. Global Cyber-Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course presents a conceptual overview of information security and its impact on the global stage. Topics include: current trends and over all landscape in information warfare, cybercrime techniques, cyber-terrorism, and information security fundamentals. Included is an emphasis on policy implications for law enforcement at the national level. Student will not be awarded credit for both CRIJ 5353 and CRIJ 6353.

**CRIJ 5354. Introduction to Digital Forensics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the study of digital and computer forensic evidence, search and seizure, chain of custody, and digital storage devices.

**CRIJ 5355. Cellular Forensics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of collection and preservation of digital evidence derived from cellular technologies in a laboratory environment. This study will include the use of hardware and software needed to perform cellular and mobile device forensic investigations including MPE+ and associated connectivity kits. Prerequisite: CRIJ 5354.

**CRIJ 5356. Digital Forensics Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of evidence collection through a laboratory environment. The course presents students with the working knowledge of the collection, preservation, presentation, and reporting of evidence obtained in a digital investigation. The topics also include encryption techniques and common issues with storage mediums. The course will make use of industry standard software including EnCase and FTK. Prerequisite: CRIJ 5353.

**CRIJ 5363. Introduction to Crime Mapping. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course provides the conceptual knowledge and practical skills to design and implement GIS based analysis of community crime problems. This course introduces major approaches to spatial analysis of crime and teaches students how to make effective crime maps.

**CRIJ 5364. Introduction to Crime Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course provides advanced skills needed for efficient data management of crime-related data. Students learn how to extract, convert, manipulate and query large datasets to accomplish data-driven management and support intelligence-led policing. No prerequisites. Student cannot receive credit in both CRIJ 5364 and CRIJ 6364.

**CRIJ 5365. Intersection of Domestic and Military Policing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the comparative study and analysis of domestic and military policing. Student cannot receive credit for both CRIJ 5365 and CRIJ 6365.

**CRIJ 5366. Crime and Violence Prevention and Intervention. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines crime prevention and intervention as a potential alternative or complement to traditional criminal justice system responses to crime. Student cannot receive credit for both CRIJ 5366 and CRIJ 6366. Prerequisite: CRIJ 5301.

**CRIJ 5375. Executive Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the governing principles of organizational leadership within criminal justice and related organizations. Topics will include leadership theory, ethics of leadership, and the role of leadership in garnering public trust. Students may not receive credit for both CRIJ 5375 and CRIJ 6375.

**CRIJ 5382. Seminar: Study Away/Study Abroad. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course subject will vary in topics dependent upon the location of travel and subject material offered in the course. The study away occurs when students travel outside of Texas, but remain within the United States. Study abroad involves travel outside of the United States. Students will need to obtain all necessary travel documents, including appropriate passport, prior to the travel date.

**CRIJ 5390. Independent Study. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Specific topic and contents of the course will be determined by the student in consultation with the instructor, with whom the student meets regularly for supervision of the study. May be repeated to a maximum of six semester hours. Permission of the graduate advisor required. Prerequisites: Instructor permission.

**CRIJ 5398. Research Methods I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of scientific research methods used in the criminal justice system. Includes a review and critique of research on crime causation, law enforcement, courts, and corrections. Emphasis will be place on quantitative research methods. Credit will not be awarded for both CRIJ 5398 and CRIJ 6398.

**CRIJ 5399. Practicum, Field Problems, Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised professional activities in public service professions. Major emphasis is placed on the student's involvement in successful practices in the area of professional interest. Field experience fee \$50.

**CRIJ 6300. Statistical Methods for Criminal Justice I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of basic and advanced descriptive and inferential statistics, with an emphasis on applications in the criminal justice system. Credit will not be awarded for both CRIJ 5300 and CRIJ 6300. Prerequisites: CRIJ 5398 or CRIJ 6398.

**CRIJ 6301. Foundations of Criminological Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In-depth examination of major theoretical perspectives of crime and deviancy. Theories will be analyzed for their logical and empirical adequacy in light of what is known about the distribution of crime and deviant behavior. Credit will not be awarded for CRIJ 5301 and CRIJ 6301.

**CRIJ 6302. Statistical Methods for Criminal Justice II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of advanced inferential statistics, with an emphasis on applications in the criminal justice system. Emphasis will be placed on multivariate regression analysis. Prerequisite: CRIJ 5300, CRIJ 6300, or equivalent.

**CRIJ 6303. Advanced Criminological Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In-depth examination of contemporary theoretical perspectives of crime and deviancy. Theories will be analyzed for their logical and empirical adequacy in light of what is known about the distribution of crime and deviant behavior. Emphasis will be placed on integrated theories and theory construction.

**CRIJ 6304. The American Judiciary. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A critical evaluation of the role courts play in the American criminal justice system. Topics include the structure, function, and operations of the courts at the state and federal level. Credit will not be awarded for both CRIJ 5304 and CRIJ 6304.

**CRIJ 6308. Corrections. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A critical analysis of the issues, problems, trends, and prospects faced by the administration of the American correctional system to include the impact of legal and social change on the correctional agencies and an evaluation of current research in the field. Credit will not be awarded for CRIJ 5308 and CRIJ 6308.

**CRIJ 6309. Victimology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to the field of victimology. General topics covered in this course will include, but are not limited to: an analysis of the characteristics of crime victims; victim reporting and non-reporting patterns; the treatment of victims by the various segments of the criminal justice system; victim assistance programs; and the issue of compensation and/or restitution for victims of crime. Credit will not be awarded for CRIJ 5309 and CRIJ 6309.

**CRIJ 6310. The Criminal Justice System. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the criminal justice system in the United States. This course includes a systems approach to the study of criminal justice and the interrelationships of the various components. The social and political issues related to the criminal justice system are examined in depth. Credit will not be awarded for CRIJ 5310 and CRIJ 6310.

**CRIJ 6315. Special Topics in Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of selected topic(s) directly related to criminal justice. May be repeated for credit as topic varies.

**CRIJ 6316. Special Topics in Criminology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of selected topic(s) directly related to criminology. May be repeated for credit as topic varies. This course may be repeated for a maximum credit of up to 9 hours.

**CRIJ 6321. Management of Criminal Justice Personnel. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An investigation of the personnel decision-making process used within criminal justice agencies. Areas to be investigated include recruitment, training, continuing education requirements, performance evaluation, fair employment practices, termination, and allocation of personnel. Credit will not be awarded for both CRIJ 5321 and CRIJ 6321.

**CRIJ 6322. Advanced Criminal Justice Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The practical implications of moral philosophy and ethics in a free society during the day-to-day administration of a criminal justice agency will be discussed. Credit will not be awarded for both CRIJ 5322 and CRIJ 6322.

**CRIJ 6323. Organizational Communication in Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the study of organizational skills in criminal justice systems. Students cannot receive credit for both CRIJ 5323 and CRIJ 6323.

**CRIJ 6330. Criminal Justice in a Diverse Society. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a study of the complex interrelations of crime, justice, and social diversity in a free society. The effect of justice system policy on social inequality is studied, and theories of social and economic justice are presented in terms of their effect on crime and criminal justice. Credit will not be awarded for both CRIJ 5330 and CRIJ 6330.

**CRIJ 6335. Gender, Crime and Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an overview of issues related to women as victims, offenders, and professionals in the criminal justice system. Credit will not be awarded for both CRIJ 5335 and CRIJ 6335.

**CRIJ 6340. Legal Aspects of Criminal Justice Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A consideration of the major legal issues of criminal justice management and the effect of constitutional provisions, statutes, ordinances, and judicial decisions in justice administrations. A discussion of the legal aspects of selection, promotion, assignment, and termination of justice employees. Emphasis is on the possible liabilities of managers and agencies for failure to adhere to legal requirements. Credit will not be awarded for both CRIJ 5340 and CRIJ 6340.

**CRIJ 6342. Crime and Public Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the process by which criminal justice policies are implemented at the local, state, and federal levels. Attention will be given to the impact of public opinion, the media, and politics on policy creation and the challenge of developing effective crime control policies.

**CRIJ 6349. Transnational Trafficking. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine transnational trafficking issues such as human trafficking, drug trafficking, illegal arms trafficking, and other trafficking of illicit substances. The course will explore: key theories, domestic and international policy, enforcement strategies and the role of non-governmental organizations. Students may not receive credit for both CRIJ 5349 and CRIJ 6349.

**CRIJ 6350. Comparative Criminal Justice Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course surveys the criminal justice system and its institutions comparatively across the world to give students a global perspective of the similarities and differences of different criminal justice systems.

**CRIJ 6351. Terrorism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the origins, nature, and operational characteristics of terrorist groups. Students are exposed to topics ranging from the definition of "terrorism" to the unique characteristics of terrorist cells in the United States and abroad. Particular emphasis is on historical and contemporary terrorist attacks against the United States. Students may not receive credit for both CRIJ 5351 and CRIJ 6351.

**CRIJ 6352. Homeland Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines principles and practices associated with the emerging discipline of homeland security, including key policies, directives, national plans, and legislation that shape homeland security. Students may not receive credit for both CRIJ 5352 and CRIJ 6352.

**CRIJ 6353. Global Cyber-Security. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course presents a conceptual overview of information security and its impact on the global stage. Topics include: current trends and over all landscape in information warfare, cybercrime techniques, cyber-terrorism, and information security fundamentals. Included is an emphasis on policy implications for law enforcement at the national level. Student will not be awarded credit for both CRIJ 5353 and CRIJ 6353.



**CRIJ 6354. Introduction to Digital Forensics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the study of digital and computer forensic evidence, search and seizure, chain of custody, and digital storage devices. Student cannot receive credit for both CRCJ 5354 and CRCJ 6354.

**CRIJ 6355. Cellular Forensics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of collection and preservation of digital evidence derived from cellular technologies in a laboratory environment. This study will include the use of hardware and software needed to perform cellular and mobile device forensic investigations including MPE+ and associated connectivity kits. Student cannot receive credit for both CRIJ 5355 and CRIJ 6355. Prerequisites: CRIJ 6353 and CRIJ 5354.

**CRIJ 6356. Digital Forensics Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of evidence collection through a laboratory environment. The course presents students with the working knowledge of the collection, preservation, presentation, and reporting of evidence obtained in a digital investigation. The topics also include encryption techniques and common issues with storage mediums. The course will make use of industry standard software including EnCase and FTK. Student cannot receive credit for both CRIJ 5356 and CRIJ 6356. Prerequisites: CRIJ 5353 or CRIJ 6353.

**CRIJ 6360. Evaluation Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the application of criminal justice research methods to develop and/or evaluate or assess a program or policy. Topics include conceptual, methodological, bureaucratic, political, and organization factors in the evaluation process as well as specific program evaluation research techniques.

**CRIJ 6361. Communities and Crime. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Provides students with an overview of issues related to communities and crime. Examines community context, behavior, and functioning, and how communities are implicated in both crime-generating and crime-preventing processes. Familiarizes students with historical and contemporary literature surrounding the communities and crime relationship.

**CRIJ 6362. Current Issues in Law Enforcement. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In-depth analysis of historical, current, and future issues in law enforcement. Emphasis will be placed on the role of police in society, police-citizen relationships, and empirical evaluations of police effectiveness, police behavior, and programs and strategies.

**CRIJ 6363. Forecasting and Data Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an overview of that analytic methods used in forecasting and predictive policing.

**CRIJ 6364. Introduction to Crime Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An introduction to the study and application of crime analysis techniques. Student cannot receive credit for CRIJ 5364 and CRIJ 6364.

**CRIJ 6365. Intersections of Domestic and Military Policing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the comparative study and analysis of domestic and military policing. Student cannot receive credit for both CRIJ 5365 and CRIJ 6365.

**CRIJ 6366. Crime and Violence Prevention and Intervention. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines crime prevention and intervention as a potential alternative or complement to traditional criminal justice system responses to crime. Students cannot be awarded credit for both CRIJ 5366 and CRIJ 6366. Prerequisite: CRIJ 5301 or CRIJ 6301.

**CRIJ 6367. Predictive Policing Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of predictive policing methods, approaches, implementation and legal issues associated with them. At the end of the course, successful students will: gain a basic understanding of major predictive technology on forecasting crimes, places and individuals involved in criminal offending; be able to discuss major steps, advantages and disadvantages in implementing selective methods of predictive policing in a law enforcement organization; explain legal, ethical and sociological ramifications of implementing methods of predictive policing; and discuss public policy decision-making process as it relates to predictive policing implementation.

**CRIJ 6370. Legal Aspects of Evidence. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An exploration of the procedural and substantive rules regarding evidence in criminal proceedings. Topics may include the admission and exclusion of evidence, burden of proof, and best evidence rules.

**CRIJ 6371. Forensic Expert Testimony. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course considers the role of criminal justice professions in provide expert testimony in court. Topics covered will include the ethics of testimony, qualifications for testimony, presentation of evidence and opinion, as well as behavioral aspects of testifying.

**CRIJ 6372. Law and Forensic Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An analysis of the intersection of science and the law with an emphasis on the law affecting forensic science in the criminal justice system. Topics may include the role of experts in both criminal and civil law, ethical issues related to forensic evidence, and wrongful convictions.

**CRIJ 6375. Executive Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the governing principles of organizational leadership within criminal justice and related organizations. Topics will include leadership theory, ethics of leadership, and the role of leadership in garnering public trust. Students may not receive credit for both CRIJ 5375 and CRIJ 6375.

**CRIJ 6380. Proseminar in Criminology and Criminal Justice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides students with a broad overview of important topics and contemporary issues in criminal justice. This course explores the history and role of criminal justice as an academic discipline and as an institutional system in American society. Particular emphasis is given to acquainting students with the research strengths of the department, individual faculty members' research agendas, and identifying and coordinating potential opportunities for joint research and scholarship among faculty and students.

**CRIJ 6381. Supervised Teaching. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A practicum with the student in teaching, guided by an experienced teacher with whom the student meets from time to time for discussion of readings and classroom experiences. This course is an introduction to basic college level teaching methods. Course content will include methods of instruction, testing and other assessment techniques, use of technology, classroom management, and course development.

**CRIJ 6382. Academic Scholarship and Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides students with the key training needed to engage in the professional activities central to a successful scholarly career in criminology. Emphasis will be placed on preparation of a research project for submission for presentation at a professional conference and submission for publication. Prerequisite: Permission of graduate advisor.

**CRIJ 6390. Independent Study. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Specific topic and contents of the course will be determined by the student in consultation with the instructor, with whom the student meets regularly for supervision of the study. May be repeated to a maximum of six semester hours. Prerequisite: Permission of the instructor.

**CRIJ 6391. Preliminary Doctoral Examination. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

During this course the student will prepare and complete the doctoral comprehensive examinations. Prerequisite: Approval of the graduate coordinator with the advice of the graduate faculty.

**CRIJ 6396. Survey Research Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will provide a comprehensive review of survey research methods, and prepare students in the fundamental skill areas necessary to design and conduct quality survey research projects for theory driven or applied research. These areas include: survey method design; sampling strategies and power analysis; questionnaire construction; survey administration/data collection; calculation of response, cooperation, refusal, and contact rates; data coding and entry; verification and quality control; and sources of error in survey research.

**CRIJ 6397. Research Design and Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course includes an overview of descriptive, inferential, and multivariate statistics employed in criminal justice research and an overview of methods of criminological and criminal justice research, with emphasis on research ethics, research design, and methods of data analysis. Prerequisite: n/a.

**CRIJ 6398. Research Methods I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of scientific research methods used in the criminal justice system. Includes a review and critique of research on crime causation, law enforcement, courts, and corrections. Emphasis will be placed on quantitative research methods. Credit will not be awarded for both CRIJ 5398 and CRIJ 6398.

**CRIJ 6399. Research Methods II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will familiarize students with the nature and utility of qualitative, quantitative, and mixed methods research as applicable various areas of criminological studies. Topics may include field work, interviews, and content analysis as well as a range of quantitative and mixed methods. Prerequisite: CRIJ 6397.

**CRIJ 7090. Dissertation. 1-9 Credit Hours (Lecture: 1-9 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thorough and scholarly investigation of a topic acceptable to the dissertation committee. The dissertation must provide evidence that the candidate has pursued a coherent program of research related to the student's area(s) of academic specialization, the results of which reveal academic excellence and which make an original contribution to the discipline. Graded on a satisfactory (S) or unsatisfactory (U) basis. Course may be repeated as necessary, but credit will not be awarded for more than 9 credit hours. Prerequisite: Doctoral Standing and successful completion of the doctoral qualifying examination.

## Counseling

### Courses

**CNSL 2300. Introduction to the Counseling Profession. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide an overview of various components of the counseling profession. Students will explore their personal motivation and interest in a counseling or human services profession as well as integrate professional concepts with personal style. The course will emphasize development of professional identity, therapeutic relationship, counseling theory, application, and ethics. The degree to which you perceive this experience as enhancing your personal and professional growth will largely be a function of your own goals and the initiative you assume in class.

**CNSL 2301. The Basics of Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An integrated overview of counseling services through personal self-exploration by the counseling associate. Focus is on understanding of interpersonal dynamics through self-awareness. Prerequisite: CNSL 2300.

**CNSL 3300. Diversity and Cultural Awareness in the Counseling Profession. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Didactic, experiential and applied learning opportunities prepare students to understand differences and commonalities within diverse cultures. Students learn how cultural identity influences personal and world views, perceptions of experience, and styles of communication. With a focus on developing intrapersonal and interpersonal awareness, students cultivate attitudes and practice skills necessary for relating constructively with diverse individuals in a variety of work settings.

**CNSL 3301. Group Processes in Helping Relationships. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Group dynamics laboratory: Group functions and leadership styles as related to helping relationships.

**CNSL 3302. Survey of Career Development and Career Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an integrated overview of the field of career counseling. Focus will be on current problems and developments in career choices, with emphasis on the role of personal self-exploration in evaluating approaches to career counseling and decision-making.

**CNSL 3303. Therapeutic Play. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This didactic course focuses on how to be a therapeutic agent in a child's life. Students are introduced to the fundamental concepts and models of therapeutic play and building therapeutic relationships with children. Students are also introduced to basic child-centered play therapy principles and training requirements.

**CNSL 4300. Essentials of Helping Relationships. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Didactic and experiential training in interpersonal relationships; analysis and application of effective counseling activities.

**CNSL 4301. Introduction to Substance Abuse and Addiction Issues in Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides a working knowledge of the helping process as it applies to substance abuse and addiction issues. It focuses on assessment and diagnostic skills; the pharmacology of commonly abused substances; appropriate goals and treatment plans; individual, group, and family treatment approaches; the levels of care available to clients and their families; current research, trends and success rates in treatment; the impact of sex, age, and ethnicity on the treatment process; and the ethical guidelines of practice.

**CNSL 4302. Case Management in Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to help students develop a general overview of case management and how it is defined and practiced currently in mental health programs and settings.

**CNSL 4386. Special Problems in Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course featuring independent reading, research, and discussion under personal direction of instructor, topics vary according to student need.

**CNSL 5086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Open to graduate students in counseling who are independently capable of developing a problem in the area of counseling and guidance. Problems chosen by the student must be approved in advance by the instructor.

**CNSL 5301. Research Methods in Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course emphasizes research in the counseling field, basic statistics, literature review, proposal and report development, research implementation, needs assessment, program development, and ethical and legal considerations regarding research through the presentation of a formal research proposal and/or presentation of a completed research report. In addition the course explores the history and theory underlying program evaluation, approaches to evaluation, and techniques used for program evaluation, students consider the importance of scholarly writing and learn how to identify a topic for research and how to conduct a literature search. Prerequisite: CNSL 5350 and CNSL 5353.

**CNSL 5304. Human Growth and Development in Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces studies that provide an understanding of the nature and needs of persons at all developmental levels and in diverse cultural contexts. This course also provides a systematic study of human development emphasizing physical, personality, cognitive, moral and psychosocial developmental theories and issues, with an emphasis on facilitating optimal development and wellness over the lifespan. This course will attempt to merge theory into practice and integrate critical thinking concepts associated with developmental factors in human development. Prerequisite: CNSL 5350 and CNSL 5353.

**CNSL 5311. Multicultural Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is the study of interaction of social/cultural groups in America, problems of minorities and ethnic groups, problems related to gender and age, problems within family systems and contemporary sources of positive change. This course provides an understanding of how diverse values and mores, interaction patterns, social conditions, and trends related to cultural and ethnic diversity affect counseling. Emphasis is on developing knowledge, skills, and attitudes for more effective counseling with persons different from the counselor regarding characteristics such as culture, race, gender, sexual orientation, physical disability, and religious preference. Substantial attention is given to developing awareness of one's own values, attitudes, and beliefs as they relate to counseling in a diverse society. Prerequisite: CNSL 5350 and CNSL 5353.

**CNSL 5313. Crisis Interventions and Management for Counselors. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to the research and practice of crisis counseling, trauma counseling and disaster mental health. Issues related to the assessment, diagnosis and treatment of clients affected by crises, trauma and disasters will be thoroughly addressed. Prerequisite: CNSL 5350 and CNSL 5350.

**CNSL 5323. Ethical Consultation and Supervision in Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide an introduction to counseling services in private practice, community centers and helping agencies, and schools and universities. Students will learn how to open a private practice, be consultants, clinical directors, and administrators. Overview of leadership theory and skills, consultation models and process, program evaluation, methods, and structure, and ethical, legal, and professional issues, the availability of funding sources and community resources. Students develop a personal model of consultation and apply their knowledge and skills to case studies and real-life examples. Prerequisites: CPSY 5350 and CPSY 5353.

**CNSL 5324. Human Sexuality and Sexual Dysfunction. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a detailed examination of human sexuality, including reproductive physiology, sexual development across the lifespan, sexual behavior, sexual diversity, and the treatment of sexual dysfunction. The course includes a focus on the role of sexuality in relationships and in marital and family dynamics. Prerequisites: CNSL 5350, CNSL 5353, and CNSL 5356.

**CNSL 5325. Building, Marketing, and Managing a Private Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will learn how to build, market, and manage a thriving private practice. Students will understand how to design a business plan, finances, building quarterly market plans, client record keeping, and other important details of running a successful private practice. Prerequisite: CNSL 5304, CNSL 5311, CNSL 5350, CNSL 5351, CNSL 5353, and CNSL 5354.

**CNSL 5332. Psychopharmacology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The understanding of the basic neurobiology of psychopathology and how psychotropic medications treat such conditions is the foundation of this class. An emphasis is placed on the role of the counselor as a member of a treatment team who helps facilitate client treatment compliance and monitors the efficacy and side effect manifestations of psychotropic treatment, while helping to integrate that treatment with other non-pharmacological modalities. The course will include an overview of psychopharmacological medications, their basic classification, indications, contraindications, and side-effects will be provided. One goal of this course is to introduce the students to the basic terminology and models of pharmacokinetics as they relate to clinical mental health counseling and pharmacological treatment. A tertiary aim of the course will be to discuss the ethical role of the mental health counselor who is a part of the mental health care team in pharmacotherapy. Prerequisites: CNSL 5350, CNSL 5353, and CNSL 5358.

**CNSL 5350. Foundations of Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines theories and concepts with emphasis on counseling skills, as well as historical, philosophical, ethical, legal, multicultural exploration and professional issues. The course provides an overview of counseling services commonly found in a variety of settings. It includes individual and group counseling, assessment, career planning, referral, and consultation. All students are required to take the Sixteen Personality Factor Questionnaire (16PF) and complete an essay based on the results. The essay will be reviewed during First Semester Review. The First Semester Review is a mandatory meeting students in their first semester of course work must attend to determine eligibility for admissions to the Counseling Program. The purpose of this meeting is to discuss performance in terms of professionalism, competency with beginning counseling skills, social and emotional maturity, and integrity and ethical standards. The course is taken concurrently with CNSL 5353 in the first semester of enrollment. For further details, reference the TSU Graduate Counseling Program Handbook. Prerequisite: Taken first semester concurrently with CNSL 5353.

**CNSL 5351. Career Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an in-depth study of career counseling that focuses on occupational, educational, and personal/social issues for general and special populations. The course includes examination of theoretical bases for career counseling and a study of organization and delivery of information through individual and group activities. All ethically related concerns are addressed. Students will be required to purchase occupational and educational information materials. Prerequisite: CNSL 5350 and CNSL 5353.

**CNSL 5352. Seminar in School Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an in-depth study of a comprehensive school counseling and guidance program. The course will address the theoretical foundation, knowledge, and skills to prepare the student to implement a counseling and guidance program in an educational (K-12) setting. As the foundation course for those planning to enter school counseling, this course covers organization, planning, management, and evaluation of comprehensive school counseling programs; appropriate roles and functions of school counselors at various school levels, coordination of professional services; and professional issues such as ethics and associations as they specifically relate to school counseling. This course is required of all students seeking master's degrees with the school counseling focus and of all students seeking school counselor certification in Texas. Prerequisites: CNSL 5350 and CNSL 5353.

**CNSL 5353. Counseling Theories and Applications. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course surveys and investigates counseling theories with an emphasis on how theories influence practice. There is a special emphasis is on applications to various population. The course includes role-plays and other experiential methods. Students will participate in recording a counseling session to be critiqued. All students attend mandatory personal counseling with a community counselor during the course. Related ethical and legal concerns are discussed. Prerequisite: Taken first semester concurrently with CNSL 5350.

**CNSL 5354. Group Procedures for Counselors. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to group therapy and group procedures with an emphasis on developing group counseling skills to work with children, adolescents, adults, and special populations. The course covers various types of groups, an understanding of group dynamics and development, and related ethical and legal concerns. Students will participate in supervised group counseling experiences. Using relevant literature, multimedia resources, and a scholar-practitioner model, students develop an understanding of culturally and contextually relevant group practice, group leaders' roles and responsibilities, the relevance and purpose of group work, and strategies for group utilization to foster social change. Students also participate in a group experience in their class. In addition, leadership styles, techniques, and roles are explored. Prerequisite: CNSL 5350 and CNSL 5353.

**CNSL 5356. Introduction to Family Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an overview of the theoretical concepts and intervention strategies unique to family, systems, and relational therapies. The course includes the study of family dynamics, family development, relationships, and the resolution of family concerns. Ethical and legal considerations are included. Prerequisite: CNSL 5350 and CNSL 5353.

**CNSL 5357. Pre-Practicum. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to introduce counseling students to basic interviewing and counseling, to include theories and skills. The students will demonstrate an understanding of ethical behavior. The course includes application of multicultural competencies to case conceptualization. The course includes self-care strategies for the counseling student. The course addresses professional issues relevant to the practice of Clinical Mental Health Counseling. Prerequisites: CNSL 5350, CNSL 5351, CNSL 5353 and CNSL 5354, CNSL 5381.

**CNSL 5358. Diagnosis and Treatment Planning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an overview of psychopathology that includes the history of abnormal behavior and an in-depth study of the specific diagnostic psychological disorders. Emphasis in the course will be on classification systems currently used in clinical settings and treatment alternatives from a counseling perspective. Prerequisites: CNSL 5350 and CNSL 5353.

**CNSL 5359. Evidence Based Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to provide students with both a knowledge/evidence base for the foundations of counseling and practical skills that will prepare them to see clients in their field work. Evidence is presented that the therapeutic alliance is, across all approaches to therapy, the strongest correlate of successful outcome. Students acquire skills in building a personal bond, providing deep empathy, promoting a collaborative atmosphere in therapy, and empowering clients to solve their own problems. Students are also encouraged to explore their own personal impact in developing a therapeutic alliance. Prerequisite: CNSL 5350, CNSL 5353, and CNSL 5358.

**CNSL 5370. Expressive Arts in Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to give counseling students an overview of expressive forms of counseling. Students will be able to gain further knowledge of creative approaches to counseling while also getting an opportunity to experience differing techniques. Additionally this course combines didactic and experiential learning. Discussion, role-play, lectures, small-group experiences, films, and demonstration are some possible methods that may be utilized. Prerequisites: CNSL 5350 & CNSL 5353.

**CNSL 5371. Couples Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide students with knowledge and understanding of the principal theoretical frameworks, and the existing clinical approaches to counseling couples derived from the theoretical frameworks. The course will also expose students to a variety of clinical issues a counselor is most likely to encounter in clinical work with couples. Prerequisites: CNSL 5350 & CNSL 5353.

**CNSL 5372. Interpersonal Neurobiology for Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides a comprehensive treatment of interpersonal neurobiology and its applications to clinical mental health counseling. The course will discuss neuroanatomy, neurophysiology, mental health disorders, and counseling methods from an interpersonal neurobiological perspective. Prerequisites: CNSL 5350 & CNSL 5353.

**CNSL 5373. Using Mindfulness in Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a detailed examination of mindfulness therapeutic techniques counselors use to help clients. Current trends in the counseling field will be examined and evidence-based research will be discussed throughout the course. Also, the course will cover different theoretical perspectives on mindfulness. The course includes a focus on the role of mindfulness helps clients and counselor achieve holistic wellness. Prerequisites: CNSL 5350 and CNSL 5353.

**CNSL 5374. Counseling Grief and Loss. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Designed to provide a foundation for counseling practice in the area of grief and loss. The practice of grief counseling is based on an in-depth understanding of the various theories and models associated with grief and loss and the applications of those models. Major and minor types of losses will be explored as well as differing reactions across developmental stages. Self-exploration of personal experiences, responses, and reactions to grief and loss will be examined. Prerequisites: CNSL 5350 & CNSL 5353.

**CNSL 5375. Sexual Orientation and Gender Identity Therapeutic Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a detailed examination of sexual orientation and gender expansion across the lifespan. Discussion of terminology and development unique to this population. Also, a focus on therapeutic techniques specific to this population will be looked at and practiced throughout the course. Prerequisites: CNSL 5350 & CNSL 5353.

**CNSL 5381. Assessment in Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to provide an introduction to the principles, concepts, methods, and applications of assessing human experience and behavior for counseling purposes. Topics included for study in this course include the history and philosophy behind measurement and assessment in counseling, statistical concepts, and common assessment formats for measuring constructs such as personality, pathology, achievement and aptitude, and career interests. The required assignments focus on the themes of assessment critique, administration and interpretation of assessment results, and incorporating assessment results into work with clients and students. Prerequisite: CNSL 5350 and CNSL 5353.

**CNSL 5382. Behavior Management and Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an examination of the major approaches and techniques utilized in behavior counseling and behavior management, including the principles of applied behavioral analysis. The course explores formal treatment planning, application, and evaluation of counseling for the management of specific emotional and mental health disorders. Prerequisite: CNSL 5350, CNSL 5353, and CNSL 5358.

**CNSL 5383. Counseling Veteran, Law Enforcement, and First Responders. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Description: This course is an overview of moral injury and the effects when working with veterans, law enforcement, and first responders. An overview of trauma informed guilt reduction therapy in relationship to developing a working knowledge of military and first responder culture and how to integrate trauma informed guilt reduction therapy to address trauma within this closed culture. Prerequisite: CNSL 5358.

**CNSL 5390. Selected Topics in Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of different topics each semester with a focus on contemporary issues in counseling. This course may be repeated for credit as the topic changes.

**CNSL 5391. Ethical Foundations of Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an exploration of the ethical principles of counselors and related codes of ethics. The course covers models or ethical decision-making and how to apply to counseling practice. Students will learn about the importance of self-care and application. The course explores the importance of multicultural considerations and implications for social justice. Students will learn ethical obligations to advocate for clients. The course covers ethical standards of professional organizations and credentialing bodies. Prerequisite: CNSL 5350 and CNSL 5353.

**CNSL 5392. Counseling Children and Adolescents. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is intended to provide a comprehensive study of therapeutic approaches and techniques for children and adolescents and is designed to develop students' knowledge and skills in the theory and practice of working with children. It prepares counselors to address the specific needs of children and adolescents, with emphasis on developmental needs, specific therapeutic interventions, and common emotional issues. Group and individual counseling techniques and treatment planning are included. Contemporary issues and interventions addressed include: typical developmental problems, creative interventions, crisis management, exceptional children, parenting skills, multicultural considerations, and ethical concerns. Prerequisites: CNSL 5350, CNSL 5353, and CNSL 5393.

**CNSL 5393. Play Therapy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an overview of the essential elements and principles of play therapy, including history, theories, modalities, techniques, applications, and skills. Further, an experiential component focuses on basic play therapy skill development within the context of ethical and diversity-sensitive practice. The course meets Association for Play Therapy requirements providing 67.5 Continuing Education (CE) hours towards the mandatory 150 required for RPT certification. Prerequisites: CNSL 5350, CNSL 5353, and CNSL 5358.

**CNSL 5394. Behavioral Addictions and Substance Abuse. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is intended to provide students with information regarding behavioral addictions (gambling, sex, Internet, video gaming, etc.), substance abuse, and co-occurring disorders. Information regarding the etiology, recognition, assessment, diagnosis, treatment, and impact of addictions will be addressed. The influence of addictions throughout the lifespan will also be examined. An experiential component is included as well. Ethical and legal concerns are covered. Prerequisite: CNSL 5350 and CNSL 5353.

**CNSL 5395. Internship in Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised professional activities in guidance and counseling. Major emphasis is placed on the student's involvement in successful practices at the educational level of interest. Students must have met all academic and professional standards of practice before placement. The field experience will consist of a minimum of 150 clock hours. Liability insurance is required. An application must be submitted by the published due date in the semester prior to field placement and approved by the practicum/internship director. Prerequisites: 3.0 or greater GPA and CPSY 5357, or approval of the department head. Field experience fee \$75.

**CNSL 5396. Internship in Counseling II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised professional activities in counseling at a field placement. Students must have met all academic and professional standards of practice before placement. The field experience will consist of a minimum of 160 clock hours. Liability insurance is required. A complete application must be submitted by the published due date in the semester prior to field placement and approved by the director. This course is repeatable up to two times for a maximum number of 6 credit hours. Prerequisites: CNSL 5395 and approval of program director.

**CNSL 5397. Practicum. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an overview of the basic counseling skills used by the professional counselor in working with children, adolescents, and adults. The course includes a laboratory experience in which the student is trained in the application of counseling relationship-building and working-stage skills via role-play activities with other students in the class and field placements as available. Integration of theory and practice is imperative in counselor training. This course is repeatable up to two times but a maximum number of 3 credit hours will be awarded. This course will be graded using a pass/fail grading system. Prerequisite: 3.0 GPA or greater and CNSL 5357, CNSL 5358, CNSL 5311, and one elective from CNSL 5382, CNSL 5324, CNSL 5359, CNSL 5393, or CNSL 5392.

**CNSL 5399. Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Primary interest is on integration of process, conceptual, professional, and personal skills. Provides extensive supervised experience in a setting closely aligned with student's chosen program. Taken as a two-semester sequence of two, three credit-hour courses. Each semester requires twenty weekly hours (300 total in each) of field experience. This course is repeatable up to four times, but a maximum of 6 credit hours will be awarded. This course will be graded using a pass/fail grading system. Prerequisite: CNSL 5350, CNSL 5351, CNSL 5353, CNSL 5354, CNSL 5381, grade of "B" or better in CNSL 5357 and CNSL 5397 and departmental permission received via application acceptance.

## Construction

### Courses

**CNST 1305. Construction Graphics. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Computer based 2D & 3D graphics used in the construction industry including CAD/REVIT based drawing development, construction drawing interpretation, site/plan/elevation/section/detail drawings, structural and MEP drawings. Residential and commercial construction based. Lab fee: \$10.

**CNST 1306. Construction Materials and Methods. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course introduces students to the basic building materials and systems used in constructing buildings, bridges, and infrastructure projects. It offers the basic Understanding of the use of common systems such as foundations, structural framing/skeleton, building envelopes, and finishes. Namely, it introduces students to proper terminology and usage of wood, steel, and concrete materials and selected manufactured components. Lab fee: \$10.

**CNST 1307. Construction Methods-Concrete and Masonry. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course is an investigation into concrete and masonry construction methods, testing, and design used in residential and commercial construction. Topics include: concrete slab, wall, footing, and pier construction; brick and concrete masonry unit (CMU) wall construction; and decorative concrete/masonry design techniques. Lab fee: \$30.

**CNST 2323. Construction Estimating. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course introduces students to the skills and tools necessary to prepare formal cost estimations for residential construction projects. It focuses on pricing, indirect costs, bid analysis and use of computer aided software. The goal of this course is to expand the student's skills in new topics of estimating and to assist in developing high confidence in the application of construction estimating skills. This course addresses the typical procedures from familiarization with the CSI Divisions, building plans, material quantification, work breakdown, work quantification, pricing and bid submittals while creating detailed cost estimates. Prerequisite: CNST 1306, CNST 1307 Lab fee: \$2.

**CNST 3301. Building Mechanical and Electrical Systems. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course introduces students to the planning and construction of mechanical and electrical systems common to construction projects. It involves basic calculations of cooling/heating loads, determination of temporary power demands, and sizing of pipes, HVAC equipment, and ducts. Lab fee: \$30.

**CNST 3302. Construction Cost Estimating and Analysis. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course covers quantification and pricing of direct field costs and general condition costs for light commercial and industrial construction projects from contract documents as well as preparation of complete lump sum bid package ready for project execution with emphasis on the use of software in the estimating process. Prior knowledge or experience in construction, mechanical, and electrical systems is recommended. Prerequisite: CNST 2323, CNST 3301, or appropriate Occupational Specialization credit Lab fee: \$2.

**CNST 3308. Structural Steel and Timber Construction. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Design and analysis of temporary structures used in construction, including scaffolding, shoring, ground support systems, concrete falsework, and formwork, bracing, soldier beam and lagging, trenching, equipment bridges, and temporary support of permanent structures. Besides, this course introduces construction safety associated with temporary structures. Prerequisites: CNST 1306 or appropriate Occupational Specialization credit, and either PHYS 1401 or PHYS 2425. Lab fee: \$2.

**CNST 3309. Commercial Construction and Industrial Subsystems. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course introduces students to the terminology and functions of details of mechanical and electrical systems common to process and industrial plant projects. It involves basic calculations of systems, determination of power requirements, and selection of systems. Lab fee: \$2.

**CNST 3311. Construction Materials Testing and Inspection. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Construction materials testing and inspection procedures in laboratory and field situations using standard testing equipment, methods, and field inspection techniques per ASTM and ACI standards. Laboratory reports, computer analysis, data collection and simulated field inspections are included. Focus is placed on acceptance testing for construction materials. Prerequisites: CNST 1306 Lab fee: \$2.

**CNST 3320. Construction Safety Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to OSHA regulations and industry practices related to creating and maintaining safe construction sites. Students will be eligible to sit for the 10-hour OSHA safety certification exam. Prerequisites: CNST 1306 or concurrent enrollment or appropriate Occupational Specialization credit.

**CNST 3321. Construction Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Construction Management courses including construction operations and key project management skills. Critical path scheduling, duration, logic, resource leveling, and the calculation of costs. Typical contract formats: project planning with emphasis on legal aspects of various types of corporations and structure.

**CNST 3335. Construction Layout and Site Development. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Basic surveying techniques for construction layouts, fundamentals and regulations related to land development. Prerequisites: MATH 1316 or MATH 2412 or appropriate Occupational Specialization credit Lab fee: \$2.

**CNST 3385. Construction Project Scheduling. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course explores major problems, tasks and techniques required to manage the technical program in each phase of the product life cycle. Organizational planning, decision-making, and internal external interface techniques for each phase of the project life cycle are addressed. Additional concepts such as: Earned Value Analysis (EVA), Critical Path Management (CPM), Project Requirements Analysis, and Schedule Task Analysis will be explored in depth. Lab fee: \$2.

**CNST 4084. Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Topics will vary according to timeliness and special needs. May be taken more than once for credit.

**CNST 4086. Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

This course is designed to meet the needs of Engineering Technology students who have above average academic ability and who need to pursue subject matter that is not normally included in the Engineering Technology curriculum. Approval for enrollment in this course shall be with the concurrence of the individual instructor and the department head. The student must be currently enrolled in one of the majors offered in the Engineering Technology Department.

**CNST 4310. Site & Building Foundations. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

The course gives an overview of the difference and correlation between soil mechanics and foundations engineering. Soil mechanics is the branch of engineering that involves the study of the properties of soils and their behaviors under stress and strain in idealized conditions. Foundation engineering is the application of the principles of soil mechanics in the planning, design and construction of foundations for buildings, highways, dams and so forth. This course presents a detailed look into soil properties and foundations design. Prerequisites: PHYS 1401 or PHYS 2425. Lab fee: \$2.

**CNST 4313. Construction Law and Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to basic understanding of contractual issues that are significant to construction managers. The course is designed to teach basic concepts of contract law and to recognize legal issues making decisions based on current industrial standards. The course also focuses on addressing ethics in the construction industry.

**CNST 4322. Building Information Modeling. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course is designed specifically to both introduce specific BIM (Building Information Modeling) techniques and software as well as further develop VDC (Virtual Design and Construction) software as they align with current managerial methods and project delivery platforms. The course is also designed and developed to promote discussion with respect to the roles played by owners, designers, builders, and suppliers. Specific attention is paid to BIM's role in various project platform delivery systems including DESIGN-BID-BUILD, DESIGN BUILD, CM AT RISK, and IPD. Prerequisite: CNST 4325, CNST 3385, CNST 3321, Minimum of 90 hours coursework complete Lab fee: \$2.

**CNST 4323. Construction Estimating. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course introduces students to the skills and tools necessary to prepare formal bids for construction projects. It focuses on pricing, indirect costs, bid analysis and use of computer aided software. The goal of this course is to expand your skills in new topics of estimating and to assist you in developing high confidence in the application of the estimating skills you learned previously. The course addresses the bidding procedure from receipt of bid documents through work breakdown, work quantification, pricing and bid submittal for lump sum and unit price bids, and preparation of design/build proposals. Prerequisites: CNST 1306, 1307, and 3301 Lab fee: \$2.

**CNST 4325. Contract Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to issues regarding administering construction contracts. It focuses on understanding of the purpose of contract documents, legal hierarchy of the documents, the interrelationships among the documents, liabilities accepted with each document, and typical challenges related to communications among the parties involved, establishing chain of commands, warranties, and progress/final payments. Prerequisites: CNST 3321.

**CNST 4395. Construction Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Capstone projects course emphasizing a team approach to the analysis and solutions of Construction problems. Projects will be supplied by industry whenever possible. Emphasizes scheduling, design, working in teams. A final written report drawings and presentations will be provided to the customer. Prerequisite: Minimum of 90 hours coursework complete and department head approval.

## College of Business Administration

### Courses

**COBA 5100. Foundations of Management. 2 Credit Hours (Lecture: 1.5 Hour, Lab: 0 Hours).**

Framework of the functions and development of management practice. Emphasis on management roles and approaches, applied ethics, and leadership of others in a dynamic, global environment. May be required for admission to Graduate Business Programs. May not be used as credit toward Graduate Business Programs.

**COBA 5101. Foundations of Accounting. 2 Credit Hours (Lecture: 1.5 Hour, Lab: 0 Hours).**

This course presents the foundational principles of accounting to graduate students without a previous foundation. May be required for admission to Graduate Business Programs. May not be used as credit toward Graduate Business Degrees.

**COBA 5102. Foundations of Finance. 2 Credit Hours (Lecture: 1.5 Hour, Lab: 0 Hours).**

Introduction to financial concepts with a corporate finance perspective: calculation and interpretation of financial ratios, time value of money (TVM), valuation of corporate bonds. May be required for admission to Graduate Business Programs. May not be used as credit toward Graduate Business Degrees. Prerequisite: Foundations of Accounting or equivalent and Foundations of Economics or equivalent.

**COBA 5103. Foundations of Statistics. 2 Credit Hours (Lecture: 1.5 Hour, Lab: 0 Hours).**

Introduction to statistics and probability including: Methods of sampling, classifying, analyzing, and presenting numerical data; frequency distribution, averages, dispersion, times series analysis, correlation, and forecasting for business purposes May be required for admission to Graduate Business Programs. May not be used as credit toward Graduate Business Degrees.

**COBA 5104. Foundations of Microeconomics. 2 Credit Hours (Lecture: 1.5 Hour, Lab: 0 Hours).**

An integrated survey of both microeconomics and macroeconomics. May be required for admission to Graduate Business Programs. May not be used as credit toward Graduate Business Degrees.

**COBA 5105. Foundations of Marketing. 2 Credit Hours (Lecture: 1.5 Hour, Lab: 0 Hours).**

This course introduces the principles and concepts of the design, distribution, pricing, and promotion of goods, services, people, places, and causes offered by profit-seeking and non-profit organizations. It also examines both national and international markets and includes an application of the legal and ethical constraints on the marketing field. May be required for admission to Graduate Business Programs. May not be used as credit toward Graduate Business Degrees.

**COBA 5301. Foundations of Accounting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The first component of this course presents the foundational principles of accounting to graduate students without a previous foundation. The second component of this course presents the foundational principles of statistics for graduate students without a previous foundation.

**COBA 5302. Foundations of Economics and Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A foundational course in economics and finance for those students without sufficient preparation. The first component will present the basics of economics. The second component will present the basics of finance.

## Communication

### Courses

**COMM 1100. Transitioning to University Studies in Human Communication. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of communication and languages disciplines.

**COMM 1307. Introduction to Mass Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Places mass media in historical perspective; explores the relationships among media; examines the structure of the American communications system and compares it to international communications systems. Analyzes the social, economic, and political implications of modern society's reliance on mass communications. Explores the ways in which the mass media provides images of our world.

**COMM 1311. Introduction to Speech Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to improve the individual's understanding of the human communication process. Classroom exercises involve the student in interpersonal, small group, and presentational speaking situations requiring critical thinking skills, teamwork, and personal responsibility. Special emphasis on developing communication skills needed to check and validate perceptions, control language usage, and analyze and improve reasoning processes.

**COMM 1315. Public Speaking. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the principles and practice of presentational communication. Methods of topic analysis, research, evidence evaluation, organization, and delivery are covered and assignments require critical thinking skills, teamwork, and personal responsibility. Students participate in several classroom presentations.

**COMM 1316. News Photography I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focus on camera operation, film development and printing. Study in the use and layout of photography in newspaper and magazines. Students will learn new photographic technology as well as traditional applications.

**COMM 1342. Voice & Diction. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Oral presentation of literary forms with emphasis on the vocal mechanism and phonetics. Interpretative readings in prose, poetry, and drama are directed to help students gain a sensitivity to literary genre and develop effective speech habits through vocal analysis, guided practice, and class drills emphasizing pronunciation, enunciation, and articulation. Credit for both COMS 1342 and DRAM 2336 will not be awarded.

**COMM 2302. Business and Professional Speaking. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of communication in business and professional organizations. Special emphasis will be given to applying thinking skills, teamwork, and personal responsibility to development of speaking skills, interviewing, team-building skills, and a knowledge of organizational communication.

**COMM 2308. Broadcast Production. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will cover on air performance for both radio and TV, audio production, writing for broadcasting and producing radio and television programming. Areas will include radio, TV, podcasting and in studio and remote broadcast.

**COMM 2311. News Gathering & Writing I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Fundamentals of news writing and reporting. Students will learn basic newspaper style and compose stories using traditional stylebook techniques. Students will learn how to write stories for both print, broadcast and online media. Prerequisites: ENGL 1301 and ENGL 1302.

**COMM 2322. Survey of Social Media. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In this course students will look at the expansion of social media in the public relations field, learn basic strategies of social networks, blogs, RSS feeds, media sharing, tagging and other social media platforms, and practice the development of social media plans and infographics.

**COMM 2325. Event Coordination. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Fundamentals for professional coordination of special events in various types and styles. Topics focus on event implementation as an essential element of public relations management. Activities center on event logistics, promotions, monitoring, and client liaison.

**COMM 2333. Broadcast Journalism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of broadcast news practices. The basic rules of broadcast news writing will be reviewed and stories will be written and delivered for both radio and television. Studio and newsroom procedures will be examined. Prerequisites: COMM 2311.

**COMM 3303. Debate. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the principles of argumentation and debate. Subject material will include research, evidence, reasoning, case construction, refutation, and delivery. Classroom debating will provide students with opportunities to observe and participate in competitive debating. This course is particularly applicable to those anticipating study in pre-law. Prerequisites: COMM 1311, or 1315, or 2302 or permission of the department head.

**COMM 3304. Interpersonal Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course designed to improve individual communication skills relevant to human relationships. The development and maintenance of interpersonal (one-to-one) relations are examined, with special emphasis on identifying and correcting communication breakdown. A portion of the course will be devoted to exercises designed to improve interpersonal skills. Prerequisite: COMM 1311, or 1315, or 2302 or permission of the department head.

**COMM 3305. Environmental Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to improve students' understanding of the human communication process in shaping perceptions of and relationships with nature and environmental decision making. Prerequisites: COMM 1311, 1315 or COMM 2302.

**COMM 3308. Digital Video Production. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduces students to the collaborative process of narrative and non-narrative production while fostering the creation of an individual voice. Students learn the basic techniques and aesthetics of single-camera production, including shot composition, lighting and graphic effects. Students also learn techniques of digital post-production editing.

**COMM 3310. Communication Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines First Amendment case law and state and federal regulations of speech and media. Provides historical and contemporary analyses of the laws of defamation; obscenity; fighting words; and time, place and manner restrictions. Issues such as copyright, privacy, and freedom of information will also be covered. Prerequisite: 3 hours of COMS or approval of department head.

**COMM 3311. Feature Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course is a course in our journalism sequence. The class focuses on magazine writing, feature writing, editorial and review writing. The course also focuses on free lance and professional writing and reporting skills. Prerequisites: COMM 2311 or approval of department head.

**COMM 3312. Travel Writing and Blogging. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines writing about travel and tourist destinations for different media. The course examines how traveling writing and blogging is done from different perspectives and examines the ethical and practical issues that guide the process. Prerequisite: COMM 2311.

**COMM 3317. News and Feature Writing I. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course focuses on writing and reporting both hard news and feature stories. There will requirements that students report, write and edit features and news stories with the goal of publication. Prerequisites: COMM 2311. Lab fee: \$5.

**COMM 3318. News and Magazine Editing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The basics of story placement and layout, copy and style editing. This course would emphasize the role and responsibilities of different editorial departments as well as the overall responsibility of editorial management. Prerequisites: ENGL 3310 or consent of the instructor.

**COMM 3319. News and Feature Writing II. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course focuses on writing and reporting both hard news and feature stories. There will requirements that students report, write and edit features and news stories with the goal of publication. Prerequisites: COMS 211 or COMM 2311. Lab fee: \$5.

**COMM 3320. Public Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the theory, history, and principles of public relations programs for profit and nonprofit organizations, including media relations, crisis management, ethics, social responsibility, and related topics. Critical analysis of public relations is an integral part of the course as is extensive hands-on volunteer work.

**COMM 3321. Advertising. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analysis of advertising in modern society, including history, design and effects of advertising. Students will study the uses of different media for advertising purposes, working in teams to achieve common goals.

**COMM 3323. Political Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analysis of political campaigns in modern society, including history, design and effects of campaigns. Students will study the uses of different media for campaign purposes, working in teams to achieve common goals.

**COMM 3325. Organizational Spokespeople. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analysis of organizational spokespersons in modern society, including history, ghost writing, and effects of their roles and statements. Students will study the uses of different media for spokesperson purposes, working in teams to achieve common goals.

**COMM 3328. Public Relations Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Study and practice in the techniques of writing and producing public relations materials with an emphasis on creativity and aligning work to targeted publics. Teamwork and portfolio development are integral learning components of the course. Prerequisites: Have a C or better in COMM 2311 and COMM 3320 or permission of instructor.

**COMM 3329. Travel & Tourism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This class covers the way travel and tourism affects the local economy and how Convention & Visitor Bureaus (CVBs) and other local entities "sell" locals and properties to potential customers.

**COMM 3332. Intercultural Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of intercultural communication theories and how they shape interpersonal, small group, and public interactions. Students will observe, participate, and analyze intercultural interactions on campus and in the community.

**COMM 3340. Persuasion. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course featuring independent reading, research, and discussion under personal direction of instructor, in interpersonal, small group, and public settings. Emphasis on audience analysis, ethics, motivational factors, source credibility, compliance gaining and theories of attitude change. Prerequisites: COMM 1311, 1315 or 2302.

**COMM 3384. Documentary Film. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine the history of the international documentary film movement from 1923 to the present. Students will examine a variety of different documentary films from different cultures and time periods.

**COMM 3500. Sports Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the role of communication in the sports industry. The class will examine the history of sports journalism and the role of mass media as well as some of the common conceptual models and theories used in sports communication studies. Additionally, the influence of digital, mobile, and social media platforms will be considered, as well as the functions of marketing and public relations.

**COMM 4085. Communications Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Content varies according to the needs and desires of the students. When topic varies, course may be taken for credit more than once. Prerequisite: Junior classification or approval of department head.

**COMM 4086. Communication Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

A course featuring independent reading, research, and discussion under personal direction of instructor, topics vary according to student need. Open to students of senior classification with department head approval.

**COMM 4205. Practicum in Journalism. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

Practicum in Journalism requires a demonstrated proficiency in a variety of activities related to writing, reporting, editing and publishing.

**COMM 4301. Media Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will cover business and sales in a comprehensive media environment, as well as issues such as advertising sales, personnel and budget management, and planning and executing of media programming including documentaries.

**COMM 4304. Organizational Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced study of communication as it takes place in business and industrial settings. Special attention will be given to managerial communication, communicator style, channels and networks, and organizational communication consulting. Prerequisite: COMM 1311 or COMM 1315 or COMM 2302.

**COMM 4309. Advanced Reporting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A capstone course for Journalism students. This course will provide advanced studies for reporting, news writing, newsgathering, interviewing, records evaluation and investigative techniques. Students will be required to submit articles for publication and provide evidence of superior writing skills. Prerequisites: COMM 3310, 3311, and 3318, or with department head approval.

**COMM 4310. Computer-Mediated Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course designed to introduce students to key concepts of social networking websites/applications, enable students to interact with others through hands-on experiences on social networking websites/applications, and provide students with experiences to critically analyze the positive and negative aspects of communicating (interpersonal, small group, organizational, etc.) with others through social networking websites/applications.

**COMM 4312. Rhetorical & Communication Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A general survey of classical through contemporary rhetorical and communication theory. Emphasis on how theories have been and are being applied in criticism of public address and rhetorical movements and in contemporary communication research. Prerequisites: COMM 1311, or 1315, or 2302, or permission of the department head.

**COMM 4320. Event Planning and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Application of public relations processes to the planning and management of special events in various types and styles. Topics include theme development, budgeting, creative design, logistics, promotions, monitoring, client liaison, evaluation, and other relevant aspects of event planning and management. Prerequisite: COMM 2325 or permission of the instructor.

**COMM 4324. Trade Show Planning and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides background and practice in the processes and techniques of trade show planning and management. It applies public relations' four-step process (research, planning, execution, and evaluation) to trade shows. Specifically, students will develop budgets, creative designs, logistics, promotions, and appropriate monitoring and evaluation. Prerequisite: COMM 2325 (B or better).

**COMM 4325. Applied Public Relations and Event Planning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Hands-on application central to the professional practice of public relations and event planning. Emphasis is on collaboration, critical thinking, problem solving, decision-making, client work, portfolio development, and career preparation. Prerequisites: Must have a C or better in COMM 3320 and COMM 3328 or instructor permission.

**COMM 4339. Teamwork and Decision Making. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of work teams, small group theory and processes. Special attention will be given to leadership, organization, group analysis, and interaction. Students will observe and participate in work teams and discussions on contemporary issues regarding teamwork such as virtual work teams. Prerequisite: COMM 1307, 3304, 3310, and at least 6 hours of senior-level COMM.

**COMM 4384. Communications Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Approved and supervised work experience in communications related positions. May be repeated once for a total of 6 hours of academic credit. Prerequisites: Junior standing, 12 hours COMM, and approval of the department's appropriate concentration coordinator.

**COMM 5086. Special Problems. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Conference course. Directed independent study under supervision of a senior faculty member.



**COMM 5200. Communication Pedagogy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will explore teaching and learning strategies for higher education courses in communication. Students will learn lesson planning, classroom management, contemporary teaching strategies, and methods for assessing learning outcomes. Some course elements will also focus on teaching social media for collegiate and professional settings.

**COMM 5304. Organizational Communication Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an advanced study of communication as it takes place in business, industrial, and non-profit settings. Special attention is given to managerial communication, communicator styles, channels and networks, and organizational communication consulting.

**COMM 5310. New Communication Technology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This graduate course provides a historical foundation focused on new communication technology. This course also incorporates communication theories while focusing on the benefits and disadvantages of new communication technology. Students will also explore the ways these technologies are positively and negatively influenced by national/international: cultures, economies, intellectual capital, and politics.

**COMM 5311. Social Media Campaigns. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This graduate course is designed to introduce students to key concepts of social networking websites/applications, enable students to interact with others through hands-on experiences on social networking websites/applications, and provide students with experiences to critically analyze the positive and negative aspects of communicating (interpersonal, small group, organizational, etc.) with others through social networking.

**COMM 5312. Computer-Mediated Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This graduate course provides a historical and futuristic perspective on the creation of the internet and computer-mediated communication. Students in the course will examine and critique scholarly research articles focused on a variety of computer-mediated communication contexts (i.e. - blogs, social networking websites, video chat, etc.).

**COMM 5313. Social Media Analytics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This graduate course is designed to introduce students to key concepts of social networking websites/applications and web analytics. The course will enable students to interact with actual measurement techniques for social networking websites/applications, and provide students with experiences to critically analyze social networking. This course explores how basic statistics can be used to answer questions about social media outlets posed by a business or user.

**COMM 5320. Communication Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This graduate course provides perspectives on communication ethics, from historical underpinnings to theory to professional ethical codes to decision-making structures weighing values, principles and stakeholders. Students in the course will examine and critique ethical factors and decision-making with communication case studies.

**COMM 5321. Survey of Communication Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This graduate course is a study of cornerstone and current communication research. Research articles and projects with varying methodologies will be analyzed for the big-picture perspective on communication scholarship. Students in the course will examine and critique communication research, its context, methodological strengths and weaknesses, and its value and impact on professional communication roles.

**COMM 5323. Small Group Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This advanced course explores the concepts, models, and theories of group interaction and teamwork as it applies to group communication. Special attention is paid to the processes of decision making and problem solving within organizational groups as well examining case studies of group processes and outcomes.

**COMM 5340. Environmental Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the role human communication plays in creating and sustaining relationship with nature. Topics can include: Public Participation, Environmental Conflict, promoting environmental sustainability, etc. Prerequisite: Graduate standing.

**COMM 5352. Communication Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an advanced study of communication theory exploring the concepts, models, and theories of human communication. Prerequisite: Graduate Standing.

**COMM 5385. Special Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Content varies according to the needs and desires of the students. When topic varies, course may be taken for credit more than once. Open to students of graduate classification.

## Computer Engineering

### Courses

**CPEN 5099. Thesis Research. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Research for Master's thesis in Computer Engineering Prerequisites: Graduate standing.

**CPEN 5341. Advanced Algorithms. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Amortized analysis, graph, network flow, string matching, matrix and polynomial algorithms, linear programming, NP-completeness, approximation algorithms, and an introduction to parallel algorithms. Prior knowledge or experience in data structures and algorithms recommended. Prerequisite: Approval of department head.

**CPEN 5342. Parallel Computing and Algorithms. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Taxonomy of parallel computers, shared-memory and message-passing architectures, theoretical models; patterns and strategies for designing parallel algorithms; parallel data structures; automatic parallelization of sequential programs; communication; synchronization and granularity; applications. Prior knowledge or experience in Computer Architecture is recommended.

**CPEN 5343. Advanced Computer Architecture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is structured around the three primary building blocks of general-purpose computing systems: processors, memories, and networks. Topics include the limitations of scalar pipelines, superscalar execution, out-of-order execution, register renaming, memory disambiguation, branch prediction, and speculative execution; multithreaded, VLIW, and SIMD processors; non-blocking cache memories, and memory synchronization, consistency, and coherence; multi-core, shared-memory architectures. The course also covers techniques for quantitative analysis of computer systems, to understand and compare alternative design choices. Prior knowledge or experience in Computer Architecture is recommended. Prerequisite: Approval of department head.

**CPEN 5348. Advanced VLSI Circuit Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analysis and design of key analog and mixed-signal IC blocks: analog switches, sampling circuits, switched-capacitor filters, ADCs, DACs, PLLs. Low-power design techniques and machine learning applications for analog and mixed-signal ICs. Prior knowledge or experience in Electronics II and Digital Signal Processing is recommended. Prerequisite: Approval of department head.

**CPEN 5351. Introduction to Convex Optimization. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces convex optimization problems, the basics of convex analysis, algorithms for convex optimization and their complexities, and applications of convex optimization. The course also trains students to recognize convex optimization problems that arise in scientific and engineering applications, and to use software tools to solve convex optimization problems. Prior knowledge or experience in Calculus III and Matrix Algebra is recommended. Prerequisite: Approval of department head.

**CPEN 5355. VLSI Architectures. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course covers the most important methodologies for designing custom or semi-custom VLSI systems for typical signal processing and communications applications. Techniques for the inner and outer receiver, mapping of algorithms onto array structures, digital signal processing (DSP) systems, and field programmable gate arrays (FPGAs), programmable signal processors. Prior knowledge or experience in Computer Architecture is recommended. Prerequisite: Approval of department head.

**CPEN 5361. Deep Neural Networks. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the principles and theory of neural networks, with emphasis on deep neural networks. Topics include convolutional networks, recurrent and LSTM networks, reinforcement learning, preprocessing, regularization, tuning and optimization, as well as mathematical and programming tools. Applications to classification, image recognition, autonomous vehicles. Prior knowledge or experience in Data Science, Machine Learning is recommended. Prerequisite: Approval of department head.

**CPEN 5366. Robot Vision. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course aims at bridging the gap between computer vision and deep learning. It covers topics such as object detection and recognition, machine learning algorithms for computer vision, and advanced techniques for 3D computer vision. Real world applications and projects will be implemented in the areas of autonomous vehicles and robotics. Prior knowledge or experience in Computer Vision, Python, and C/C++ programming is recommended. Prerequisite: Approval of department head.

**CPEN 5377. Wireless and Mobile Communication Networks. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced architectures for wireless communication networks; advanced wireless technologies; challenges and issues in designing such networks; queueing theory and other stochastic models. Prior knowledge or experience in Computer Networks or Communication Systems Theory, Probability, one semester of programming is recommended. Prerequisite: Approval of department head.

**CPEN 5378. Advanced Computer Networks. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course concentrates on routing and inter-networking in IP networks, while addressing contemporary topics like wireless networks, security, voice and video over IP, the Internet of Things (IoT), software-defined networking, and network virtualization. Prior knowledge or experience in Computer Networks is recommended. Prerequisite: Approval of department head.

**CPEN 5379. Performance of Computer and Communication Networks. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Application of probability, Markov chains, and queueing theory to the analysis and design of computer and communication networks. Case studies in traffic shaping and multiplexing, static routing, dynamic routing, and peer-to-peer file sharing systems. Both continuous-time and discrete-time models are explored. Prior knowledge or experience in Computer Networks or Communication Systems Theory, Probability is recommended. Prerequisite: Approval of department head.

## Computer Science

### Courses

**COSC 1100. Transitioning to University Studies in Computer Science. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of engineering and computer science disciplines.

**COSC 1302. Introduction to Computer Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

History of computers and of their applications in a variety of fields, both as PCs and as embedded systems. Overview of programming paradigms. Overview of today's most dynamic computer-related technologies, including communication networks and the Internet. A modern programming language is used to present types of problems that can be solved with computers, the underlying algorithms, and the fundamental limitations. We adopt early in this course the information-centric viewpoint, exploring the role of computers in all stages of the information life-cycle. Students apply their newly-acquired programming skills to performing basic information-processing tasks. Lab fee \$15.

**COSC 1310. Procedural Programming. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduces the fundamental concepts of structured programming. Topics include software development and methodology, data types, control structures, functions, arrays, pointers and the mechanics of running, testing, and debugging. Prerequisite: One of the following: MATH 1314, MATH 1316, MATH 2412, or MATH 2413. Lab fee: \$2.

**COSC 2321. C++ Programming. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Applies the object-oriented programming paradigm using the C++ programming language. The focus is on the definition and use of classes, interfaces, data encapsulation, inheritance, and polymorphism, templates and exceptions. Presents an introduction to object-oriented design. Prerequisite: COSC 1310. Lab fee: \$2.

**COSC 2331. Java Programming. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

The main parts of the Java programming language are covered, including classes, methods, interfaces, inheritance, polymorphism, generics, lambda expressions, annotations, exceptions, threads and synchronization, collections, Java IO and NIO API. Prerequisite: COSC 1310 Lab fee: \$2.

**COSC 2341. Data Structures. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Application of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), and algorithmic analysis. Prerequisite: COSC 1310 or BCIS 3332 or BCIS 3333 Lab fee: \$2.

**COSC 2448. Introduction to Digital Systems Design. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Combinational and sequential digital system design techniques; programmable logic devices; computer components (ALU, memory, IO circuits); hardware description language (VHDL); introduction to machine and assembly languages. Credit for both COSC 2448 and ELEN 2448 will not be awarded. Prerequisite: COSC 1310 (coreq) or ELEN 1212 (prereq) Lab fee: \$2.

**COSC 3330. Games, Graphics and GUIs. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

2D and 3D graphics; the main building-blocks of game design, from a programmer's perspective, such as character animation, scene navigation, shading, modeling, game rules, and GUI. Prerequisites: COSC 2321 and COSC 2341 Lab fee: \$2.

**COSC 3344. Computer Applications in Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Binary representations of integers, floating-point numbers and characters; solutions to specific and general polynomial equations; regression and iteration techniques; approximate derivation and integration; error analysis; linear systems and matrix algorithms; other selected numerical algorithms. Prerequisites: MATH 2414 and one of the following: COSC 1310 or BCIS 3332 or BCIS 3333 Lab fee: \$2.

**COSC 3360. Python Programming for Data Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Programming tools are used to illustrate the components of the data pipeline: data collection, cleaning, exploration, dimensionality reduction, modeling, visualization, and applications. The course includes an introduction to machine learning. Prerequisite: COSC 1310, or COSC 2321, or COSC 2331, or BCIS 3332, or BCIS 3333 Lab fee: \$2.

**COSC 3365. NoSQL Databases. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course provides an introduction to NoSQL database management systems, with emphasis on the document-centric model. Topics include Create, Read, Update, Delete (CRUD) operations, data processing pipelines, replication, sharding, and the MapReduce paradigm. Prerequisite: COSC 1310, or COSC 2321, or COSC 2331, or BCIS 3332, or BCIS 3333 Lab fee: \$2.

**COSC 3366. Introduction to Computer Vision. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course provides an introduction to the field of computer vision. It covers a broad range of topics, from simple to complex, such as: image formation, camera calibration, image processing, edge detection, filtering, feature extraction, image segmentation, multiple-view geometry, optical flow. The course also provides an introduction to deep learning and robotics applications. Prerequisite: COSC 1310 or COSC 2321 or COSC 2331 or BCIS 3332 or BCIS 3333 Lab fee: \$2.

**COSC 3380. Operating Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduction to the design and development of operating systems. Analysis of current system software technology, including process management, memory organization, security, and file systems. Prerequisite: COSC 1310; COSC 2341 Lab fee: \$2.

**COSC 3390. Software Engineering II. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

The course is a follow-up to Software Engineering I. The main topics are: tools used in software development, coding practices, design patterns, code smells and refactoring, and testing. Prerequisite: COSC 3489 Lab fee: \$2.

**COSC 3443. Computer Architecture. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Hardware and software structures found in modern digital computers. Instruction set architecture, hardware design of the processor, assembly language programming, microprogramming, I/O and memory units, analysis of instruction usage, hardware complexity, and parallel computer architectures and programming. Credit for both COSC 3443 and ELEN 3443 will not be awarded. Prerequisite: COSC 2448 or ELEN 2448. Lab fee: \$2.

**COSC 3489. Software Engineering I. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The course is an introduction to software engineering. The main topics are software development process, software requirements, Unified Modeling Language, conceptual and behavioral modeling, software architecture, software design, and design principles. Prerequisite: COSC 2331 Lab fee: \$2.

**COSC 4086. Special Problems. 1-4 Credit Hours (Lecture: 1-4 Hours, Lab: 1-4 Hours).**

Directed study of selected topics in Computer Science. May be repeated with approval of department head.

**COSC 4088. Undergraduate Research Project. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0-0 Hours).**

Methods of research in computer science through a research project directed by a departmental faculty member. The student is required to prepare a final report and presentation. No credit is earned until the final report and presentation are certified as completed by the faculty member directing the project. Prerequisites: Junior standing.

**COSC 4360. Machine Learning. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course is a broad introduction to machine learning algorithms, with emphasis on their application in data science and cybersecurity. Topics include dimensionality reduction, regression, clustering, support vector machines, decision trees, naïve Bayes, and neural networks. The course includes a significant project component, with real-world data. Prerequisites: COSC 2341, COSC 3360, and either MATH 1342 or MATH 3311 Lab fee: \$2.

**COSC 4364. Principles of Cybersecurity. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduces students to the fundamental concepts, tools, and industry standards of the cybersecurity field. Students will learn how to protect computer systems, networks, and programs from possible digital attacks. Practical and research-specific knowledge to match today's industry standards. Prerequisite: MATH 1342; MATH 3310; COSC 3360 or proficiency in Python; Lab fee: \$2.

**COSC 4389. Programming Languages Fundamentals. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

The course is about the principles of programming languages, concepts of language processing, program representation, and language translation and execution. The main topics are formal description of programming languages, syntax analysis, semantic analysis, code generation, and runtime systems. Prerequisite: COSC 2331, COSC 2341 Lab fee: \$2.

**COSC 4401. Database Theory and Practice. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Fundamental types of database models, with emphasis on relational databases. SQL, conceptual modeling, relational algebra, functional dependency theory, normalization and normal forms. File and data management principles underlying database construction. Optimization algorithms and indexing. Prerequisites: Either COSC 2341 by itself, or (MATH 3310 and one of the following: COSC 1310 or BCIS 3332 or BCIS 3333) Lab fee: \$2.

**COSC 4441. Microprocessor System Design. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to microprocessors; 8/16 bit single board computer hardware and software designs; chip select equations for memory board design, serial and parallel I/O interfacing; ROM, static and dynamic RAM circuits for no wait-state design; assembly language programming, stack models, subroutines and I/O processing. Credit for both COSC 4441 and ELEN 4441 will not be awarded. Prerequisite: COSC 1310; ELEN 2448 or COSC 2448. Lab fee \$2.

**COSC 4451. Distributed Applications. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the architecture and design of distributed applications. N-tier application and supporting technologies are investigated including client/server architecture, supporting languages, transaction processing, and distribution of processes. Prerequisites: COSC 2331 and COSC 2341. Lab fee \$2.

**COSC 4478. Computer Networks. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Bottom-up presentation of computer network hardware and protocols, going through the five main layers: physical, data link, network, transport, and application. Special emphasis is placed on the medium access control sub-layer for local area networks, IP routing, security and modern wireless access technologies. Prerequisites: Either COSC 2341 by itself, or (MATH 3310 and one of the following: COSC 1310 or BCIS 3332 or BCIS 3333) Lab fee: \$2.

**COSC 5330. Simulation. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduction to simulation with emphasis on simulation methodology, random number generation, time flow mechanisms, sampling techniques, and validation and analysis of simulation models and results. Simulation languages and their applications will be investigated. Prerequisites: MATH 1342, COSC 2341, and Graduate standing. Lab fee \$15.

**COSC 5360. Artificial Intelligence. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduces representations, algorithms and architectures used to build intelligent systems. Predicate calculus, state-space representation and search, heuristic search, knowledge-based problem-solving, symbol-based and connectionist machine learning, intelligent agents, robotics. Prerequisites: MATH 1342, COSC 2341. Lab fee \$15.

## Communication Sciences and Disorders

### Courses

**CSDO 2300. Introduction to Communication Sciences and Disorders. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of speech, hearing, and language development and its disorders; descriptions of communicative disorders and their etiologies for the speech-language pathologist, health professional, and classroom teacher.

**CSDO 2301. Anatomy and Physiology for Speech and Language. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of the structure and function underlying the speech, language, and hearing mechanism. Prerequisite: BIOL 1406 OR BIOL 2401.

**CSDO 3300. Phonetics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Training in the use of the International Phonetic Alphabet and practice in the transcription of normal and disordered speech.

**CSDO 3301. Preschool Language Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Nature of language, language-learning theories, and milestones of speech and language development. Emphasis will be placed on preschool language development.

**CSDO 3302. School-age Language Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Nature of oral and written language, the relationship of language to academic learning, and language development focused on school-age children. Completion of pre-req or concurrent enrollment in CSDO 3301. Prerequisite: CSDO 3301.

**CSDO 3303. Introduction to Audiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course provides an introduction to audiology, terms and concepts related to audiology, hearing loss types, causes, assessment and treatment procedures across the lifespan. Prerequisite: Pre-req or co-req of CSDO 2301.

**CSDO 3304. Speech Sound Disorders and Intervention. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the nature, causes, and characteristics of articulation and phonological disorders, including their assessment and treatment. Prerequisite: CSDO 3300.

**CSDO 3305. Service Delivery in Communication Disorders. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides a foundation in clinical management and the delivery of services to prepare CSDO students to work in a variety of settings. Emphasis will be placed on the techniques of goal setting and writing associated objectives, report writing, evaluation of services, ethics, and interdisciplinary collaboration. The course provides the 25 hours of required guided observation.

**CSDO 4086. Problems in Communications Disorders. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Independent reading and research on various communications disorders-related topics. Entry into the course will be arranged by the faculty member with permission from the Communications Disorders Program Director and/or the Department Head. Variable credit from 1 - 6 hours. Prerequisite: CSDO 2300.

**CSDO 4090. Special Topics. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Intensive studies on current trends and issues related to professional practice in the field of communication sciences and disorders. May be repeated for credit when topics vary. 1 - 6 credit hours, dependent upon topic. Prerequisite: CSDO 2300.

**CSDO 4300. Language Disorders and Interventions. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Etiology, diagnosis, and therapy strategies for language disorders across the lifespan with an emphasis on evidence-based practice for preschool and school-aged children. Prerequisites: CSDO 3301 and CSDO 3302.

**CSDO 4301. Aural Habilitation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Effects of hearing differences on communication, current hearing technologies, development of auditory-based skills in individuals who are deaf/hard-of-hearing, and related clinic and classroom-based support strategies. Prerequisite: CSDO 3303.

**CSDO 4302. Diagnostics in Speech/Language Pathology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The diagnostic process in communication disorders. Knowledge of test protocols and assessment methods in language, articulation, voice, and fluency disorders. Prerequisite: PSYC 2317.

**CSDO 4303. Neuroscience & Language. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces the neurology of speech and language mechanisms in children and adults. Emphasis is on the neuronal bases of speech and languages, with focus on clinical syndromes of speech motor systems and central language mechanisms. Prerequisite: CSDO 2301.

**CSDO 4304. Speech & Hearing Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Physical properties of sound, sound measurement, basic auditory function, acoustic and physiological phonetics and the perception of speech. Prerequisite: CSDO 2301.

**CSDO 4305. Communication Disorders in Special Populations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on an examination of disordered communication processes in special populations such as autism, varied syndromes, severe communication disorders, and augmentative communication. Signs and symptoms, etiology, clinical course and vocational-social impact of these disorders. Additionally, the course explores the principles of assessment and intervention.

**CSDO 4306. Communication Disorders in Adults. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on an examination of disordered communicative processes in adults. Signs and symptoms, etiology, clinical course, and vocational-social impact of these disorders. Also explored are principles of assessment and intervention. Prerequisite: CSDO 4303.

**CSDO 4307. Introduction to Voice & Fluency Disorders. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on developing an understanding and a foundation of knowledge about voice and fluency disorders, including the processes involved in speech production. Emphasis will be placed on acquiring knowledge about perceptual, acoustic, aerodynamic, and biomechanical perspectives on normal and disordered speech to inform assessment and treatment. Prerequisites: CSDO 2300 and CSDO 2301.

**CSDO 4308. Disorders of Language and Literacy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course offers an in-depth study of impairments of oral language, reading, and written expression focusing on school-aged children and adolescents. The course explores typical development, models of impairment, assessment, and treatment. Prerequisite: CSDO 3302.

**CSDO 4398. Research Fundamentals in Communication Sciences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Foundations of basic and applied research with an emphasis on methodology and evaluation of research in the field as well as evidence and ethical practice. Prerequisite: PSYC 2317.

## Civil Engineering

### Courses

**CVEN 2200. Surveying. 2 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

Introduction to the principles of measurements of distances, angles, and elevations; use of modern surveying equipment, area calculations, effects of observation errors; topographic mapping, traverse and area computations, and triangulation. Prerequisites: ENGR 1211; MATH 2413 or concurrent registration. Lab fee: \$2.

**CVEN 22325. DO NOT USE. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).****CVEN 2235. Civil Engineering Graphics. 2 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

Introduction to technical drawing applied to civil engineering; design and drawing of various reinforced concrete structure members and connections; use of computer graphic tools, such as AUTOCAD for drawing geometric construction, isometric projection, sectional view, dimensioning, multi-view projections and plans. Lab fee: \$2.

**CVEN 2312. Intro to Civil Engineering. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the disciplines of civil engineering practice through understanding of various sub-specializations within civil engineering discipline such as geotechnical, structural, transportation, water resources and environmental engineering; sustainable design approaches to civil engineering projects through critical thinking and environmental stewardship; and professional and ethical obligations of civil engineering profession. Prerequisite: ENGR 1212 or concurrent registration.

**CVEN 3301. Structural Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduction to the basic principles of structural analysis; various methods of analyses for beams, trusses, rigid frames, as well as statically indeterminate beams and trusses; laboratory component includes the modeling of structural deflections, reactions, internal forces of frame and truss structures using software such as RISA-3D, SAP2000 and/or MATLAB. Prerequisite: CVEN 3423 Lab fee: \$2.

**CVEN 3320. Construction Planning and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Importance of construction planning and management from awarding contract to completion; construction equipment and management techniques; scheduling, and control techniques in civil engineering; scheduling, progress monitoring, and recovery schedules, and use of tools for schedule optimization. Prerequisite: CVEN 2312.

**CVEN 3325. Contracts and Construction Engineering. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Legal aspect of construction industry, ownership, and contractor; contracts and contracting procedure; drawing and specifications used in contract, cost estimation and bidding; contract surety bonds, construction insurance; construction project management and administration; effective project time management; project cost management; prevailing labor market, labor laws, and labor relations; ethics and project safety aspect of construction engineering. Prerequisites: ENGL 1302; CVEN 2310; CVEN 2325.

**CVEN 3423. Strength of Materials. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Application of the theory of strength of materials to engineering design and analysis. Topics include stresses and strains in members subjected to tension, compression, torsion, and shear; flexural and shearing stresses in beams, principal stresses and deflection of beams, column analysis. Prerequisite: ENGR 2321 Lab fee: \$2.

**CVEN 3430. Civil Engineering Materials. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introductions to materials engineering; general properties and behavior of construction materials used in civil engineering particularly their mechanical and non-mechanical properties of cement, aggregate, concrete, metals, steel, aluminum, plastics, wood, and composites; environmental influences and construction material behavior; laboratory evaluation of civil engineering material properties through experiments; standard specifications for material properties, techniques for testing. Prerequisite: CVEN 2312 Lab fee: \$2.

**CVEN 4086. Special Problems. 1-4 Credit Hours (Lecture: 1-4 Hours, Lab: 1-4 Hours).**

Directed study of selected topics in Civil Engineering. May be repeated with approval of department head.

**CVEN 4305. Reinforced Concrete Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Flexural analysis and design of reinforced concrete beams including singly and doubly reinforced rectangular beams and T-beams, shear and diagonal tension, serviceability, bond, anchorage and development length, short and slender columns, slabs, footings, and retaining walls, including computer software and a design project. Prerequisite: CVEN 3423.

**CVEN 4306. Steel Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Fundamentals of analysis and design of steel structures; structural elements; simple and eccentric connections; includes a design project. Prerequisite: CVEN 3423.

**CVEN 4325. Foundation Engineering. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Focuses on geotechnical design of shallow foundations, including spread footings, mats, driven piles, and drilled piers; coverage of bearing capacity, settlement, group effects, lateral load capacity of various foundation types; subsurface exploration, construction of deep foundations and analysis of pile behavior using wave equation and dynamic monitoring methods. Prerequisites: CVEN 2312 and ENVE 2311 Lab fee: \$2.

**CVEN 4360. Highway Planning and Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).**

This course aims to help students understand the basic principles and techniques in highway planning and design. It includes highway planning process, design of the alignment of intersections, evaluation of earthwork requirements, and safety consideration. Upon completion students should be able to perform basic highway design. The course also covers the topics in highway design in the FE exam. Prerequisite: ENGR 3311 Lab fee: \$2.

**CVEN 4450. Transportation Engineering. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Introduction to highway engineering and traffic analysis; geometric design of highways, traffic flow and queuing theory, highway capacity and level of service analysis, traffic control and analysis at intersections, travel demand and traffic forecasting. Prerequisite: CVEN 2312 Lab fee: \$2.

## Dance

## Drama

### Courses

**DRAM 1100. Transitioning to University Studies in Theatre. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of theatre disciplines.

**DRAM 1108. Production Crafts Practicum. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Construction for theatrical productions in a laboratory setting.

**DRAM 1220. Theatre Practicum. 2 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

Participation in and analysis of one or more full-length plays, reader's theatre, production, or an evening of interpretation. Must be taken 2 times since course content changes.

**DRAM 1310. Introduction to Theatre. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A beginning theatre course providing a survey of the fields of theatre activities. This course provides an introductory knowledge of all types and phases of drama: literature, performance, and design.

**DRAM 1330. Stagecraft I. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of technical procedures employed in planning, building, painting, and lighting scenery. Backstage participation in play production as an active set builder and crew member will be required. Stage lighting will be approached from its practical and aesthetic value as a contributing factor to production. Prerequisite: 6 hrs of DRAM/THEA courses or equivalent experience. Lab fee: \$2.

**DRAM 1341. Makeup. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Design and application of make-up for the stage; areas explored include theory, color, character analysis, materials, old age, three-dimensional, and fantasy make-up.

**DRAM 1351. Acting I. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduction to the art of acting through basic theory and technique. Participation in college theatre production is encouraged.

**DRAM 1352. Acting II. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

An analytical approach to acting with emphasis on techniques of characterization, stage presence, and movement. Special attention will be given to the role of the actor as an integral member of an ensemble effort. Theories of acting and of acting styles will also be studied. Participation in a college theatre production is encouraged.

**DRAM 2331. Stagecraft II. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of theatrical costuming and its application in contemporary theatre. Theory on costuming will be applied in laboratory situations and through theatrical production. Lab fee: \$2.

**DRAM 2333. Theatrical Drawing and Drafting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles and practice in the techniques of drafting traditional/nontraditional types of stage scenery. Principles and practice sketching costumes, scenery, stage properties in preparation for Scenic Design and Costume Design.

**DRAM 2361. History of the Theatre I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theatre from its origins to 1750; plays, playwrights, actors, costumes, scenic arts of each period as related to events of period and to contemporary theatre.

**DRAM 2362. History of the Theatre II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theatre since 1750; plays, playwrights, actors, costumes, scenic arts of each period as related to events of period and to contemporary theatre. Prerequisite: DRAM 2361 or approval of department head.

**DRAM 3271. Musical Theatre Dance I. 2 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

This course is a dance class as it pertains to musical theatre styles and performance. Specific styles may vary by semester. Participation in college theatre production is encouraged. Prerequisite: N/A Lab fee: \$2.

**DRAM 3272. Musical Theatre Dance II. 2 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

This course is the study of dance, movement, and staging for musical theatre. It includes strategies for learning and performing dance combinations as they occur in a professional dance audition. Students will continue to develop fundamental dance technique and apply it to musical theatre dance and culminates in student choreographed/staged works. Lab fee: \$2.

**DRAM 3300. Scene Design and Construction. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of the elements of a design used to capture mood, atmosphere, and idea of a play; designing to scale, and drawing ground plans and elevations; technical elements of scene construction. Students must work set crew for theatrical production as laboratory.

**DRAM 3301. Costume Design and Construction. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Studies in stage costuming; history, characterization, fabrics, construction and design. A lecture and laboratory course including student planning, illustration, construction, and designing of costumes for University productions. Prerequisite: Technical Theatre II or equivalent experience.

**DRAM 3302. Directing. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Basic techniques for the stage including scene interpretation, pictorial composition, movement and rehearsal routine. Students will direct and supervise production of short plays.

**DRAM 3303. Lighting for the Theatre. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

History and techniques of lighting for the stage. Major emphasis is placed on design and practical application. Prerequisite: DRAM 1330:Stagecraft 1 or equivalent experience. Lab fee: \$2.

**DRAM 3304. Sound for the Theatre. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Techniques of sound for the stage, including multi-track recording, editing, and the study of microphones. Major emphasis is placed on practical application. Prerequisite: DRAM 1330 or equivalent experience. Lab fee: \$2.

**DRAM 3305. Theatre for Young People. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The history, philosophy, production, and performance of theatre for young people.

**DRAM 3306. Scenic painting. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

An introductory course introducing the steps, techniques and tools of scenic artistry. Through hands-on projects you will learn the basic foundation for painting in the theatre.

**DRAM 3307. Vectorworks; Computer Aided Drafting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an advanced level of theatrical drafting to explore computer aided drafting in scenic and lighting design in theatre. We will be focusing on the drafting program Vectorworks.

**DRAM 3363. History of Musical Theatre. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine the history and significance of America's largest contribution to the world of theatre; the book musical. In this course we will explore the context of musical theatre from practitioner to performance throughout history and today. The course emphasizes the development of musical theatre beginning with the operetta and early minstrel shows through the Broadway hits of the Twenty First Century. Additionally, this course introduces students to the art of critique in regard to musical theatre.

**DRAM 3373. Theatre for the Classroom. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theories and practical application of Theatre in the classroom with children and adolescents.

**DRAM 4086. Theatre Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

A course featuring independent study in theatre. Research and discussion under personal direction of an instructor. Topics will vary according to student need. Open to students of senior classification with approval of department head.

**DRAM 4300. Shakespeare. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study in depth of representative types of Shakespeare's dramas and poetry. Credit for both ENGL 4300 and DRAM 4300 will not be awarded. ENGL 4300 and DRAM 4300 are cross-listed courses. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL.

**DRAM 4302. Directing II. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Advanced techniques for the stage including scene interpretation, pictorial composition, movement and rehearsal routine. Students will direct and supervise production of a 40-minute maximum/One Act Play. We will adhere to UIL rules as much as possible as a guide.

**DRAM 4304. Dramatic Theory & Criticism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A study of the philosophy of aesthetics in theatre and the arts. From the works of various philosophers, directors and actors beginning with Aristotle to contemporary writers.

**DRAM 4307. Theatre Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Theatre management, promotion, finances, organization, emphasis on contract negotiations, planning and use of facilities. A lecture-laboratory course applied to a producing theatre operation and plant. Lab fee: \$2.

**DRAM 4384. Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Minimum of 6 weeks of full-time experience with a professional theatre company approved by the department head. (May be repeated once for a total of 6 hours of academic credit.) Prerequisites: Sophomore standing or permission of department head.

**DRAM 4385. Theatre Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

A course open to Theatre students. Topics vary according to student need. May be taken up to three times for credit, for a maximum of 9 hours.

# Economics

## Courses

### **ECON 1301. Introduction To Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In this course students are encouraged to use their common sense to understand economic principles and applications. Topics include scarcity, markets, economic goals, government policy, and international trade. This course is designed for students majoring in fields other than business or economics and for students who need a basic review prior to taking ECON 2301 or 2302. Course cannot be counted toward a degree in economics.

### **ECON 2301. Principles of Macroeconomics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the aggregate or overall economy. Topics include the description and measurement of economic aggregates; the basic theories of output, employment and prices; the monetary economy and the role of government. Prerequisites: MATH 1314, MATH 1332, MATH 1324, MATH 2412, MATH 2413, MATH 1342, or concurrent enrollment, or approval of department head.

### **ECON 2302. Principles of Microeconomics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The major emphasis of this course is on the understanding of markets. Topics include an in-depth study of supply and demand, cost theory, economic resource markets, international trade, and the determination of foreign exchange rates. Prerequisite: MATH 1314, MATH 1332, MATH 1324, MATH 2412, MATH 2413, MATH 1342, or concurrent enrollment, or approval of department head.

### **ECON 3301. Intermediate Macroeconomics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course extends the study of the aggregate economy introduced in Economics 2301 with emphasis on theory. Topics include the Classical and Keynesian systems, general equilibrium theories, economic growth, and public policy in a global setting. Prerequisite: ECON 2301.

### **ECON 3302. Intermediate Microeconomics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course represents a more advanced study of microeconomic theory than is possible in Economics 2302. Topics include consumer behavior, production and cost theory, market structure, and factor markets. Prerequisite: ECON 2302, or AGEC/AGRI 2317 or equivalent.

### **ECON 3303. Money And Banking. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A study of the structure and functions of financial markets and financial intermediaries; the behavior and pattern of interest rates; the basic concepts of commercial bank management; the nature of money and the role of the Federal Reserve in its creation; the basic structure of the economy and the impact of monetary actions on this structure. Prerequisite: ECON 2301.

### **ECON 3304. Environmental Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the economics of the natural environment. Economic tools and issues such as social cost, externalities, cost-benefit analysis, property rights, and state and federal environmental policies will be examined with emphasis on problems associated with water pollution, waste disposal, and society's burden of social costs. Prerequisite: 3 hours ECON or AGRI/AGEC 2317.

### **ECON 3305. Economics of Financial Markets. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the aggregate financial system and capital markets and the impact these have on financial intermediaries. Topics to be covered are: flow of funds analysis, interest rate theory, role of financial intermediaries, and management of financial assets. Credit for both FINC 3304 and ECON 3305 will not be awarded. Prerequisites: ECON 2301.

### **ECON 3306. Political Economy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the historical, philosophical, and theoretical relationships between the state and the economy. Credit for both POLS 3306 and ECON 3306 will not be awarded. Prerequisite: 3 hours of ECON.

### **ECON 4084. Internship. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-20 Hours).**

Preapproved and supervised work experience in a Economics related position with a public or private business organization. May be repeated for a total of 6 hours credit. Prerequisite: Approval of department head.

### **ECON 4086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Independent reading, research and discussion. Entry into this course will be arranged with the Economics counselor. Prerequisites: Approval of department head.

### **ECON 4090. Special Topics in Economics. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

An examination of current topics in economics. Readings required from current economics publications and other related periodicals. May be repeated for credit when topics vary. Prerequisite: Approval of department head.

### **ECON 4301. International Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to international economic theory and policy, the foundations of modern trade theory and its extensions, welfare effects of tariffs and non-tariff barriers, commercial policies of the United States, trade policies of developing countries, multinationals, balance of payments, and foreign exchange markets. Credit for both ECON 4301 and AGEC 4302 will not be awarded. Prerequisite: 3 hours ECON or AGEC/AGRI 2317.

### **ECON 4302. Developmental Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to theories of economic development. Much of the course focuses on the sources of economic growth, inequality, and poverty, and what "development" means beyond financial growth. Other topics include population growth, migration, human capital, agriculture, the environment, international trade and finance, and good governance. The twin concepts of market failure and government failure are seen throughout the course Prerequisite: Six hours of economics.

### **ECON 4311. Econometrics and Forecasting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Econometrics is the science of using statistics to estimate economic relationships, test economic theories, and evaluate the impacts of government and business policies. Econometrics is also used to forecast or predict how macroeconomics variables, stock prices, and other time-varying economic indicators behave. It is used not only in economics, but in fields as diverse as finance, marketing, political science, sociology, biology, and even comparative literature. Prerequisites: ECON 2301, ECON 2302, and one of the following: BUSI 2311, MATH 3311, AGEC 3317, or MATH 1342.

### **ECON 4385. Seminar in Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of selected topics dealing with problems or unique needs of Economics. May be repeated for credit as topics vary. Prerequisite: Approval from department head.

### **ECON 5086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 2-6 Hours).**

This course offers students the opportunity to become acquainted with current research being conducted within the student's area of interest; directed reading of a number of sources selected in concert by the student's professor. Prerequisite: Approval of department head.

### **ECON 5308. Managerial Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Applies economic theory and methodology to business and administrative decision-making. The tools of economic analysis are demonstrated and their use in formulating business policies is explained. Topics include concepts of profits, production and cost functions, demand theory, competitive pricing policies, and business criteria for investment output and marketing decisions. Prerequisite: Approval of MBA Director.

### **ECON 5311. Econometrics and Forecasting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Econometrics is the science of using statistics to estimate economic relationships, test economic theories, and evaluate the impacts of government and business policies. Econometrics is also used to forecast or predict how macroeconomics variables, stock prices and other time-varying economic indicators behave. It is used not only in economics, but in fields as diverse as finance marketing, political science, sociology, biology, and even comparative literature. Prerequisites: COBA 5103 and COBA 5104, or equivalent undergraduate preparation.

**ECON 5320. Health Care Economics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Health Care Economics offers an analysis and evaluation of classical and modern economic theory, principles and procedures applicable to the health care delivery system and their implications for public policy. Prerequisites: None - Some background in accounting, economics and finance is helpful.

**ECON 5359. Economic Applications and Issues. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Seminar examination of the application of economic theory in the firm (micro) and in the overall economy (macro); in-depth research and analysis of current economic issues through critical examination of the professional literature and the current environment of business government. Prerequisite: ECON 4365 Intermediate Economics or Micro and Macroeconomics.

**ECON 5364. Seminar On Global Commerce. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on global competitive challenges facing business management teams. Students will evaluate how companies have strategically entered and developed international markets and managed global diversification. Students will learn to analyze international market potential, assess business risks and become familiar with institutions and national policies directing international trade. Prerequisite: ECON 4365 Intermediate Economics or Micro and Macroeconomics.

## Education Administration

### Courses

**EDAD 5086. Special Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Open to graduate students who are capable of developing a problem independently. Problems are chosen by the student and approved in advance by the instructor.

**EDAD 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thesis. No credit until the thesis is completed. Prerequisites: completion of all other coursework required for the degree and consent of the major professor or approval of the department head.

**EDAD 5300. Foundations in Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).**

The purpose of EDAD 5300 Foundations of Educational Leadership is to introduce students to: campus-based educational administration and the context in which it currently operates; an initial description of the scope of the process of educational administration; and a review of the fundamental theories related to management, administration, and leadership. Other concepts to be explored in the course include: creating a shared mission and vision, exploring the Texas Principal Standards, identifying frameworks of educational organizations, examining educational policies at the local, state, and national levels, and developing a context for ethical leadership. Prerequisites: Admission to the Educational Administration program and the principal certification program.

**EDAD 5301. Research in Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the fundamentals of research emphasizes research terminology, principal research designs, data collection methodology, psychometric qualities of measurement, research ethics, program evaluation, and distinguishing features of quantitative and qualitative research paradigms. The course focuses on the development and use of the research and evaluation skills necessary to become critical consumers and producers of research.

**EDAD 5307. Leadership of Programs and Procedures in Supervision. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of programs and procedures in supervision emphasizes the application of appropriate supervisory practices in hiring, selection, and retention of teachers, as well as, the development and appraisal of teachers. Educational leaders develop an understanding of clinical and developmental supervision, teacher evaluation/appraisal, observation and feedback, and the evolving concepts of supervisory practice. Prerequisites: Admission to the principal certification program; Completion of EDAD 5300, 5316, and 5309 or approval of department head.

**EDAD 5309. Legal Issues in School Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of legal issues emphasizes the relevant legal principles that affect the operation, organization, and administration of public schools. This course focuses on the ethical application of constitutional, statutory, administrative, and case law. Prerequisites: Completion of EDAD 5300 and EDAD 5316 or approval of the department head.

**EDAD 5310. Special Education Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Legal framework for special education in the United States; consideration of federal constitutional provisions, federal and state statutes, federal and state judicial decisions and rules and regulations for the various federal and state agencies which affect special education.

**EDAD 5316. Instructional Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

EDAD 5316: Instructional Leadership The purpose of EDAD 5316 Instructional Leadership is to help aspiring school administrators develop an understanding of the instructional leadership, coaching, and team building skills necessary to become effective campus principals. The course will require students to develop knowledge and skills of facilitating high-quality instructional practices, creating a school mission, vision, and culture to support teacher growth and student achievement, utilizing data-driven decision making, and implementing instructional coaching to support staff development and teacher growth. Prerequisites: Admission to Educational Leadership and Principal Certification Program prerequisite is completion of EDAD 5300 or approval of the department head.

**EDAD 5317. Public School Fin Fiscal Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The principles of school finance, budgeting, and accounting procedures. Prerequisite: Mid-Management Certification or approval of department head.

**EDAD 5318. Adm Law and Personnel Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A comprehensive study of public school law as it relates to contractual and at-will personnel. Emphasis is placed on advertising, interviewing, selecting, and evaluating personnel. Special attention is given to Equal Employment Opportunity guidelines, Federal Right to Privacy Act, employee contracts, and records. Additional attention is given to employee induction and student records. Prerequisite: Mid-Management Certification or approval of department head.

**EDAD 5319. The School Superintendency. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A detailed study of the multiple roles and responsibilities of the chief school administration, including the leadership role with the community, school board, professional staff, and students. Some observations and activities in the public schools and community will be required. Prerequisite: Mid-Management Certification or approval of department head.

**EDAD 5335. Edu Plan and Facility Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of present and future building and equipment needs of public school systems, including operations, maintenance, and planning for new facilities. Field work will be included in this course relating to various phases of planning and designing educational facilities. Prerequisite: Mid-Management Certification or approval of department head.

**EDAD 5336. Instructional Development and School Improvement. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of research and state policy affecting instructional improvement on public school campuses. Special emphasis on results-based accountability systems, including curriculum planning and evaluation, professional development, student assessment, and analyzing student performance data at the campus level.

**EDAD 5339. Processes of Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of EDAD 5339 Processes of Educational Leadership is to assist academic leaders in developing the utilization of communication skills, school culture development and professional learning communities to address campus improvement planning and create collaborative teams that result in long-term academic and social strategic performance improvement. The course will require students to (1) develop a general knowledge and understanding of multiple perspectives (2) create and frame professional learning communities (3) examine data driven instruction and observation feedback tools (4) develop and implement an effective professional development plan, (5) examine the components of a positive student and staff campus culture aligned with the school vision and (6) identify and evaluate integrated planning and decision-making. Prerequisites: Admission to Educational Leadership and Principal Certification Program prerequisite is completion of EDAD 5300 and EDAD 5316 or approval of the department head.

**EDAD 5340. School-Community Relationships. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Systems of interpretation of schools to community publics. Promotion of effective school-community relations through media of communication.



**EDAD 5342. Leadership of Campus Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of EDAD 5342 Leadership of Campus Resources is to develop the aspiring campus administrator's knowledge and skills in resource management, policy implementation, personal management, and school operations. Topics will include management of the fiscal resources, physical plant, campus budget, federal programs, and human capital (hiring, selection, and retention) within the framework of strategic planning. Prerequisites: Admission to Educational Leadership and Principal Certification Program and completion of EDAD 5300, EDAD 5316, EDAD 5309, and EDAD 5307 or approval of the department head.

**EDAD 5345. Leadership of Curriculum Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of EDAD 5345 Leadership of Curriculum Systems is to introduce the aspiring campus administrator to the processes supporting curriculum development, implementation, and evaluation. Emphasis will be placed high-quality instruction, curriculum alignment, teacher effectiveness, quality professional development, coaching, and ongoing supervision. Topics include: content area best practices, curriculum alignment, curriculum evaluation, assessment, instructional support, resource allocation, staff development, and personnel management. Prerequisites: Admission to Educational Leadership and Principal Certification Program and completion of EDAD 5300, EDAD 5316, EDAD 5309, and EDAD 5307 or approval of the department head.

**EDAD 5355. Leadership of Diverse Learning Communities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of EDAD 5355 is to assist aspiring administrators in developing a campus culture that promotes awareness and appreciation of diversity, and advocates for all children by promoting continuous and appropriate development of all learners in the campus community. The course focuses on developing administrators who demonstrate ethical leadership by ensuring student access to effective educators, programs and services and by addressing barriers to ensure achievement of campus initiatives and goals. Prerequisites: Admission to Educational Leadership and Principal Certification Program and completion of EDAD 5300 and EDAD 5316 or approval of the department head.

**EDAD 5386. Special Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Open to graduate students who are capable of developing a problem independently. Problems are chosen by the student and approved in advance by the instructor. Prerequisite: Full admission into the College of Graduate Studies and a graduate degree or certification program.

**EDAD 5389. Comparative Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A supervised course of comparative education through study abroad. During this course, students will travel internationally to compare educational policies, practices and outcomes in other countries. Upon completion of this course, students will be able to apply their comparative experience to a variety of areas of education including Educational Leadership, Educational Technology, and Curriculum & Instruction. Students will document pre-conceived ideas, a review of related literature for their comparative investigation, and a presentation of their findings.

**EDAD 5390. Selected Topics in Educational Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of different topics each semester with a focus on contemporary issues in Educational Administration and leadership. This course may be repeated for credit as the topic changes.

**EDAD 5397. Internship for the Superintendent. 3 Credit Hours (Lecture: 1 Hour, Lab: 7 Hours).**

Supervised professional activities in the area of the public school superintendency. Intern will be required to demonstrate competencies in the performance of appropriate professional duties as culminating experiences in the Superintendency Program. Prerequisite: Completion of the professional courses in the Superintendency Preparation program or approval of department head. Field experience fee \$50.

**EDAD 5398. Principal Practicum I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of EDAD 5398 Principal Practicum I is to provide supervised professional activities in the area of educational administration, including the role of elementary and secondary principal and central office administration. The university field supervisor will support principal candidates' development and demonstration of competencies of professional responsibilities according to state standards. As the culminating experience in the Principal Certification Program, students must take Principal Practicum II in the last semester in the program. Prior to enrollment students must have successfully completed Principal Practicum I. Prior to enrolling in Principal Practicum I, all students must submit the Request to Enroll in EDAD 5399 Principal Practicum form, which can be found on the Educational Leadership & Technology (EDLT) web page or requested from the EDLT office. Note: Principal candidates will also need to pass the state principal certification assessment in order to apply for the Principal Standard Certification. Additionally, practicum students must be employed in an educational setting during the entirety of the course. Lastly, the site supervisor who will be mentoring the principal candidate is required to hold current Texas principal certification. This is a two semester course: Principal Practicum I and Principal Practicum II; it must be taken in the fall and spring semesters consecutively. Prerequisites: Admission to Educational Leadership and Principal Certification Program and Completion of Application for Practicum I and completion of EDAD 5300, EDAD 5316, EDAD 5307, EDAD 5309 and EDAD 5399 or approval of the department head.

**EDAD 5399. Principal Practicum II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of EDAD 5399 Principal Practicum II is to provide supervised professional activities in the area of educational administration, including the role of elementary and secondary principal and central office administration. The university field supervisor will support principal candidates' development and demonstration of competencies of professional responsibilities according to state standards. As the culminating experience in the Principal Certification Program, students must take Principal Practicum I in the last two semesters in the program. Prior to enrollment all students must submit the Request to Enroll in EDAD 5399 Principal Practicum form, which can be found on the Educational Leadership & Technology (EDLT) web page or requested from the EDLT office. Note: Principal candidates will also need to pass the state principal certification assessment in order to apply for the Principal Standard Certification. Additionally, practicum students must be employed in an educational setting during the entirety of the course. Lastly, the site supervisor who will be mentoring the principal candidate is required to hold current Texas principal certification. This is a two semester course: Principal Practicum I and Principal Practicum II; it must be taken in the fall and spring semesters consecutively. Prerequisites: Admission to Educational Leadership Program and Principal Certification Program and Completion of Practicum Application and completion of EDAD 5300, EDAD 5316, EDAD 5307, EDAD 5309 or approval of the department head.

**EDAD 6111. Critical issues in Educational Leadership. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course is to provide an opportunity to study a current and identified administrative problem in a specific school district or combination of districts. Topics include, but are not limited to, future studies, brain-based learning, and strategic visioning and planning. With departmental approval this course may be repeated when the problems or topics differ. Must be taken three times concurrently with residency. Prerequisites: Doctoral Standing.

**EDAD 6310. Scholar-Practitioner Leader. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This foundation course explores the role of an educational leader as a scholar-practitioner. Scholar-practitioners use empirical evidence and practitioner expertise to inform effective strategies to improve academic environments within broader educational contexts. Prerequisite: Doctoral Standing.

**EDAD 6311. Scholarly Process in Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The Scholarly Process in Educational Leadership course is designed to help prepare students to critically examine scholarly articles and other written works in the field of educational leadership and write effective papers for publication or presentation. Students address issues of academic and professional style. Topics may include effective writing techniques and strategies, writing to specific audiences, editing, proofreading, APA style, plagiarism, and academic honesty. Prerequisites: Doctoral Standing.

**EDAD 6312. Research Design and Critical Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course explores mixed methods research designs. Topics include evaluating the quality of empirical research, research design, sampling, data collection, ethical issues, and Institutional Review Board developments. Prerequisites: Doctoral Standing.

**EDAD 6313. Statistical Methods in Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to descriptive statistics with an emphasis on inferential statistics. Includes correlation, one way and two way analysis of variance, and experimental design. Requires the use of a hand held calculator, computer, the Statistical Package for the Social Sciences (SPSS), and other statistical software. Prerequisite: EDAD 6312 C or better.

**EDAD 6314. Philosophy and Ethics in Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course applies the concepts of ethics and philosophy to personal and professional decision-making relative to educational organizations, operations, and leadership. Prerequisites: Doctoral Standing.

**EDAD 6316. Investigating Problems of Practice in Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students identify and systematically investigate problems of practice in educational contexts. Prerequisites: Doctoral Standing.

**EDAD 6317. Educational Equity and Identity. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course identifies equity, diversity, social justice, and oppression issues embedded in complex educational problems of practice. Students evaluate models and theories of change to address issues of equity, diversity, social justice, and oppression in educational environments. Prerequisites: Doctoral standing.

**EDAD 6320. State and Federal Administrative Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the legal and practical foundations of the modern administrative legal oversight in education. Topics include rationales for delegating laws to administrative agencies; the legal framework that governs agency decision-making; the proper role of agencies in interpreting statutory and regulatory law; and judicial review of agency action as applied to educational environments. Prerequisites: Doctoral Standing.

**EDAD 6321. Education Law and Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A thorough investigation of policy making processes and the interrelationship between legal and policy making processes at the national, state, and local levels. An in-depth examination of legal principles and laws affecting the administration and management of educational organizations. Prerequisite: Doctoral Standing.

**EDAD 6322. Data Analysis and School Improvement. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Emphasis on the fundamentals of inferential data analysis with computer applications, which will enhance abilities in the classroom and in administrative responsibilities. This course will provide information, guidance, and models that will enable professional educators to develop effective evaluation and appraisal systems appropriate to their needs. Interpretation and application of assessment procedures and statistical concepts are emphasized in order for educators to facilitate decision-making and disseminate test results and educational evaluations to the community. Prerequisite: Doctoral Standing.

**EDAD 6323. Organizational Theory and Change in Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the identification and application of organizational theories and behavior to the problems of practice in a variety of educational settings. Prerequisites: Doctoral Standing.

**EDAD 6324. Models and Theories of Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide an exploration of key models and theories of educational leadership and examine the impact of each in diverse educational settings. Prerequisites: Doctoral Standing.

**EDAD 6325. Data Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students develop knowledge and skills in mixed methods data analysis techniques. Students select and apply appropriate data analysis techniques to address a variety of research questions. Prerequisites: Doctoral Standing and Successful Completion of EDAD 6311, EDAD 6312, and EDAD 6316.

**EDAD 6330. Educational Policy and Governance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course explores the legislative policy-making process and how it influences educational governance. It also examines the role of agencies and their relationships to educational administration. Prerequisites: Doctoral Standing.

**EDAD 6331. Advanced Data Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Techniques address the approach to data analyses required to examine the problem of practice. Various types of approaches to analyses applicable to the student's selected research topic will be practiced. Prerequisites: Doctoral Standing Successful Completion of: EDAD 6311: Scholarly Process EDAD 6312: Research Design and Critical Analysis EDAD 6316: Investigating Problems of Practice in Educational Leadership EDAD 6325: Data Analysis.

**EDAD 6335. Qualitative Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to qualitative research designs and their philosophical assumptions, and how these influence the research questions, data collection, data analysis, verification, and use of theory and literature. Students will be introduced to five approaches within the qualitative framework: narrative, case study, ethnography, grounded theory, and phenomenology. The course will also address ethical issues in qualitative research and strategies for reporting qualitative data. Prerequisite: Admission to the ELPS Doctoral Program.

**EDAD 6340. Foundations of Higher Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of Foundations of Higher Education emphasizes the origins and specialized purposes of colleges and universities. The organizational structure, governance and administrative functions of higher education are reviewed, compared, and critiqued. With its roots embedded in religion and, more recently in the European university model, American higher education institutions will be studied from an historical perspective. The course will also cover selected contemporary issues facing today's universities, both public and private, with a link to historical, sociological and theoretical underpinnings.

**EDAD 6341. Administrative Leadership in Higher Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of Administrative Leadership in Higher Education emphasizes a thorough investigation of higher education administration theory applied to the practice of performing academic duties combined with an in-depth examination of organizational influences that form the academic, political, legal, governmental, financial, and local framework involved in the administration and management of educational organizations.

**EDAD 6342. Fin and Resource Management in Higher Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of Finance and Resource Management in Higher Education emphasizes higher education's resource acquisition, allocation and management practices. A comprehensive examination is made of the financing of higher education with significant attention given to resource acquisition, allocation, budgeting processes, and reporting standards. Business management functions in higher education such as audits, salary administration, risk management, campus security, informational resources, and human resources are discussed and analyzed.

**EDAD 6343. Teaching and Assessment in Higher Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of Teaching and Assessment in Higher Education emphasizes the exploration of basic organization, structure, development and delivery of college curriculums. The process of teaching and learning through the development and evaluation of student learning and instructional outcomes is investigated. The relationship between the curriculum and basic model of teaching, research and service are introduced with a culminating review of the academic accreditation and institutional benchmarking process and procedures.

**EDAD 6344. Student Service in Higher Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of Student Services in Higher Education emphasizes the exploration of basic organization, structure, and delivery of campus support services for students in higher education. Student populations in colleges and universities will be explored. Student campus life will be studied including but not limited to such topics as housing, student rights, student governance, student health services, food services, campus safety and security, student organizations, and student programming.

**EDAD 6345. Comparative Higher Education Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of Comparative Higher Education Systems emphasizes post-secondary educational systems, structures, and organizational issues in tertiary educational systems outside the United States. The course will address topics such as internal and external governance of post-secondary institutions, access to higher education, student affairs, academic personnel, curriculum, instruction, and educational reform in higher education systems in selected countries. Prerequisite: Doctoral standing or approval of department head.

**EDAD 6347. Trends and Issues in Higher Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of Trends & Issues in Higher Education emphasizes the critical examination of emerging and timely topics and trends that are important to the operation and development of higher education. Using a variety of survey research methods and literature reviews, new and current environmental challenges encountered by institutions of higher education are investigated. Strategies of how to identify and monitor trends and issues are studied. The impact and interaction of external and internal trends and issues on higher education are examined.

**EDAD 6351. Accountability in Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides students an opportunity to make personal and professional decisions relative to academic and fiscal accountability systems. These decisions impact school organization, operation, and leadership in an academic, fiscal, and cultural sense.

**EDAD 6352. Human Resource Administration for Educational Leaders. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on essential human resource skills and knowledge that educational leaders use to implement strategies and policies related to staff management. Prerequisites: Doctoral Standing.

**EDAD 6353. Constituent Relations In Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to examine strategic public relations planning, research, and evaluation techniques for educational leaders. The course connects theory to practical applications in the context of planning, implementation, and evaluation of effective communication with community constituents.

**EDAD 6354. Finance for School Leaders. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Public educational funding is examined as a requirement of school leaders in compliance with federal, state, and local school laws and policies. Educational finance is examined according to various finance theories and models, such as political, legal, economic, and social issues. Prerequisites: Doctoral standing.

**EDAD 6380. Superintendent Leadership and Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to give students a comprehensive view of communication while leading a learning organization at the district level. Emphasis will be placed on the scope and importance of effective communication in education, and the role of communication in establishing favorable workplace outcomes. This course offers an opportunity to learn and apply practical principles of interpersonal communication. The course will examine basic communication concepts, theories, and practices relevant to transferring meaning between two or more people. A field experience will be required as part of the course. Prerequisite: Principal or Mid-management certification or approval of department head.

**EDAD 6381. Superintendent Leadership and Human Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to assist with the recruitment, hiring, dismissal, and supervision of Texas public school employees. State laws regarding hiring and dismissal will be covered. A comprehensive study of public school law as well as performance management and interpersonal conflict of employees as it relates to contractual and at-will personnel. Emphasis is placed on advertising, interviewing, selecting, and evaluating personnel. Special attention is given to Equal Employment Opportunity guidelines, Federal Right to Privacy Act, employee contracts, and records. Additional attention is given to employee induction and student record. A field experience will be required as part of the course. Prerequisite: Principal or Mid-management certification or approval of department head.

**EDAD 6382. Superintendent Leadership and Resource Allocation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course requires participants to describe and synthesize federal, state, and local revenues as they relate to school district budgeting and finance through empirically based research and direct resources based upon needs assessment from the district improvement plan (DIP) to support goals and objectives identified from the DIP. A detailed study of the multiple roles and responsibilities of the chief school administration, including the leadership role with the community, school board, professional staff, and students. Some observations and activities in the public schools and community will be required. A field experience will be required as part of the course. Prerequisite: Principal or Mid-management certification or approval of department head.

**EDAD 6383. Superintendent Leadership and Accountability. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to assist educational leaders in developing and applying leadership accountability skills in public school organizations. The focus of this course is on the appropriate use of leadership accountability skills within the framework of theory and research to enhance the organizational effectiveness and improve organizational culture. Emphasis is placed on the identification and use of accountability skills supported by the Texas Education Agency as an integral part of Texas superintendent certification preparation program. Accountability leadership is one of the essential administrative functions for the operation of effective learning organizations. In this course, students will have the opportunity to view the accountability process as it pertains to improving student performance. A study of research and state policy affecting instructional improvement in public school systems. Special emphasis on result-based accountability systems, including curriculum planning and evaluation, professional development, and student assessment processes. A field experience will be required as part of the course.

**EDAD 6384. Superintendent Leadership Practicum. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course involves superintendent certification program students participating in supervised professional activities in the area of district-level public school superintendent and central office administrator practices. The practicum is required to demonstrate competence in the performance of appropriate professional duties while in a district-level leadership position. No more than 3 semester hours of internship course work can be used to satisfy certification plan requirements.

**EDAD 6385. Advanced Seminar in Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Design of research and inquiry in various areas of educational administration; application of models and research procedures from the social and managerial sciences to policy issues in educational organizations. Prerequisite: EDAD 6331 C or better.

**EDAD 6386. Problems in Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Open to doctoral students who wish to collaboratively develop a problem with a doctoral faculty member. Culminating project will be disseminated as a presentation, publication, or in another appropriate scholarly venue/format as determined by the doctoral faculty member. Prerequisite: Full admission into the doctoral program and approval of advisor.

**EDAD 6389. Comparative Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A supervised course of comparative education through study abroad. During this course, students will travel internationally to compare educational policies, practices and outcomes in other countries.

**EDAD 6390. Selected Topics in Educational Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of different topics each semester with a focus on contemporary issues in educational leadership. This course may be repeated for credit as the topic changes. Prerequisite Course(s): Admission to the doctoral program in Educational Leadership.

**EDAD 6399. Extended Internship in Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised activities in a governmental, organizational, or higher education setting. During the extended internship, the student will be required to demonstrate competencies appropriate to the professional setting of the internship. Prerequisite: Doctoral Standing. Field experience fee \$50.

**EDAD 7088. Dissertation. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thorough and scholarly investigation of a topic acceptable to the dissertation committee. To be acceptable, the dissertation must give evidence that the candidate has pursued a program of research, the results of which reveal superior academic competence and a significant contribution to the field. Graded on a satisfactory (S) or unsatisfactory (U) basis. Prerequisite: Doctoral Standing and successful completion of the doctoral qualifying examination.

## Special Education

### Courses

**EDSP 2362. Special Education Rules and Regulations for Teachers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Laws and litigation that affect the education of students with disabilities are examined. Includes procedures pertinent to teachers providing special education services such as federal and state regulations, IEPs, and the development of basic instructional plans. Prerequisite: EDSP 2301, equivalent course, or approval of department head.

**EDSP 3360. Assessment Principles in Special Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to provide an understanding of formal and informal assessment and evaluation procedures. In addition, it will present how to evaluate k-12 student competencies in order to make instructional decisions. A field-based experience is required. Prerequisite: EDSP 2301 or EDSP 3361.

**EDSP 3361. Survey of Exceptional Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The characteristics of exceptional learners and the educational programs for individuals with disabilities will be surveyed. Additional course content will include the legislation and court cases related to special education and the referral, diagnosis, and placement of exceptional learners. A field experience is required. Prerequisite: TASP/THEA requirement must be met.

**EDSP 4086. Special Education Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A course featuring independent research, reading, application and discussion under personal direction of instructor. Topics vary according to student need. Open to students of junior or senior classification who have been admitted to the Teacher Education Program and with approval of the instructor and department head.

**EDSP 4361. Teaching Strategies for Adolescent Students with Learning Disabilities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to be a Survey of exceptional learners and the mandated educational programs for individuals with disabilities in middle and secondary schools. Additional course content will include instructional and communicative strategies that will facilitate appropriate and productive inclusion of middle and secondary age students with diagnosed and undiagnosed disabilities within general education classrooms and other school settings. A field experience is required. Prerequisites: EDUC 3321 or EDUC 3320 and admission to Teacher Education.

**EDSP 4362. Special Education Rules and Regulations for Teachers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Laws and litigation that affect the education of students with disabilities are examined. Includes procedures pertinent to teachers providing special education services such as federal and state regulations, IEPs, and the development of basic instructional plans. Field experience required. Prerequisite: EDSP 3361, equivalent course, or approval of department head.

**EDSP 4363. Teaching Learners with Learning Disabilities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Learning disabilities are examined with emphasis on history, definition, causation and characteristics. Content includes teaching methods for language, academic, and social skills as well as effective inclusive practices. Strategies for successful collaboration with parents, guardians, paraprofessionals and general education teachers are studied. Field experience required. Prerequisite: EDSP 2301 or EDUC 2301.

**EDSP 4364. Teaching Learners with Developmental Disabilities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Etiology and characteristics associated with deficits in development are studied. Effects of developmental disabilities in the areas of language acquisition and physical, social and emotional functioning are examined. Course content includes methods for teaching functional academic skills, communication skills and life management skills, working with parents, paraprofessionals and related service personnel, community based instruction and vocational planning. Field experience required. Prerequisite: EDSP 2301 or EDSP 3361.

**EDSP 4365. Behavior Management for Exceptional Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Information is provided on managing a classroom that includes students with disabilities. Topics include creating positive interpersonal relationships in the classroom, increasing student motivation and learning, minimizing disruptive behavior, behavioral management strategies, curriculum adaptations, crisis management and behavior management theories and strategies. Information will also be provided on the typical characteristics associated with emotional disabilities and identification procedures utilized. Field experience required. Prerequisite: EDSP 2301 or EDSP 3361.

**EDSP 4367. Programming for Young Children with Disabilities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of young children with disabilities aged birth to 6 with an emphasis on the techniques for implementing programs to meet the needs of the child and the family. Early intervention, medical intervention, and public school educational programming for infants, toddlers, and young children who are at risk will be addressed as well as parent involvement models to promote optimum parent-child and parent-professional relationships. Emphasis on recent research related to early childhood special education. Field experience required.

**EDSP 5086. Special Education Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Open to graduate students who are capable of developing a problem independently. Problems are chosen by the student and approved in advance by the instructor and department head. Prerequisite: Full admission to the College of Graduate Studies and a graduate degree or certification program.

**EDSP 5305. Introduction to Exceptional Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of learner characteristics and an examination of instructional techniques that promote academic, personal, and social growth in exceptional learners and an examination of the process and procedures relating to the placement of exceptional learners. Prerequisite: 18 hours of professional education or certification.

**EDSP 5310. Special Education Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to interpret and apply current special education policy and law to practice, and develop the skills to be professional and ethical educational leaders and advocates for students with disabilities. In addition, an exposure to how issues of diversity have shaped federal statutes and regulations concerning assessment and evaluation procedures, due process and mediation, discipline, individual education plans (IEPs), free appropriate education (FAPE), and least restrictive environment (LRE).

**EDSP 5311. Behavior Management in Special Education Environments. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Characteristics of students with emotional disabilities, including the application of behavioral management strategies appropriate for students with emotional and behavioral disabilities. Course content includes: functional assessment of behavior; development of behavior intervention plans; strategies for teaching appropriate behavior; crisis management strategies; integrating behavior management with instructional programs in school, community and home settings. Prerequisite: admission to the alternative teacher certification program at Tarleton.

**EDSP 5313. Advanced Study of Learning Disabilities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of research-based instructional methods appropriate for students with high incidence disabilities, including causation, diagnosis and educational programming. Course content includes methods for teaching students with learning disabilities, mild intellectual disabilities, speech and language impairments, behavior disorders and other high incidence disabilities. Emphasis placed on adaptation, accommodation, and modification strategies as well as collaboration with parents, paraprofessionals, general education teachers, and other educational professionals.

**EDSP 5315. Advanced Study of Development Disabilities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of research-based instructional methods appropriate for students with learning and developmental disabilities, including causation, diagnosis and educational programming. Course content includes methods for teaching students with learning and developmental disabilities; adapting general education classrooms to accommodate the inclusion of students with learning and developmental disabilities; collaboration with parents, paraprofessionals, and general education teachers. Prerequisite: EDSP 5305 or approval of department head.

**EDSP 5320. Assessing Students with Exceptionalities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides knowledge and skills related to various forms of assessment which are designed to identify and support students with exceptional learning and behavioral needs. Students will become familiar with general concepts related to tests and measurement, and gain experience using various forms of formal and informal assessment. Assessment data will be analyzed and used to help formulate various elements of student instructional plans/interventions. Prerequisite: EDSP 5305.

**EDSP 5325. Appraisal of Exceptional Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Standardized assessment of the academic achievement of students referred for or currently receiving special education services including test administration, analysis, and reporting of scores, and program planning. Prerequisite: Admission into Educational Diagnostician program; EDSP 5305 or concurrent enrollment; or approval of department head. Lab fee: \$30.

**EDSP 5327. Teaching Students with Severe to Profound Disabilities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Definitions, characteristics, and instructional techniques for students with severe and profound disabilities, including functional assessment, applied behavioral analysis, Individualized Education Program (IEP) goals and objectives, transition and placement issues. Prerequisite: EDSP 5305 or approval of department head.

**EDSP 5328. Case Management for Educational Diagnosticians. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course addresses state and federal laws that affect the diagnosis, placements, and programs for students with disabilities and the diagnostician's role and responsibilities as compliance officers. Enrollment limited to students admitted to the Diagnostician Certification Program or permission of department head. Prerequisites: Admission to the Educational Diagnostician Certification Program, EDSP 5305, EDSP 5325 and EDSP 5329.

**EDSP 5329. Assessing Cognitive Abilities of Exceptional Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Standardized assessment of the cognitive and adaptive behavior abilities of exceptional students. Includes test administration, scoring, analysis, and program planning. Prerequisites: Acceptance into Educational Diagnostician program, EDSP 5305, and EDSP 5325. Lab fee: \$2.

**EDSP 5397. Internship in Special Education Teaching. 3 Credit Hours (Lecture: 1 Hour, Lab: 7 Hours).**

A supervised, field-based experience in a special education classroom. Interns must demonstrate proficiency in applying effective teaching practices and classroom management strategies in a school classroom. Prerequisite: Admission to a teacher certification program at Tarleton; satisfactory performance in the professional development courses preceding the internship. May be repeated for credit. Field experience fee: \$75.

**EDSP 5399. Practicum for Educational Diagnosticians. 3 Credit Hours (Lecture: 1 Hour, Lab: 7 Hours).**

Supervised professional activities for students preparing for certification as an educational diagnostician. Professional activities will include test administration, scoring, analysis, diagnosis, report writing, and program planning. Students will be required to demonstrate competence in the performance of professional duties as an educational diagnostician. This project addresses a practical, real world challenge using the skills and knowledge students have gained throughout their program of study. The completed project will demonstrate critical thinking, research-based best practices, review of scholarly literature, and formal reporting consistent with APA style. A minimum of 300 hours of documented related professional activities will be required. A field experience fee of \$50.00 is required for this course. Prerequisites: EDSP 5305, 5325, and 5329 or approval of department head.

## Educational Technology

### Courses

**EDTC 5086. Educational Technology Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Open to graduate students who are capable of developing a problem independently. Problems must be chosen by the student and approved in advance by the instructor and department head. Prerequisite: Full admission to the College of Graduate Studies and a graduate degree or certification program.

**EDTC 5307. Adult Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the theory and research pertaining to adult learners. Topics for study include the characteristics of adult learners, human performance improvement, instructional and assessment strategies that are effective with adults, technology applications for instructional delivery, and program assessment. Students may not count both EDUC 5307 and EDTC 5307 for credit toward a degree.

**EDTC 5338. Principles of Instructional Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an introduction to several models for instructional systems design and thoroughly examines the process of designing effective instruction. In addition to an in-depth study of instructional design theory, the course features an application of the instructional design process in a phased-based project.

**EDTC 5339. Leading Technology Innovation in Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In this course, the tenets of leadership that are necessary to effectively facilitate technology innovation and change within education will be examined. Students will develop and apply appropriate strategies for their own contexts with regard to providing visionary leadership, fostering a culture of innovation in teaching and learning, promoting and guiding professional development programs, and evaluating and refining initiatives for systemic improvement.

**EDTC 5349. Educational Media and Technology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This foundational course provides an examination of the role of technology in school settings and an exploration of available technologies and the applications for instruction. Focus is on web-based applications for communication and collaboration that expand and extend learning environments.

**EDTC 5353. Designing Online Learning Environments. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide an overview of designing and organizing effective online learning environments. Instructional design principles will serve as a guide as students study multiple Learning Management Systems and software used for developing online learning objects, learning modules, and interactive activities. Students will use their knowledge to develop an online course or module with consideration for the planning, implementation, evaluation and revision cycle needed for continuous updating of an online course.

**EDTC 5354. Facilitating Online Learning Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will prepare students to use effective teaching strategies in an online learning environment with an emphasis on communication, interaction, and organization skills necessary to facilitate and lead online learning. Students will develop and apply appropriate strategies for promoting active and collaborative learning, managing workload and administrative issues related to online teaching, and articulating effective pedagogy for online students.

**EDTC 5356. Social Media Use in Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of this course is to familiarize students with the use of social media in education. During the course, students will explore applications of social media use to enhance learning environments, discuss best practices for teaching and learning with social media, and develop a leadership vision for the integration of social media in teaching and learning.

**EDTC 5359. Leading and Learning with Technology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

The course focuses on using technology to study K-12 student learning outcomes, assessment, data analysis, and instructional decision making. Mentoring skills necessary for leadership and peer technology support are also explored. An analysis of Statewide TAKS data will be completed and applied to research of current educational problems. Prerequisite: Permission of the instructor. Lab fee \$20.

**EDTC 5370. Intern/Service Learning Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A supervised internship in which the student applies knowledge from the course of study related to instructional design, online course development, online course teaching, or instructional technology leadership for a public or private organization. This project addresses a practical, real-world challenge using the skills and knowledge students have gained throughout their program of study. The completed project will demonstrate critical thinking, research-based best practices, review of scholarly literature, and formal reporting consistent with APA style.

**EDTC 6348. Facilitating Instructional Innovation in Higher Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the tenets of facilitating instructional innovation in higher education settings. Students examine models and strategies for the leadership of instructional innovation, including strategies for co-creating a shared vision for teaching, learning, and assessment at the university, providing meaningful and relevant training and professional development options for students and faculty, and providing critical teaching and learning support for faculty and students. Prerequisite: Doctoral standing.

**EDTC 6358. Facilitating Instructional Innovation in EC-12 Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on facilitating instructional innovation in EC-12 education settings. Students examine models and strategies for the creation of a digital-age learning culture. This includes strategies for co-creating and maintaining a shared vision for teaching, learning, and assessment. It also provides meaningful and relevant professional development opportunities for students, teachers, and parents as well as teaching and learning support for students, teachers, and parents. Prerequisites: Doctoral standing.

**EDTC 6359. Leading Technology Innovation in Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the tenets of leadership necessary to facilitate technology innovation and change within education. Students develop and apply strategies to provide leadership, foster a culture of innovation in teaching and learning, promote and guide professional development programs, and evaluate and refine initiatives for systemic improvement. Prerequisites: Doctoral standing.

**EDTC 6360. Facilitating Instructional Innovation in Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the tenets of facilitating instructional innovation in higher education and Pk-12 settings. Students examine models and strategies for the leadership of instructional innovation, including strategies for co-creating a shared vision for teaching, learning, and assessment at the university, providing meaningful and relevant training and professional development options for students and faculty, and providing critical teaching and learning support for faculty and students. Prerequisite: Admission to the EdD program.

**EDTC 6361. Visionary Planning to Transform Learning with Technology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will focus on the tenets of leadership that are necessary to cast a vision for effective technology innovation and change within education. Students will develop and apply appropriate strategies for their own contexts with regard to engaging stakeholders in developing and adopting a shared vision for using technology to improve student access that is informed by learning science; building upon the shared vision by collaboratively creating a strategic plan that articulates how technology will be used to enhance learning; evaluate progress on the strategic plan, make course corrections, measure impact, and scale effective approaches for using technology to transform learning; communicate effectively with stakeholders to gather input on the plan, celebrate successes and engage in a continuous improvement cycle; share lessons learned, best practices, challenges and the impact of learning with technology with other education leaders. Prerequisite: Admission to the EdD program.

**EDTC 6362. Implementing Technology Strategy and Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will focus on the tenets of leadership that are necessary to implement technology strategy and systems within education. Students will develop and apply appropriate strategies for their own contexts with regard to leading teams to collaboratively establish the robust infrastructure and systems needed to implement the strategic technology plan; ensure that resources for supporting the effective use of technology for learning are sufficient and scalable to meet future demand; protect user privacy and security; and establish partnerships that support the strategic vision, achieve learning priorities and improve operations. Prerequisite: Admission to the EdD program.

**EDTC 6363. Promoting Continuous Professional Learning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will focus on the tenets of leadership that are necessary to develop, model, and promote continuous professional learning within education. Students will study emerging technologies for learning, innovations in pedagogy, and advancements in the learning sciences and examine goals and strategies for ensuring educators seek to continually learn and grow in these areas; examine and evaluate potential PLN (Personal Learning Networks) to collaboratively learn with and mentor other professionals; reflect on professional growth in the area of technology innovation and brainstorm ideas for continued growth; and develop strategies for promoting a mindset of continuous improvement for how technology can improve learning. Prerequisite: Admission to the EdD program.

## Education

### Courses

**EDUC 1100. Transitioning to University Studies and the Teaching Profession. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. Includes an introduction to and analysis of the culture of schooling and classrooms. Students will examine teaching as a profession through directed experiences.

**EDUC 1301. Introduction to the Teaching Profession. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An introduction and analysis of the culture of schooling and classrooms. Students will examine teaching as a profession through directed experiences.

**EDUC 2300. Families, School, and Community. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

A study of the child, family, community, and schools, including parent education and involvement, family and community lifestyles, child abuse, and current family life issues. The course includes a service learning component to meet the field experiences requirement. Lab fee: \$2.

**EDUC 2301. Introduction to Special Populations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An enriched, integrated pre-service course and content experience that provides an overview of schooling and classrooms from the perspectives of language, gender, socioeconomic status, ethnic and academic diversity, and equity with an emphasis on factors that facilitate learning. The course provides students with opportunities to participate in early field observations of P-118 12 special populations and should be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards. Must include a minimum of 16 contact hours of field experience in P-12 classrooms with special populations.

**EDUC 2330. Diversity and Culturally Responsive Teaching for the Early Grades. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course offers an introduction to the issues of diversity (e.g. gender, race/ethnicity, culture, class, language, exceptionality) that impact decisions that early educators must make regarding the design and implementation of curriculum, teaching strategies, materials, and communication. This course also offers an examination of different world views to prepare future teachers in the early grades to provide culturally responsive educational opportunities to children of all cultural and economic groups.

**EDUC 3304. Early Childhood Curriculum, Instruction and Environments. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed as a study of all aspects of the early childhood classroom, including developmentally appropriate practices, curriculum, instruction, assessment, classroom management, and the physical environment. Current issues related to early childhood education will be examined. Students will be expected to demonstrate developmentally appropriate effective teaching practices in field-based setting. Prerequisite: Concurrent enrollment in READ 3321.

**EDUC 3310. Foundations of Bilingual and English as a Second Language Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the history, philosophies, theoretical, and legal foundations regarding Bilingual/English as a Second Language. The course also includes a review of program designs. Recommended concurrent enrollment in EDUC 4315 or 4330. Prerequisite: Admission to the Teacher Education Program.

**EDUC 3315. Literacy Instruction for Bilingual Classrooms. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the knowledge and skills required to teach limited English language learners, with an emphasis on program implementation, curriculum, materials, oral language development, literacy development and assessment strategies. Course will be delivered in Spanish and English. Prerequisite: Proficiency in Spanish and EDUC 3310, 3320, and READ 3311.

**EDUC 3320. Foundations of Teaching: Elementary (EC-6) Classrooms. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An examination of techniques in cooperative learning, brain-based learning and motivation in a learner-centered classroom. Field-based experience requires students to apply course content to the real-world classroom. Prerequisites: CHFS 3300, PSYC 2308, or PSYC 3303 or concurrent enrollment (in any of the 3), and a minimum of 60 hours toward certification or degree requirements. Concurrent enrollment in READ 3321 required for EC-6 students.

**EDUC 3321. Foundations of Teaching: Middle and Secondary Classrooms. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An examination of adolescent students and teachers in middle and secondary schools. Documentation of directed field experiences are required. Prerequisite: Either CHFS 3300, PSYC 2308, or PSYC 3303. Concurrent enrollment in any of the three options is allowed. Student must have 60 earned hours toward degree or certification.

**EDUC 3330. Effective Instruction for Middle and Secondary Educators. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This courses focuses on developing strategies that are effective in middle school and secondary classrooms. Candidates will design and plan effective instruction utilizing state standards and best practices. Topics include the lesson planning, assessment, classroom management, instructional models, instructional strategies, instruction methods, and instructional skills. Documented field experience component required. Prerequisites: EDUC 3321 (or Department Head approval) and Admission to the Teacher Education Program.

**EDUC 3331. Methodology Field Implementation. 3 Credit Hours (Lecture: 1 Hour, Lab: 9 Hours).**

This course is designed to examine the relationship between the state adopted curriculum and best practices in the classroom, to include practical experience in developing student learning outcomes, designing lesson plans, and delivering and assessing instruction, as well as incorporating effective classroom management techniques into the classroom. Prerequisites: EDUC 3320 or EDUC 3321 and Admission to the Teacher Education Program.

**EDUC 3341. Culturally Responsive Teaching for Middle and Secondary Educators. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course offers an introduction to culturally responsive teaching theory and practice in middle and secondary classrooms. The course focuses on issues related to teaching and working with culturally, ethnically, socially, and linguistically diverse student populations including classroom management, effective lesson planning, and student, family, and community communication.

**EDUC 3371. Ethical, Legal, and Technological Issues in Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides educators with an overview of the ethical, legal, and social issues that are unique in the 21st century learning environment. Topics such as learner privacy online, effective application of technology, and issues regarding copyright and intellectual property. Teacher candidates will also examine digital citizenship and contemporary legal issues of the 21st century classrooms. Prerequisite: n/a.

**EDUC 3385. Science Teaching Implementation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will use the Texas Essential Knowledge and Skills (TEKS) as a framework to examine content methodology, skills, and materials necessary to teach science to children in elementary and middle schools. Students will learn how to plan lessons utilizing research-based practices, implement lessons effectively, and reflect on their own science instruction. Course components include hands-on investigations, class discussions, readings, micro-teaching, science notebooks, and field placements with emphasis on developmentally appropriate practices in science instruction. Topics from life science, physical science, earth/space science and nature of science will be covered. Prerequisite: Admission to the Teacher Education Program. Concurrent enrollment in EDUC 3331 or READ 4331.

**EDUC 3394. Curr/Meth EC-Grade Four I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of developmentally appropriate educational strategies and instructional techniques in teaching language arts, social studies, and fine arts to children (preschool - 4th grade). Students will be expected to integrate language arts, social studies, and fine arts within the curriculum as well as evaluate curricula materials. Prerequisites: Junior classification and completion of TASP requirement; READ 3311, SOSOC 3301, and FINA 1335.

**EDUC 3395. Social Studies Teaching Implementation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is centered on developing an understanding of historical thinking, and learning new methods to help students examine the purposes, significant issues, and current trends which affect social science and history subject matter EC-6 and 4-8 grades social studies programs. Prerequisite: Admission to the Teacher Education Program. Concurrent enrollment in EDUC 3331 or READ 4331.

**EDUC 3396. Curr/Meth EC-Grade Four II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of developmentally appropriate educational strategies and instructional techniques in teaching mathematics and science to children (preschool - 4th grade) within a problem-based learning approach. Special topics include the appropriate use of technology and cooperative grouping and the integration of curriculum within the content areas of mathematics and science. Prerequisites: MATH 3303 and 3305, GEOL 1401, BIOL 2310, admission to the Teacher Education Program.

**EDUC 4086. Education Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A course featuring independent research, reading, and discussion under personal direction of instructor, topics vary according to student need. Open to students of junior or senior classification who have been admitted to the Teacher Education Program and with approval of department head.

**EDUC 4304. Early Childhood Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of classroom management, including the physical environment and use of centers, for diverse groups of early elementary students. A lab and documentation of directed field experiences are required. Prerequisites: Admission to the Teacher Education Program and concurrent enrollment in READ 4310, EDUC 3310 (or completion), and EDUC 4315.

**EDUC 4305. Content Area Instruction in Bilingual Classrooms. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of curriculum requirements as applicable to bilingual education, language concepts and proficiencies needed for teaching language arts, math, science and social studies in bilingual classrooms. Students will evaluate commercial and research-based programs in order to adapt materials for students with varying degrees of language and literacy proficiency. Field experiences required. Prerequisites: Admission to the Tarleton Teacher Education Program, EDUC 3310, EDUC 3315, and READ 3311. Proficiency in Spanish.

**EDUC 4315. EC - 8 Curriculum, Assessment, and Instruction. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Overview of developmentally appropriate curriculum adhering to state and national standards for grades EC - 8. Prerequisites: Admission to the Tarleton Teacher Education Program and EDUC 3330, and concurrent enrollment in READ 4310 and EDUC 3310 (or completion).

**EDUC 4330. Application of Effective Teaching Practices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Documented field-based experiences are provided in school settings where students will plan and deliver units of instruction, examine various models of instruction, analyze classroom management strategies, and demonstrate competencies in effective teaching practices. Prerequisites: EDUC 3330 and READ 3351/READ 3356.

**EDUC 4331. Instructional Strategies for Middle and Secondary Classrooms. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to be an examination of the relationships among local, state, and federal standards to develop instructional strategies derived from research-based practices for middle and secondary classrooms. Field experience required. Prerequisites: EDUC 3321 or EDUC 3320 and Admission to the Teacher Education Program.

**EDUC 4335. Issues of Professionalism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students synthesize and validate concepts encountered during clinical teaching. Prerequisites: Admission to Clinical Teaching and concurrent enrollment in EDUC 4690 (or equivalent).

**EDUC 4383. Internship for Classroom Teaching. 3 Credit Hours (Lecture: 1 Hour, Lab: 9 Hours).**

This internship includes supervised, field-based activities in public school classrooms. Major emphasis is placed on the development of instructional strategies and professional practices designed to improve teaching performance. Students are required to conduct a reflective analysis of their teaching performance. May be repeated for credit. Prerequisite: Admission to the Teacher Education Program. Field experience fee \$75.

**EDUC 4690. Clinical Teaching. 6 Credit Hours (Lecture: 0 Hours, Lab: 40 Hours).**

Supervised clinical teaching in the public schools at the appropriate level. Students are required to demonstrate proficiency in content, the application of best practices, and classroom management strategies. Prerequisites: Admission to Clinical Teaching and concurrent enrollment in EDUC 4335 (or equivalent). Passing scores on required certification exams.

**EDUC 5085. Education Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

Presentation of project proposal, implementation, and conclusions. Must be repeated a minimum of 3 times for 1 hour credit each semester to complete masters project. Student must be continuously enrolled until the graduate project is completed.

**EDUC 5086. Special Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor. Prerequisite: Graduate major in Education.

**EDUC 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thesis. No credit until the thesis is completed. Prerequisites: EDUC 5398, 5357, and consent of major professor.

**EDUC 5301. Readings in Professional Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of current issues in the professional development of educators. Topics include models of professional development, impact of professional development on public school student achievement, effective evaluation of professional development, and identification of best practice in writing and evaluating research with an emphasis on literature reviews.

**EDUC 5302. Cultural Diversity in Schools and Communities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of various dimensions of culture related to teaching, learning, and support services in the community. Topics of study will include ethnicity, socio-economic status, language, gender, religion, age, and exceptionality.

**EDUC 5303. Foundations of Curriculum. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the philosophical, historical, psychological and social foundations of curriculum. Analysis and interpretation of theoretical research is required. Students must complete this course within the first twelve semester hours of graduate study. TMATE students will enroll in this course immediately following completion of certification requirements.

**EDUC 5304. Human Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Increasing the understanding of human behavior with emphasis on the child, adolescent, and adult learner. An examination of the social and cultural forces in the formation of personality, the self, and roles in group membership.

**EDUC 5307. Adult Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the theory and research pertaining to adult learners. Topics for study include the characteristics of adult learners, human performance improvement, instructional and assessment strategies that are effective with adults, technology applications for instructional delivery, and program assessment. Students may not count both EDUC 5307 and EDTC 5307 for credit toward a degree.

**EDUC 5310. Foundations of Elementary and Middle School Curriculum. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the elementary and middle school curricula, including English language arts and reading; mathematics; life, earth and physical science; social sciences; fine arts; health and physical education. Additional topics include the state adopted curriculum, local school instructional programs and national/state assessment programs. Field experience is required. Prerequisites: admission to the College of Graduate Studies; pending admission to the alternative teacher certification program at Tarleton.

**EDUC 5311. Methods of Effective Teaching. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the research on effective teaching practices with an emphasis on direct instruction. Additional topics of study include mastery learning, assessment of learning and use of assessment to guide instruction. Students will apply technology and effective teaching practices to the design and delivery of instruction. Prerequisite: admission to the alternative teacher certification program at Tarleton.

**EDUC 5312. Seminar in Teaching Language Arts and Social Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An integrated approach to teaching Social Studies through the application of the writing process, reading/writing connections, and children's literature. Prerequisite: 18 hours of professional education course work.

**EDUC 5314. Creating and Managing the Learning Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the research on creating and maintaining a positive learning environment. Additional topics for study include: cultural dimensions of classroom management; motivating student achievement; fostering cooperation among students; and reinforcing appropriate behavior. Prerequisite: admission to the alternative teacher certification program at Tarleton.

**EDUC 5315. Content Methodology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to examine specific content methodology derived from research-based instructional practice using the Texas Educator Standards. All TMATE certification content areas will be available in this online course. Prerequisites: EDUC 5311 and EDUC 5314.

**EDUC 5320. Issues in the Education of Children. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The examination of issues related to the education of young children. Course content includes: applying stage development and learning theories to develop instructional strategies and classroom management practices; cultural and individual differences; teaching English language learners and learners with special needs. Prerequisite: admission to the alternative teacher certification program at Tarleton.

**EDUC 5321. Issues in the Education of Adolescents. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The examination of issues related to the education of adolescents. Course content includes: applying stage development and learning theories to develop instructional strategies and classroom management practices; cultural and individual differences; the adolescent subculture and factors that place adolescents at risk; teaching English language learners and learners with special needs. Prerequisite: admission to the alternative teacher certification program at Tarleton.

**EDUC 5322. Teaching Math and Science in the Elementary School. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced study of methods and materials for the teaching of math and science. Emphasis will be on helping teachers become more effective in teaching math and science by developing questions, investigations, speculations, and explorations that reflect not only the content of each area of study, but the process involved in learning.

**EDUC 5334. Curriculum for Early Childhood Programs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced study will be made of early childhood education curriculum and practices. An examination will be made of current trends in early childhood curriculum with an emphasis on the modifications needed to ensure the success of all young children. Prerequisite: 18 hours of professional educational course work.

**EDUC 5338. Curriculum Design and Implementation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The curriculum selection, design, implementation, and evaluation processes within the classroom and school district settings are examined. Factors that influence the curriculum decision-making process and a review of theories of curriculum development will be researched. Curriculum alignment and curriculum auditing will be major emphases of this course.

**EDUC 5340. Teaching English as a Second Language. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of theory, research, and practice as it relates to English language learners. This course will provide an overview of the various methods and philosophies of English language instruction. The course will focus on the best practices for developing listening, speaking, reading, and writing skills with English language learners.

**EDUC 5341. Language and Literacy Development in Young Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the interrelatedness between language acquisition and literacy development. This course will review the multiple perspectives on developing English language literacy with English language learners that come from bilingual and multilingual homes. The course will focus on best practices for assessing and developing literacy in English Language Learners.

**EDUC 5342. English as a Second Language Content Area Instruction. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of best practices for integrating English language instruction with content-based ESL instruction in science, mathematics and social sciences for non-English speaking students. This course will focus on content specific strategies and sheltered English instruction.

**EDUC 5343. Assessments and Accommodations for English Language Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of assessments to determine English Language Learners' linguistic levels, language proficiency, and growth content area learning.

**EDUC 5345. Advanced Instructional Strategies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The derivation of appropriate methods and techniques from basic principles of learning. The development of working skills needed in cooperative planning, selecting, and organizing teaching materials, utilization of the environment, individual and group guidance, and evaluation activities.

**EDUC 5350. Assessment Issues for Educational Leaders. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The examination of assessment as a process with emphasis on assessment of student achievement and on data interpretation for the purpose of improving instruction.

**EDUC 5355. Effective Instructional Programming. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of research-based best instructional and curricular practices and the evaluation and enhancement of instructional and curricular programs related to identified best practices.



**EDUC 5360. The Gifted Learner. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in-depth study of the characteristics and needs of gifted and talented students as they relate to both school and family settings. Different models and programs for gifted education will be studied. Formal and informal identification procedures will be examined in line with federal and state guidelines.

**EDUC 5362. Creativity in the Classroom. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the theories and models of creativity. Emphasis will be given to identifying the creative potential of students in all classrooms. Instructional processes which accommodate the needs of creative learners will be examined and developed. Prerequisite: EDUC 5360.

**EDUC 5364. Curriculum and Materials Development for the Gifted Learner. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A comparison of regular and gifted curricula with a focus on developing an interdisciplinary curriculum for gifted learners. Students will examine and evaluate existing materials and equipment which support instruction for the gifted in both regular and special programs. One focus will be on developing and evaluating teacher constructed materials. Prerequisite: EDUC 5360.

**EDUC 5366. Instructional and Evaluation Methods for the Gifted Learner. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Methods of determining specific learning styles and talents will be learned, with emphasis placed on implementing appropriate instruction for programs. Methods and tools of informal and formal evaluation and assessment will be examined. Prerequisites: EDUC 5360 and 5364.

**EDUC 5369. Practicum in Gifted Education. 3 Credit Hours (Lecture: 1 Hour, Lab: 7 Hours).**

Supervises professional activities in gifted and talented programs. Students will be required to demonstrate competence in the process of delivering a synergistic gifted and talented program. Prerequisites: Successful completion of EDUC 5360, 5362, 5364, and 5366. Field experience fee \$50.

**EDUC 5370. Foundations of STEM Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will explore the history of STEM education and the concepts and application of STEM in society; examine, analyze, and apply the role that STEM disciplinary language plays in STEM instruction; examine factors influencing STEM comprehension; examine sociocultural and cognitive factors influencing STEM education across EC-12 levels; application of STEM principles to instructional settings. Prerequisites: Admitted into the Curriculum & Instruction graduate program, STEM emphasis certificate program, or previously obtained a graduate degree.

**EDUC 5371. Problem-Based Research in STEM Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will introduce scientific research associated with STEM education; examine problems associated with STEM implementation in EC-12 curriculum and instruction settings; evaluate and create effective solutions for STEM curricular and implementation problems in school-based settings. Prerequisites: Admitted into the Curriculum & Instruction graduate program, STEM emphasis certificate program, or previously obtained a graduate degree.

**EDUC 5372. Integrative STEM Pedagogy & Instructional Design for the Classroom. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is grounded in research and new theories regarding educational practices and outcomes in STEM education; examine integrated and multidisciplinary practice-based pedagogies; building of interdisciplinary STEM connections among content areas; development, implementation, and evaluation of integrative STEM project-based learning. Prerequisites: Admitted into the Curriculum & Instruction graduate program, STEM emphasis certificate program, or previously obtained a graduate degree.

**EDUC 5373. Design Thinking for STEM Teaching & Learning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will explore integrated approaches for teaching science and mathematics concepts using design thinking principles and technology in EC-12 education; students will deliver contextualized and integrated STEM instruction that promotes students engagement, motivation, and interest using the design thinking process. Prerequisites: Admitted into the Curriculum & Instruction graduate program, STEM emphasis certificate program, or previously obtained a graduate degree.

**EDUC 5374. STEM Education Practitioner Inquiry Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Knowledge and skills acquired in STEM education courses will be used to identify and research solutions to a practical, real-world obstacle in STEM education curriculum or implementation. Students will review scholarly literature, problem-solve using best practices in STEM education, implement their solution, evaluate the results, and formally report the outcome. Prerequisite: EDUC 5370, EDUC 5371, EDUC 5372, or concurrent enrollment.

**EDUC 5390. Selected Topics in Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of different topics each semester with a focus on such subjects as the gifted student, the education of culturally disadvantaged, teacher evaluation, or other selected topics concerning the teaching/learning process. This semester may be repeated for credit as topic changes. Prerequisite: Permission of instructor.

**EDUC 5398. Techniques of Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Fundamental concepts and tools of research applied to psychological and educational problems. Rationale of research, analysis of problems, library skills, sampling, appraisal instruments, statistical description and inference, writing the research report, and representative research designs.

**EDUC 5399. Internship in Teaching. 3 Credit Hours (Lecture: 1 Hour, Lab: 7 Hours).**

Supervised field-based experience in classroom teaching. Interns must demonstrate proficiency in applying effective teaching practices and classroom management strategies in a school classroom. Prerequisite: Admission to a teacher certification program at Tarleton; satisfactory performance in the professional development courses preceding the internship. May be repeated for credit. Field experience fee: \$75.

**EDUC 5695. Practicum in Clinical Teaching. 6 Credit Hours (Lecture: 1 Hour, Lab: 18 Hours).**

Supervised practicum in clinical teaching in the public schools at the appropriate level. Students are required to demonstrate proficiency in the application of effective instructional practices and classroom management strategies. Prerequisite: Admission to the TMATE Practicum in Clinical Teaching.

## Electrical Engineering

### Courses

**ELEN 1212. Introduction to Electrical Engineering. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The course elaborates on the question "What is Electrical Engineering?", and also aims to cover background and basics on various topics in electrical engineering, such as analog and digital circuitry, microelectronics, signal processing, control systems, communication systems, and power systems. After learning some fundamental theories and concepts, the students will apply them to standard electrical system designs and analysis. The students will also utilize a variety of systems testing and circuit prototyping tools, such as digital multimeters, oscilloscopes, function generators, electronic workstations, along with industry-standard software. Prerequisite: ENGR 1211 Lab fee: \$2.

**ELEN 2425. Electrical Circuit Theory. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Theory of electrical circuits, including voltage, current, power, and energy as circuit variables and sources, resistors, capacitors, and inductors as circuit elements. Coverage of disciplined circuit analysis techniques, equivalent circuit models, maximum power transfer, ideal operational amplifiers, first- and second-order circuits, sinusoidal steady state operation, phasor analysis, and computer-aided circuit simulation. This course concludes with an introduction to system-level concepts, the Bode response, and system transfer functions. Prerequisite: PHYS 2426 or concurrent registration; MATH 2414 or concurrent registration. Lab fee: \$2.

**ELEN 2448. Introduction to Digital System Design. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Combinational and sequential digital system design techniques; design of practical digital systems. Credit for both COSC 2448 and ELEN 2448 will not be awarded. Prerequisite: COSC 1310 (coreq) or ELEN 1212 (prereq) Lab fee: \$2.

**ELEN 3310. Power Systems Engineering. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the generation, transmission, distribution and utilization of electric power, along with the electrical devices connected to such systems including generators, motors and transformers. Topics include: fundamentals of electromagnetic field theory, fundamentals of electric power, basic components of power systems, three-phase systems, transformers, electric machines, AC and DC motors, generators, power generation and distribution, power plants, transmission lines, and renewable energy systems. Prerequisite: ELEN 2425; MATH 3306 or concurrent registration.

**ELEN 3314. Signals and Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Modeling and analysis of electrical and mechanical systems using Laplace transformation methods; transient and steady-state analysis; Fourier series; Fourier transform; elementary feedback. Prerequisites: ELEN 2425, MATH 3306 or concurrent registration.

**ELEN 3320. Engineering Analysis Techniques. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course covers the applications and implementation of numerical algorithms commonly encountered in engineering and scientific analyses. Topics may include statistical analysis, analysis of linear and non-linear systems, optimization and linear programming, numerical differentiation and integration, and analysis of differential equations. Use of MATLAB (or other similar computational tools) for performing computational analysis and generating graphical interpretations of the results is also included. Prerequisite: ENGR 1211; MATH 3306 or concurrent enrollment; Lab fee: \$2.

**ELEN 3332. Electromagnetic Field Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides the background necessary to formulate and solve electromagnetic problems relevant to many fields of electrical engineering such as RF and microwave circuits, photonics, wireless networks, computers, bioengineering, and nanoelectronics. Topics include: static electric and magnetic fields; Maxwell's equations in integral and differential forms; wave propagation; reflection and refraction of plane waves; transient and steady-state behavior of waves on transmission lines. Prerequisites: PHYS 2426; MATH 3306 and MATH 3433 or concurrent registrations.

**ELEN 3360. Microwave Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the key concepts related to the analysis and design of microwave systems at the subsystem and component level. Topics include: waveguides and wave propagation on transmission lines, including stripline and microstrip structures; microwave network analysis; impedance matching techniques; analysis and design of microwave resonators; power dividers, couplers, and hybrids; microwave filters; noise and distortion in microwave circuits; an introduction to microwave system implementation. Prerequisites: ELEN 3314, 3445, and either ELEN 3332 or PHYS 3332.

**ELEN 3443. Computer Architecture. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Hardware and software structures found in modern digital computers. Instruction set architecture, hardwired design of the processor, assembly language programming, microprogramming, I/O and memory units, analysis of instruction usage, and hardware complexity. Credit for both COSC 3443 and ELEN 3443 will not be awarded. Prerequisite: COSC 2448 or ELEN 2448. Lab fee \$2.

**ELEN 3445. Electronics I. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A first course in microelectronics intended to give students an introduction to the analysis and design of analog and digital integrated circuits. Topics include: semiconductor physics theory and operating principles of the p-n junction, MOS field effect transistor (MOSFET), and bipolar junction transistor (BJT); operational amplifiers; large- and small-signal equivalent circuit models of diodes, MOSFETs, and BJTs; single-transistor amplifier configurations; digital logic circuits. Prerequisite: ELEN 2425; ELEN 3314 or concurrent registration Lab fee: \$2.

**ELEN 4086. Special Problems. 1-4 Credit Hours (Lecture: 1-4 Hours, Lab: 1-4 Hours).**

Directed study of selected topics in Electrical Engineering. May be repeated with approval of department head.

**ELEN 4088. Undergraduate Research Project. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Methods of research in electrical engineering through a research project directed by a departmental faculty member. The student is required to prepare a final report and presentation. No credit is earned until the final report and presentation are certified as completed by the faculty member directing the project. Prerequisites: Junior standing.

**ELEN 4336. Solid State Physics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the basic principles required to understand the operation of solid-state devices with an emphasis on device physics. Semiconductor fundamentals including crystals and energy bands, charge carriers (electrons and holes), doping, and transport (drift and diffusion); basic concepts of generation-recombination and the P-N junction as capacitors and current rectifier; semiconductor device equations developed from fundamental concepts; P-N junction theory developed and applied to the analysis of devices such as varactors, bipolar transistors, and field-effect transistors. Prerequisites: ELEN 3445 and MATH 3306.

**ELEN 4340. Digital VLSI Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduces the key concepts to design CMOS VLSI digital integrated circuits. Topics include the basic physical operation and terminal characteristics of CMOS devices, CMOS fabrication highlights, the design of logic gates, static and dynamic digital circuits, timing, memory, and low-power techniques. A project will give students the opportunity to design a digital integrated circuit block from specifications by the use of computer-aided design tools. Prerequisite: ELEN 1212; ELEN 2425; ELEN 2448.

**ELEN 4350. Communication Systems Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the frequency and time domain; modulation; random signal theory; network analysis using nondeterministic signals; basic information theory; noise. Prerequisites: ELEN 3314 and ELEN 2425.

**ELEN 4355. Digital Signal Processing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to discrete-time signal processing and discrete-time systems. Topics include: discrete-time linear systems, difference equations, z-transforms, discrete convolution, stability, discrete-time Fourier transforms, analog-to-digital and digital-to-analog conversion, digital filter design, discrete Fourier transforms and fast Fourier transforms, spectral analysis, and applications of digital signal processing. Prerequisite: ELEN 3314.

**ELEN 4441. Microprocessor System Design. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to microprocessors; 8/16 bit single board computer hardware and software designs; chip select equations for memory board design, serial and parallel I/O interfacing; ROM, static and dynamic RAM circuits for no wait-state design; assembly language programming, stack models, subroutines and I/O processing. Credit for both COSC 4441 and ELEN 4441 will not be awarded. Prerequisite: COSC 1310; ELEN 2448 or COSC 2448. Lab fee: \$2.

**ELEN 4443. Linear Control System Design. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Application of state variable and frequency domain techniques to modeling and analysis of single input, single output linear control systems; physical implementation of control systems by integrating sensors, actuators and other control system components; use of software design tools. Prerequisite: ELEN 2425, MATH 3306, and either ELEN 3320 or COSC 3344. Lab fee \$2.

**ELEN 4446. Electronics II. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A second course in microelectronics emphasizing the analysis and design of analog integrated circuits. Topics include: MOSFET and BJT fabrication technologies; current mirrors and biasing techniques; amplifier topologies; frequency response of analog integrated circuits; feedback, stability, and amplifier compensation techniques; output stages; noise in integrated circuits; linear integrated circuit applications. Prerequisites: ELEN 3445 and ELEN 3314 Lab fee: \$2.

## Educational Leadership in Higher Education

### Courses

**ELHE 5300. Higher Education History. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview of the global history of higher education, and of the development of the higher education system in the United States.

**ELHE 5301. Higher Education Student Services. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Identifies best practices in student service areas and student development theory and application.

**ELHE 5302. Higher Education Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Prepares educational leaders to understand and prepare a system-wide budget plan that allocates resources aligned with the system's needs.

**ELHE 5303. The Comprehensive Community College. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Provides an overview of community and technical college education.

**ELHE 5304. Higher Education Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies leadership on university campuses, both from a theoretical perspective and in the actual practice of leadership.

**ELHE 5305. Higher Education Politics and Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines policies within higher education institutions, as well as state and federal policies related to higher education, the elements of the policy-making process, and the strategies for research and policy analysis in higher education.

**ELHE 5399. Practicum in Higher Education Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised activities in higher education setting or field directly related to higher education, such as a post-secondary coordinating board, legislative body related to post-secondary education, or professional higher education association. During the practicum, the student is expected to demonstrate developed/improved competencies appropriate to the professional setting. This course should be completed in the last semester of the course work. It may be taken with up to two other courses identified as prerequisites upon approval of department head. Prerequisites: EDAD 5301, EDAD 5355, ELHE 5300, ELHE 5301, ELHE 5302, ELHE 5303, ELHE 5304, ELHE 5305, EDTC 5349.

## English

### Courses

**ENGL 0303. Basic Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Provides students with instruction in the basics of acceptable writing, with special focus on preparing them to succeed in the writing demanded throughout the Tarleton State University freshman composition sequence. The course helps students address writing problems by work in such areas as the composing process, arrangement, cohesion, paragraphing, syntax, and use of evidence. The course also helps students (on an individual basis) with their particular problems in grammar, usage, punctuation, and spelling. A student must earn a grade of at least C in order to progress to ENGL 1301. The course will not substitute for any other course and does not count for degree credit.

**ENGL 1100. Transitioning to University Studies in English. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to introduce English majors to university life and to the career possibilities available in this major. Students will develop skills for academic success, development of personal growth and responsibility, and will engage in active involvement in the learning process from an individual college perspective.

**ENGL 1301. Composition I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A prerequisite to English 1302, the course introduces students to the diverse characteristics of writing for academic contexts. Students in English 1301 write about ideas, in particular responding analytically and critically to written sources. The course helps students become familiar with academic audiences, situations, purposes, genres, and some primary conventions (style, arrangement) of those genres. Moreover, students work to develop their own composing processes, particularly for ways of inventing ideas, planning, and revising their texts.

**ENGL 1302. Composition II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A sequel to English 1301, this course introduces students to research in academic contexts. Students address questions such as What is it for? What are its limitations? What are some of its shapes? How does one go about it? The course introduces students to a variety of research methods, systems of documentation, contemporary library resources, and research genres. Among other writing tasks for the course, each student is expected to carry out his/her own research study for possible publication in *The Tarleton Freshman Writer*. Prerequisite: ENGL 1301.

**ENGL 2320. Forms of Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A genre-based study of predominantly modern literary works. Students will analyze form and content with particular emphasis on the vocabulary and techniques germane to literature, investigate its attendant treatment as an academic discipline, and explore its aesthetic connections to human experience. Prerequisites: ENGL 1301 and 1302.

**ENGL 2340. Literature and Film. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of styles, components, and techniques of literary genres, with particular attention to the medium of film as it relates to literary expression. Students will be required to source films from streaming services or library resources. Prerequisites: ENGL 1301 and 1302 or prior approval of department head.

**ENGL 2350. Backgrounds of Western Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of major works in translation which provide the foundation for the literary tradition of the modern Western world, emphasizing, but not limited to, the Ancient World, the Middle Ages, and the Renaissance. Prerequisite: ENGL 1301 and 1302.

**ENGL 3195. Written Discourse Theory and Application. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Students will receive instruction and training in written discourse theory and practice as appropriate and necessary preparation for tutoring in the University Writing Center and/or the English and Languages Department Language Arts Lab. Students must receive prior approval to enroll. Prerequisites: ENGL 1301, 1302, 3 hours sophomore ENGL, and approval of Writing Program Director and Writing Center Directors.

**ENGL 3301. American Literature to 1865. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

From the beginnings to 1865. A critical survey of major writers and movements with emphasis upon such representative authors as Poe, Emerson, Hawthorne, Thoreau, Dickinson, and Melville. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 3302. American Literature Since 1865. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

From 1865 to the present. A critical survey of major writers and movements with emphasis on such representative authors as Crane, Howells, Frost, Hemingway, and Faulkner. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which may be taken concurrently.

**ENGL 3309. Technical Writing and Document Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Process of developing technical information, including researching, drafting, editing, revising, and designing technical reports, proposals, manuals, job application documents and professional correspondence for specific audiences, using word processing and graphic applications. Prerequisites: ENGL 1301 and 1302.

**ENGL 3310. Technical Writing and Editing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Study of advanced technical communication situations such as formal reports, grant proposals, and professional articles, and extensive discipline-specific professional level practice in these forms. Study of general editorial techniques in formats, graphics, and layout and design methods in technical publications. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL, ENGL 3309.

**ENGL 3312. Graphics and Technical Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course will examine the integration of graphic components in printed and electronic mediums. Students will use computer applications to compose and design graphics such as bar graphs, organizational charts, flow charts, diagrams, and drawings. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL, ENGL 3309.

**ENGL 3315. Foundations of Literary Research and Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An introduction to the skills, practices, and perspectives that inform literary research and analysis. The course explores how careful reading, close textual analysis, and creative and informed research methodology culminate in cogent and substantive critical essays about literary texts. The course includes discussion of the formal conventions of major literary genres as well as discussion of concepts such as relationships of literary texts to histories and cultures, the formation of canons, literary movements, and theoretical perspectives that inform literary analysis. This course is required only for majors. May be taken concurrently with other advanced English literature courses. Prerequisites: ENGL 1301, 1302, and 3 hours of Sophomore English.

**ENGL 3320. Advanced Grammar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the grammatical structure of modern English at the level of word, clause, and discourse presented through the application of the principles of descriptive grammars, accompanied by a review of current prescriptive grammars. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL.

**ENGL 3330. Advanced Composition. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Students will examine the rhetoric of composition through intensive writing workshops and close reading of composition-related texts. The goals of the course are (1) to discover and define some coherent relations between rhetoric and composition; (2) to challenge the students' presuppositions about essayistic space through a process of peer- and instructor-reviewed writing workshops. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL, or prior approval of department head.

**ENGL 3341. Cultural Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course explores an array of diverse cultural and historical contexts through literature produced outside the common British and American traditions. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 3342. Genre Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Literary genres consist of related kinds of works, combining content and form, gradually changing as their cultures change. The purpose of generic study is an understanding of literary tradition and of the way in which authors speak to their times, and to all times, through the genres they inherit and modify. This course will provide an intensive study of one or more genres. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 3343. Creative Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on the craft and art of writing narrative, poetic, and dramatic discourse. Attention to the conception, design, and execution both of the whole work and of elements of figurative language, characterization, dialogue, point of view, and poetic structure, as well as other elements of the craft. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 3370. An Introduction to Linguistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of descriptive linguistics revealing the nature and scope of the characteristics and complexities of human language. Much of the course consists of learning the phonology, morphology, syntax, semantics, and pragmatics of modern English. Attention will also be focused on the nature and diversity of the rule-bound creativity underlying the tacit systematic use of human language. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL.

**ENGL 3390. Readings in Adolescent Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Survey of literature with a focus on teenage audiences. Readings will include both classics and contemporary selections. Study will be concerned with increasing student understanding of unique aspects of adolescent literature and its application in public school curricula. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 4086. English Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A course featuring independent reading, research, and discussion under personal direction of instructor, topics to vary according to student need. Open to students of senior classification with prior approval of department head.

**ENGL 4300. Shakespeare. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in depth study of representative types of Shakespeare's drama and poetry. Credit for both ENGL 4300 and DRAM 4300 will not be awarded. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 4301. British Literature I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A chronological study of the works of the principal authors and their historic backgrounds from approximately 700 A.D. to the end of the eighteenth century. The writers considered include Chaucer, Shakespeare, Milton, Pope, and Swift. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 4302. British Literature II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A chronological study of the works of the principal authors and their historic backgrounds from the end of the eighteenth century to the present. The writers considered typically include Wordsworth, Coleridge, Tennyson, Browning, and Eliot. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 4311. Studies in Rhetoric and Language. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course offers advanced study in the theory, nature, and practice of written discourse. Special emphasis is given to helping students investigate language theoretically as a background for their own professional and personal use. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL.

**ENGL 4312. Technical Writing and Computer Applications. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of and practice in use of word processing and desktop publishing in document design and publication. Prerequisites: ENGL 1301, 1302, 3 hours sophomore ENGL, ENGL 3309, ENGL 3312.

**ENGL 4315. Senior Literary Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course offers an opportunity for students to engage in an intensified, focused, well-defined study. Possibilities include the examination of a particular writer, groupings of writers, a specific geographic region, and/or literary criticism. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 4320. Writing for Electronic Mediums. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced study of and practice in writing for electronic mediums with a primary focus on planning, designing, and composing professional pages for the world wide web. Prerequisites: ENGL 1301, 1302, 3 hours sophomore ENGL, ENGL 3309, 3312.

**ENGL 4335. Film Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of movies both as dramas - involving plot, characterization, theme, etc. - and as artistic productions - involving shots, cuts, and other film techniques. Other aspects of film criticism are covered. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL; for English majors only, 3315, which can be taken concurrently.

**ENGL 4360. Advanced Studies in Secondary English. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course applies the standards of the National Council of Teachers of English to the curriculum of secondary English. It provides an intensive review of composition principles, language conventions, literary genres, and computer instructional technology. Prerequisites: ENGL 1301, 1302, and 3 hours sophomore ENGL.

**ENGL 5085. English Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Content varies according to the needs and desires of the students. When topic varies, course may be taken for credit more than once. Open to students of graduate classification.

**ENGL 5086. Special Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Conference course. Directed independent study under supervision of a senior faculty member.

**ENGL 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when student is ready to begin thesis. No credit until thesis is accepted. Prerequisites: 24 hours of graduate credit, including ENGL 5398, and prior approval of department head.

**ENGL 5310. Studies in American Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on restricted periods in American literary history. Examples include colonial American literature, the American Renaissance, American literary naturalism, post-World War II American literature, and minority literature in America. May be repeated for credit when topics vary.

**ENGL 5312. Studies in British Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Exploration of topics in British literature. Major and minor authors, single or multiple genres, and various themes may be covered, depending on instructor's choice of topic. May be repeated once for course credit when topics vary.

**ENGL 5314. Literary Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The focus of this course is to introduce students to literary theory, either via a broad diachronic study or by examining a particular critical approach as it applies to literary texts, depending on instructor's choice of topic. May be repeated for course credit when the topic varies.

**ENGL 5315. The Graphic Novel. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students in this class will study the graphic narrative: the combination of images and text to convey meaning. While the graphic novel is the primary genre explored, other related forms and genres such as comics, comic strips, and web-comics could also be utilized as supplemental material especially for comparative purposes. In this course students will analyze the formal structures of, diverse uses of, or applications of the graphic novel. Note: The course content will vary depending on the instructor teaching; focus of the course for the semester will be made clear in the course schedule for the given term. Prerequisites: Graduate Standing.

**ENGL 5316. African-American Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to African-American literature, either via a broad diachronic study or by examining a particular theme, depending on instructor's choice of topic.

**ENGL 5317. Folklore. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the connections between folklore, its occurrence in daily life, and the scholarly analysis of its use in culture from varied times and societies. Students will examine how folklore may potentially shape individual or group attitudes, values and beliefs on varied topics. Students will reflect on their actual belief systems and how those systems develop and inform other aspects of their lives and the lives of others. As a graduate course, students will learn appropriate research methodologies common to the study of folklore. Note: The course content will vary depending on the instructor teaching; focus of the course for the semester will be made clear in the course schedule for the given term. Prerequisites: Graduate Standing.

**ENGL 5318. Women's Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to explore the literary works of women writers, their contributions to the greater literary tradition, and the social commentaries that emerge from the texts. Students will also be expected to recognize the ways in which women writers respond to traditional literary discourse. Specific topics, eras, and genres will vary with the instructor.

**ENGL 5319. Beat and Hippie Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of this course is to immerse students in the movements, themes, trends, tropes, and innovations that constitute a beginning grasp of both the Beat and the Hippie Movements as they pertain to literature and by extension American culture. Beginning in post-war America and moving through the 1960s, the seminal texts of these two similar but different eras convey, initially, the disillusionment with and rebellion to the burgeoning American consumerism and conservatism of the Eisenhower years, the emergence of a national counter culture seeking universal truths outside of Western mythologies, the advent of drugs along with the widening celebration of first jazz (bebop) and then rock 'n roll, and then move on to vehement protests of the disastrous war in Vietnam, the changing mores of sexuality in America, and the consequent Generation Gap.

**ENGL 5320. Studies in the English Language. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on historical and/or linguistic study of the English language. Topics will vary. Examples include history of the English language and the English language in America. May be repeated for credit when topics vary.

**ENGL 5321. Psycholinguistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Deals with a variety of formal cognitive mechanisms that are relevant to the knowledge and use of natural languages. Primary emphasis is on the modular view of the mind and its consequences for both L1 and L2 language acquisition.

**ENGL 5327. Executive Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the challenges that executives face in advancing their organization's success through the texts that they write. It considers the top-down nature of communication from executive levels, explores typical executive-level genres such as strategy and management plans and guidance documents, and presents techniques for developing documents that convey information accurately while meeting the needs of stakeholders inside and outside the organization and supporting the goals of the organization.

**ENGL 5328. Ethics in Technical and Professional Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the professional ethics of professional and technical writers; addresses the ethical issues associated with the design, use, and propagation of technology; and other ethical and rhetorical challenges for technical communicators. At virtually all stages of development and use, any technology can carry with it ethical dilemmas for both creators and users. Of particular interest is how such dilemmas are resolved (or complicated) according to how effectively they are communicated to stakeholders. By exploring historical and present-day case studies related to such topics as the environment, research and development, safety, corporate responsibility, and whistle blowing, students will analyze and practice various forms of technical communication. Prerequisites: Graduate standing.

**ENGL 5330. Studies in Rhetoric. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of written language theories. Course contents include readings from a wide spectrum including classical Greece and Rome, the European enlightenment, nineteenth century America, and modern and post-modern periods. May be retaken for credit when topics vary.

**ENGL 5331. History of Rhetoric I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The Classical Era through the Enlightenment – A survey of the early history of rhetorical study. Course contents include readings from classical Greece and Rome as well as significant eras such as the Medieval period, the Renaissance, and the European Enlightenment.

**ENGL 5332. History of Rhetoric II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Continuation of the study of rhetorical history. Course contents include readings from the nineteenth century as well as modern and postmodern rhetorical studies. The course places a particular emphasis on discourse analysis and contemporary application of rhetorical theory.

**ENGL 5333. Rhetorical Criticism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explores the principles of rhetorical theory and criticism for writing studies and technical communication. Analysis of a variety of popular and political and persuasive messages, which may include political speeches, commercial advertising, artwork, song lyrics, scientific articles for popular audiences and within science communities, workplace writing, writing for social media, and other forms of purposeful presentation of argument.

**ENGL 5334. Introduction to Visual Rhetoric. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduces theories of visual rhetoric and visual design, especially as applied to instructions and presentation of technical and scientific content.

**ENGL 5335. Seminar in Professional Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This class studies the theory and practical applications at work in the production of technical and professional documents. Students will study and produce written documents for a variety of audiences and fields.

**ENGL 5336. Grant and Proposal Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles and practice in writing grant applications and proposals, including finding grants. May include a service learning project.

**ENGL 5337. Intercultural Technical and Professional Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Considers the implications of communicating scientific and technical content and information to many cultures. Looks at technical communication in light of cultural values and cultural mores.

**ENGL 5338. Technical Editing: Practice and Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explores the practices and processes of technical, professional, and workplace editing and the theories that support those practices. Covers hand and electronic markup and editing as applied to text, document design, and information architecture. Students complete an editing project from analysis to delivery.

**ENGL 5339. Studies in Disability Rhetoric. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course offers advanced study in the theory, nature, and practice of discourse. In this course we will explore aspects of discourse of and about disability: how we identify and define it, how we perceive and respond to it, and mostly, how we communicate about it (verbally, through written texts, and otherwise).

**ENGL 5340. Studies in Modern Fiction. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An evaluation of English and American short stories, novels, and related criticism. Topics will vary and will include study of themes and development of the genre. May be repeated for credit when topics vary.

**ENGL 5345. Film Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The focus of this course is to introduce students to film as a literary medium. Through a focused study of films and varied film industries, students will examine the narrative qualities central to the filmic experience. Students will also explore genre theory and the formulas of genre.

**ENGL 5350. Studies in Literature Before 1500. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of representative types of pre-1500 literature in English. Topics may vary. May be repeated for credit when topics vary.

**ENGL 5360. Modern American and British Poetry. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of representative themes in the development of American and English poetry. Related critical readings will be studied. Topics will vary. May be repeated for credit when topics vary.

**ENGL 5370. Studies in Comparative Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A comparative study of great literature in the world in translation. Topics may vary and may include examination of theme, technique, and type. May be repeated for credit when topics vary.

**ENGL 5371. Scholarly Writing in Health. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Intensive scholarly writing in the health sciences and related fields emphasizing elements and techniques of credible, scholarly writing and critical thinking. This course utilizes American Psychological Association (APA) format and style. Student evolution in writing will be developed through sequential papers and faculty/peer feedback.

**ENGL 5380. Studies in the Teaching of Composition. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is devoted to the study of the aims, skills, materials, and practices of composition teaching at college and junior college levels. May be repeated for credit when topics vary.

**ENGL 5396. Digital Humanities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course brings students to the intersection of humanities research and the digital age, as they explore methods of research, presentation and communication within the field. We will trace the advent of digital scholarship at the end of the 20th century and confront the multiple forms of publication open to scholars in the 21st. While recognizing that hard copy research and writing will never be removed from the fields of scholarship, we must accept that humanities research has begun to move and continues to move forward via online and electronic formats. Students will learn how to conduct research using digitized texts and manuscripts and will create their own portfolios, demonstrating different methods of digital communication for a single topic. In addition to reading some of the major innovators in the area of digital humanities, students will also work with programs to create visual and audio components of their research.

**ENGL 5397. Internship. 3 Credit Hours (Lecture: 1 Hour, Lab: 7 Hours).**

Supervised professional activities in the college composition classroom including presentations, evaluation, and conferences. May be repeated once for credit. Field experience fee \$50.

**ENGL 5398. Methods of Bibliography and Research Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to methods of research and effective utilization of library resources. May include analytical bibliography, enumerative bibliography, and textual criticism.

## Engineering

### Courses

**ENGR 1100. Transitioning to University Studies in Engineering. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of engineering and computer science disciplines.

**ENGR 1211. Engineering Fundamentals I. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Introduction to engineering fundamentals, including problem solving methods and concepts, algorithm development, and analysis tools, including spreadsheets. Introduction to engineering as a profession, including ethics, team-based design, technical communication, and career paths. Prerequisite: Corequisite: MATH 1316 or 2412 or 2413. Lab fee: \$2.

**ENGR 1212. Engineering Fundamentals II. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Development of skills in problem solving, design, analysis, estimation, communication and teamwork; introduction to accounting and conservation principles in engineering sciences emphasis on computer applications and programming. Prerequisites: ENGR 1211; MATH 2413 or concurrent registration, PHYS 2425 or concurrent registration. Lab fee: \$20.

**ENGR 2212. Programming for Engineers. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

Programming principles and techniques for matrix and array operations, equation solving, and numeric simulations applied to engineering problems and visualization of engineering information; platforms include spreadsheets, symbolic algebra packages, engineering analysis software, and laboratory control software. Prerequisite: MATH 2413 Lab fee: \$2.

**ENGR 2251. Fundamentals of GIS for Engineers. 2 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

This course offers an introduction to methods of managing and processing geographic information. Basic principles of geographic information systems and their use in spatial analysis and information management are introduced. Students gain experience with cutting-edge geospatial technologies and an understanding of their capabilities. Application in engineering is emphasized. Prerequisite: MATH 2413 or concurrent registration Lab fee: \$2.

**ENGR 2303. Engineering Economy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles of economics equivalence; time value of money, analysis of single and multiple investments; comparison of alternatives; capital recovery and tax implications; certainty; uncertainty; risk analysis; public sector analysis; and break-even concepts. Prerequisites: MATH 2413 or concurrent registration.

**ENGR 2321. Engineering Mechanics: Statics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theory and analysis of bodies in equilibrium, including vector algebra, Newtonian mechanics, forces due to friction; forces acting on members of trusses and frame structures, and determinations of centroids and moments of inertia. Prerequisites: Either ENGR 1211, and concurrent enrollment in PHYS 2425 and MATH 2414; or PHYS 2425, and concurrent enrollment in ENGR 1211 and MATH 2414.

**ENGR 2322. Engineering Thermodynamics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theory and application of energy methods in engineering; conservation principles to investigate traditional thermodynamics (e.g., temperature, thermodynamic equilibrium, and heat). Prerequisite: ENGR 1211; MATH 2414 or concurrent registration.

**ENGR 2324. Engineering Mechanics: Dynamics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Application of theory and principles of mechanics to dynamic particles and rigid body systems in rectilinear and curvilinear systems, including forces, acceleration, conservation of energy, and impulse and momentum. Prerequisite: ENGR 2321.

**ENGR 3311. Engineering Mathematical Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course presents mathematical techniques frequently encountered in advanced engineering analyses. The topics include the following areas: linear algebra, including matrix and eigenvalue applications; probability and statistics, including descriptive and inferential statistics, probability densities, statistical simulations and quality control. Prerequisites: MATH 2413 and ENGR 1211.

**ENGR 4086. Special Problems. 1-4 Credit Hours (Lecture: 1-4 Hours, Lab: 1-4 Hours).**

Directed study of selected topics in Engineering. May be repeated with approval of department head.

**ENGR 4259. Engineering Capstone I. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course is the first part of the capstone design experience synthesizing knowledge, skills and values necessary in engineering practice. Includes FE review sessions, engineering ethics, design process including multiple realistic constraints such as social, economic, safety, and sustainability, and the impact of engineering solutions in a global, economic, environmental, and societal context. During this course students develop a proposal for their capstone project. Prerequisites: Within one year of graduation and subject to instructor approval as per departmental capstone policy.

**ENGR 4360. Engineering Capstone II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course is part 2 of the culminating design experience in the last year of the curriculum used to integrate the student's education. Includes reference to business concepts, mathematics, science, engineering and humanities. Emphasizes team work, a holistic approach to problem solving, and incorporates appropriate engineering standards and multiple realistic constraints. Prerequisite: ENGR 4259.

## Engineering Technology

### Courses

**ENGT 1100. Transitioning to University Studies in Engineering Technology. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of Engineering Technology.

**ENGT 1305. Principles of Drafting. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

An introduction to mechanical drafting involving geometrical constructions, orthographic projection, dimensioning techniques, sectional views, auxiliary views, isometric views, and other topics related to manufacturing and other areas of drafting. Lab fee \$10.

**ENGT 1306. Applied Statics. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course will focus on understanding the resolution and composition of forces and moments; free-body diagrams; equilibrium of particles and rigid bodies; simple structures; friction; centroid; moments of inertia. Prerequisite: Concurrent with MATH 1316 or 2412.

**ENGT 1317. Machining Technology. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

A study of metals and their machining characteristics and application. Emphasis is placed on layout, precision measurement, and heat treating. Laboratory experiences include work with sheet metal, metal casting, and metal lathe operation. Lab fee \$2.

**ENGT 2303. Engineering Economy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles of economics equivalence; time value of money, analysis of single and multiple investments; comparison of alternatives; capital recovery and tax implications; certainty; uncertainty; risk analysis; public sector analysis; and break-even concepts. Prerequisite: MATH 1316, MATH 2412, or MATH 2413.

**ENGT 2309. Electrical Circuits. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Principles of electricity, magnetism, and basic laws. Fundamentals of analog and digital electronic components and circuits, including applied areas. Laboratory involves experiments with basic circuits and test equipment. Lab fee: \$2.

**ENGT 2310. Introduction to Manufacturing Processes. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

A study of metals and their machining characteristics and application. Emphasis is placed on layout, precision measurement, and heat treating. Laboratory experiences include work with sheet metal, metal casting, and metal lathe operation. Lab fee \$10.

**ENGT 2335. Solid Modeling. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

A study of complex three-dimensional solid models used in the fields of mechanical engineering, sheet metal, welding, and other areas of manufacturing and engineering. Orthographic views projected from solid models and annotation techniques are used to produce engineering drawings. Prerequisite: ENGT 1305 or 3 semester hours of drafting or approval of the instructor. Lab fee \$10.

**ENGT 3099. Cooperative Education. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 3-9 Hours).**

This course is designed to offer students the opportunity to integrate academic study with work experience that is germane to their major or minor. Enrollment requires a two-semester minimum commitment that may be accomplished by 1) alternating semesters of full-time study with semesters of curriculum-related employment, or 2) enrolling in courses at least half-time (6 semester hours) and working part-time in parallel positions of curriculum-related employment. The department Cooperative Education advisor will supervise the student's experience and assign the final grade based on the student's final report which is required to complete the course. Students may participate in the Cooperative Education program for an unlimited number of semesters but a maximum of 6 hours credit may be counted toward a degree. Prerequisites: Completion of 30 semester hours which includes 12 hours in the major or minor discipline in which the Cooperative Education course is desired, minimum overall GPA of 2.5 and a minimum GPA of 3.0 in the appropriate major or minor field, and department head approval. Field experiences fee \$50.

**ENGT 3301. Applied Dynamics. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course will study the principal concepts and application of dynamics. The topics include kinematics and kinetics analysis of particle motion, kinematics and kinetics analysis of two-dimensional rigid body motion, and principal of work and energy and its application in particle and two-dimensional rigid body motion analysis. Prerequisites: MATH 2413 and ENGT 1306.

**ENGT 3303. Industrial Materials. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A study of the structure, properties, processing, and application of metallic, polymeric, ceramic, and composite materials utilized in manufacturing. Laboratory exercises include processing methods, physical and mechanical testing, modification of properties, manufacturing applications, and material identification. Prerequisites: CHEM 1411 and ENGL 1302 Lab fee \$2.

**ENGT 3304. Manufacturing Materials. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A study of the properties, processing, and application of metallic, polymeric, ceramic, and composite materials utilized in manufacturing. Emphasis is placed on broad characteristics and applications of industrial materials.

**ENGT 3305. Machine Design. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Application of mechanics and strength of materials to the analysis, synthesis and design of machine elements; theories of failure, stress concentrations, fatigue life and thermal stress, consideration of economics and safety; projects in creative mechanical design. Prerequisite: MATH 2413 and ENGT 3313.

**ENGT 3309. Control Systems for Mechanical Application. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Application of computers to control industrial processes. Study of continuous- and discrete-time control algorithms; digital signal processing; and system control concepts applied to process control. Prerequisite: ENGT 2303. Lab fee: \$2.

**ENGT 3313. Mechanics of Materials. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Stresses and strains in elastic members under tensile, compressive, shearing, torsional and bending loads; combined stresses; shear and moment diagrams; Mohr's circle; deflection of beams; thin-walled pressure vessels; stability of columns and buckling. Prerequisites: Concurrent with MATH 2413 and ENGT 1306.

**ENGT 3314. Principles of Technology Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the Texas Technology Education curriculum, to include the areas of communication, manufacturing, construction, energy, power, transportation, computer applications, bio-related technology, electricity, electronics, graphics, principles of technology, and other related technologies.

**ENGT 3316. Manufacturing Systems. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

A study of organizational and production techniques used in manufacturing. A thematic team approach will be used to design and produce a product using principles of mass production. Concepts of manufacturing that will be studied will include: principles of tooling, quality, plant layout, resource planning and scheduling. Prerequisites: ENGT 1305, 1317.

**ENGT 3317. Machine Tool Technology. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Fundamentals and principles of metal removal processes. Emphasis is placed on metal lathes, milling machines, grinding machines, and electric discharge machines. Prerequisite: ENGT 1317. Lab fee \$10.

**ENGT 3318. Research and Reporting For Technologists. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A study of research tools, methods, and data collection techniques used in the field of Engineering Technology. Emphasis will be placed on gathering, analyzing, and presenting technical information related to manufacturing topics in both oral and written form. Technical reports, product documentation, and correspondence will also be discussed.

**ENGT 3319. Motor Control and Machine Automation. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

A study of power transformers, single and multiphase circuits. The study of DC machines, AC single and multiphase synchronous and induction machines, and an introduction to power electronics. Lab fee: \$2.

**ENGT 3320. Industrial Safety. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of principles and practices used to establish a safe and healthful environment for industrial personnel. Includes a study of general industrial safety, safety and health regulation agencies, hazard recognition and correction, and first aid. Credit for both ENGT 3320 and MGMT 3320 will not be awarded.

**ENGT 3323. Computer-Aided Design with AutoCAD. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

The application of the principles of computer-aided design as they relate to manufacturing and construction. Computerized generation of drafting and design data, using AutoCAD, to create two- and three-dimensional geometries.

**ENGT 3324. Applied Polymer Processing. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course is a study of thermoplastic and thermosetting materials and processes used in plastics manufacturing. Emphasis will be placed on injection molding, thermoforming, extrusion, rotational casting, elastomeric mold fabrication, resin casting, and coatings. Also, the impact of material selection on processing parameters will be stressed. Prerequisite: ENGT 3303. Lab fee: \$2.

**ENGT 3325. Composites Manufacturing. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course includes a study of basic organic-matrix composites manufacturing and assembly processes, especially as these relate to aerospace and construction composite products. Lab exercises will include composite hand layup procedures, composite tool design, pultrusion, and assembly processes for composite products. Prerequisite: ENGT 3303. Lab fee: \$2.

**ENGT 3326. Ergonomics and Work Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the design of man-machine systems with particular emphasis on the application of ergonomics to the manufacturing workplace and environment. Use of anthropometric data in design; limitations of human performance; effects of environmental stress on work performance, safety, and health. Lab fee \$2.

**ENGT 3327. Mechanical Analysis. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

The course works with the principal concepts and application of Finite Element Analysis (FEA). The topics include fundamental stress/strain analysis of linear static systems and comparing with FEM software on lab projects. The topics also include fundamental of mechanical fracture and fatigue analysis and if time permits performing FEM analysis of them using software on lab projects. Prerequisites: ENGT 3313.

**ENGT 3336. Industrial Controls. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

The theory and application of electronic programmable devices such as programmable logic controllers, temperature controllers, counters, etc. Emphasis is also given to control devices using pneumatics and hydraulics. Ladder logic and input/output devices will be emphasized. Lab Fee: \$10.00.

**ENGT 3345. Industrial Design. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

An application based course that exposes students to industrial design and provides experience in the varied aspects of the design process, culminating in a final, individual design project. Topics include, but are not limited to: Working drawings, tolerancing, dimensioning, material selection and pricing, sketching and proper design techniques. Prerequisite: ENGT 2335 or approval of the instructor. Lab fee \$2.

**ENGT 3350. Numerical Control Systems. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Principles, techniques, and applications of numerically controlled machine tools. Application of the APT system. Laboratory experiences in processing, writing, debugging, and processing the N/C part program. Prerequisite: ENGT 1317 or approval of the instructor. Lab fee \$10.

**ENGT 3360. Safety Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Occupational safety engineering and management with emphasis on control of hazardous materials, fire prevention, safety considerations in production facility design and maintenance, and operation of effective safety programs.

**ENGT 3375. Continuous Improvement. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The role of the manufacturing engineer in continuous improvement projects to improve design and production processes. The student will utilize modern tools and techniques for planning and managing continuous improvement projects, integrating and deploying change programs, data based decision making, and resource management.

**ENGT 3385. Fluid Mechanics. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course is an introduction to fluid mechanics, and emphasizes fundamental concepts and problem-solving techniques. Topics to be covered include fluid properties, fluid statics, fluid kinematics, control volume analysis, internal flows (pipe flows), and external flows (lift and drag). Brief introductions to computational fluid dynamics (CFD), compressible flow, and fluid power systems such as turbomachinery (pumps and turbines) will also be provided. Prerequisites: MATH 2413.

**ENGT 3386. Quality Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the application of various methods used by manufacturing to quantify product quality. This will include a review of the ASTM, ANSI, and ISO tests as they apply to metallic, polymeric, ceramic, and composite materials. Statistical Quality Control, Statistical Process Control, Total Quality Management, and ISO 9000 will also be investigated. Laboratory assignments will acquaint the student with the variety of instrumentation that is used in quality control and their use. Lab fee \$2.



**ENGT 3393. Modular Technology. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course will investigate various systems used in modular technology education. Modular technology studies will include broadcasting technology, applied physics, power energy, transportation, graphic communication, composites, and computer application. Prerequisite: junior standing. Lab fee \$15.

**ENGT 3395. Fundamentals of Industrial Project Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

As an introductory course for project management, the course covers essential elements to successfully initiate and complete a project in general. Topics will include five of the basic elements of project management; project initiation, planning, executing, controlling and closing a project. The course includes the use of Project Management software.

**ENGT 395. Industrial Project Management. 5 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).****ENGT 4086. Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

This course is designed to meet the needs of Engineering Technology students who have above average academic ability and who need to pursue subject matter that is not normally included in the Engineering Technology curriculum. Approval for enrollment in this course shall be with the concurrence of the individual instructor and the department head. The student must be currently enrolled in one of the majors offered in the Engineering Technology Department. Prerequisite: completion of 30 or more hours in the Department of Engineering Technology.

**ENGT 4303. Weld Design. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

This course presents the basics of weld design, welded structure manufacturing, and structural design as it applies to welded structures.

**ENGT 4305. Architectural Drafting. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

A course in residential architectural drafting using computer-aided drafting. Emphasis is placed on residential design and home planning. Lab fee \$10.

**ENGT 4320. Occupational Safety and Health. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of principles and practices used to establish a safety and health program within industrial and retail environments. The course includes a study of general safety regulations and occupational safety program strategies as they pertain to internal organizational efforts. Related topics such as safety and health regulation agencies, hazard recognition and correction, and first aid.

**ENGT 4322. Applied Thermodynamics. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of the basic concepts and laws of thermodynamics and the application of these laws or principles to simple engineering systems. Topics include the First Law of Thermodynamics, the Second Law of Thermodynamics, thermodynamic properties, and various cycles. Prerequisite: MATH 2414.

**ENGT 4326. Applications of Linear Programming and Optimization. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

An introduction to applications of linear and nonlinear programming, single and multiple objective optimization, sensitivity, forecasting, queuing theory, and decision analysis. The student will be able to implement these concepts using a COTS software application as applied in industrial and public settings. Lab fee \$10.

**ENGT 4336. Production Planning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the principles and theory used in the design and maintenance of production operations and inventory systems. These include forecasting techniques, inventory models, production control models and assembly line balancing. Particular emphasis is on MRP, Just-in-Time, and Synchronous Manufacturing.

**ENGT 4339. Process Control Instrumentation. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Introduction to process control principles and practices. Study of analog and digital signal conditioning; thermal, mechanical and optical transducers; electromechanical, pneumatic and hydraulic devices; and the application of computer-aided tools for process control instrumentation. Prerequisite: ENGT 3336, 3309. Lab fee: \$2.

**ENGT 4346. Manufacturing Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Applications of modern manufacturing principles including: design for manufacturability, group technology, just-in-time, synchronous manufacturing, concurrent engineering, flexible manufacturing, and product management to effectively manage the manufacturing environment.

**ENGT 4347. Metrics and Measurements. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers topics in ergonomics, the man-machine interface, managing worker methods, and time studies. We will cover topics that lead to measuring and monitoring work both by human and machines. Prerequisite: ENGT 3375.

**ENGT 4350. NUMERICAL CONTROL PROGRAMMING. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

A continuation of I T 350 in which more advanced programming techniques are studied. Included is a study of the various N/C part programming languages, and evaluation of N/C equipment and the further refinement of the APT/NC language. Prerequisite: ENGT 3350. Lab fee \$10.

**ENGT 4356. Advanced Industrial Controls. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Feedback control system analysis. Proportional, integral and derivative controls of automated systems. Control system design and compensation. Analog and digital simulation. Prerequisite: MATH 2413, ENGT 3336.

**ENGT 4361. Computer Aided Manufacturing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The principles of computer aided manufacturing and simulation as they relate to mechanical design and assemblies. Software tools will be used to analyze parametric parts and assemblies for strength, function, range of motion and interference. Prerequisite: Approval of the instructor.

**ENGT 4375. Facility Planning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers topics in Facilities Planning and design for Operations. We will cover topics that lead to making good decisions for facility layout including product, process flow, material handling, and facility location techniques. Prerequisite: ENGT 3375.

**ENGT 4376. Automated Manufacturing Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An analysis of materials flows to design automated manufacturing systems in the manufacturing environment. This will include material handling systems, how computer-aided manufacturing software improves productivity, automated storage and retrieval systems, automated guided vehicles, bar-coding systems, automated warehousing, and the programming and application of robots.

**ENGT 4384. Internship. 3 Credit Hours (Lecture: 0 Hours, Lab: 6 Hours).**

An approved, supervised, comprehensive work experience consisting of a minimum of 240 hours (6 weeks) in an industrial or manufacturing enterprise. Prerequisite Course(s): Junior or senior classification and approval of academic advisor and department head. The internship may be repeated for a maximum of 6 hours of credit. Field experience fee \$75.

**ENGT 4385. Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will vary according to timeliness and special needs. May be taken more than once for credit.

**ENGT 4395. Engineering Technology Projects. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

A capstone projects course emphasizing a team approach to the analysis and solutions of manufacturing problems. Projects will be supplied by industry whenever possible. Emphasizes scheduling, design, working in teams, final written report and presentation. Restricted to Engineering Technology majors. Prerequisite: Senior standing. Lab fee \$15.

**ENGT 5086. Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

This course is designed to meet the needs of Manufacturing Quality and Leadership students who have above average academic ability and who need to pursue subject matter that is not normally included in the Manufacturing Quality and Leadership curriculum. Approval for enrollment in this course shall be with the concurrence of the individual instructor and the department head.

**ENGT 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

This course is designed to meet the needs of Manufacturing Quality and Leadership students who have above average academic ability and who need to pursue subject matter that is not normally included in the Manufacturing Quality and Leadership curriculum. Approval for enrollment in this course shall be with the concurrence of the individual instructor and the department head.

**ENGT 5303. Engineering Economics and Decision Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analysis of engineering costs and capital investments. Applications of classical optimization, mathematical programming, and the theory of production to the analysis of investment proposals. Evaluation and selection of individual projects and formulation of capital investment programs.

**ENGT 5324. Statistics for Quality. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to decision making for technologists using quantitative methods. The emphasis will be on identifying opportunities for process/product improvement in manufacturing using statistical applications. Besides exploratory data analysis, basic probability, distribution theory and statistical inference will be covered. Special topics will include experimental design, regression, control charts and acceptance sampling.

**ENGT 5325. Six Sigma and Design of Experiments. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to design and analysis of experiments. Applications in product and process design and development; process correction and quality improvement. Taguchi's loss-function approach to quality. Strategies for reliable data acquisition and validation will be addressed. Prerequisites: ENGT 5368, ENGT 5324.

**ENGT 5332. Financial Risk for Engineering Project Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide an understanding of the project financial risk impacts as they relate to Engineering Technology projects. The course will focus on the combination risks and impacts of quality and financial issues as they relate to other Manufacturing Quality and Engineering Technology Practices.

**ENGT 5336. Manufacturing Planning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics that will be covered include strategic issues such as the design of products and services, and the design of processes and facilities. Planning and controlling activities including capacity planning, quality control, inventory control, scheduling, and project planning are covered. The emphasis of this course will be on the development and application of analytical methods and techniques Prerequisites: ENGT 5324 or concurrent enrollment.

**ENGT 5346. Manufacturing Systems Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of concepts and models used as a competitive advantage in the management of processes to produce and supply goods in the manufacturing/service industries. Topics will include operations management and strategy, product design and learning curves, project management, Manufacturing/Service process selection and design. Applications of Operations Research science techniques enable the development of the Manufacturing Systems Management methodologies.

**ENGT 5362. Supply Chain Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Exploration of the key issues associated with the design and management of industrial supply chains. Supply Chains are concerned with the efficient integration of suppliers, factories, warehouses and stores so that products are distributed to customers in the right quantity and at the right time. The course will focus on minimizing the total supply chain cost subject to various service requirements.

**ENGT 5368. Quality Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course focuses on manufacturing related principles and best practices reflected in ISO 9000 Standards. Topics included are: manufacturing process improvement; process orientation; quality function deployment; process control and capability; role of inspection; economics of quality; and productivity measurement. Emphasizes role of ISO certification in the global market along with the contributions of Deming, Juran, and Crosby. Prerequisites: ENGT 5324 or concurrent enrollment.

**ENGT 5376. Automated Manufacturing Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).****ENGT 5385. Project Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course explores major problems, tasks and techniques required to manage the technical program in each phase of the product life cycle. Organizational planning, decision-making, and internal external interface techniques for each phase of the project life cycle are addressed. Additional concepts such as: Earned Value Analysis (EVA), Critical Path Management (CPM), Project Requirements Analysis, and Schedule Task Analysis will be explored in depth. Prerequisite: ENGT 5368.

**ENGT 5398. Seminar in Manufacturing Quality Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course guides the student toward an in-depth understanding of the principles, techniques and applications of quality in modern manufacturing companies. The student will review current literature in the field of quality management and write a comprehensive proposal or report on the topic. Prerequisites: ENGT 5325 or concurrent enrollment.

## Environmental Engineering

### Courses

**ENVE 2251. Fundamentals of GIS for Engineers. 2 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

This course offers an introduction to methods of managing and processing geographic information. Basic principles of geographic information systems and their use in spatial analysis and information management are introduced. Students gain experience with cutting-edge geospatial technologies and an understanding of their capabilities. Application in engineering is emphasized. Lab fee: \$2.

**ENVE 2310. Introduction to Environmental Engineering. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to environmental and occupational health, atmospheric systems and air pollution control, hazardous waste management, solid waste management, waste water management, and water supply treatment. Prerequisite: CHEM 1409 or CHEM 1412.

**ENVE 2311. Soil Mechanics. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduction to the principles of soil and their influence on the hydrological cycle, Darcy's law and fluid flow through porous medium, stress distribution and consolidation of soil, subsurface exploration. Prerequisite: MATH 2413; PHYS 2425 or concurrent enrollment Lab fee: \$2.

**ENVE 3300. Fluid Mechanics. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Principles of hydrostatics, dynamics of viscous and inviscid non-viscous fluids, resistance to flow in pipes and open channels, transport processes, energy equation, Bernoulli equation, conservation of mass, conservation of momentum, pump characteristics, similitude, dimensional analysis. Includes an introduction to computational analysis of fluid flow and pressure distributions and laboratory experiences. Prerequisites: PHYS 2425 and MATH 2414 Lab fee: \$2.

**ENVE 3301. Environmental Systems Modeling. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Apply conceptual and numerical techniques to model environmental systems. Use differential equations to describe processes. Prerequisites: MATH 3306 and ENVE 2310 Lab fee: \$2.

**ENVE 3310. Engineering Hydrology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Study of the hydrologic cycle, precipitation processes, soil moisture, infiltration, groundwater, rainfall-runoff processes, utilization of water resources, and frequency analysis; introduction to HEC-HMS programs for modeling hydrologic processes, elementary principles of field work. Prerequisite: ENVE 3300.

**ENVE 3333. Groundwater Contamination and Remediation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to the fundamentals of subsurface flow with emphasis on the examination of the fate and transport of inorganic and organic contaminants therein and their management. Topics include groundwater flow and well hydraulics, modeling of contaminant transport processes, site investigations, natural attenuation, remediation and legal issues in groundwater protection. Prerequisite: ENVE 3310; MATH 3306 or concurrent registration.

**ENVE 3340. Environmental Risk Assessment. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduction to the fundamentals of environmental and ecological risk assessment, including toxicity assessment, characterizing fate and transport processes in various environmental media, evaluating exposure pathways, dose-response assessment and modeling uncertainty. Prerequisites: ENVE 2310 and ENGR 3311 Lab fee: \$2.

**ENVE 3350. Environmental Biotechnology. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Application of fundamental principles of aquatic chemistry, molecular biology and biochemistry to understand and analyze complex chemical/biological processes in environmental engineering (natural and engineered systems). Prerequisite: CHEM 1409 or CHEM 1412; MATH 2414; ENVE 2310 Lab fee: \$2.

**ENVE 3400. Fluid Mechanics. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Principles of hydrostatics, dynamics of viscous and inviscid non-viscous fluids, resistance to flow in pipes and open channels, transport processes, energy equation, Bernoulli equation, conservation of mass, conservation of momentum, pump characteristics, similitude, dimensional analysis. Includes an introduction to computational analysis of fluid flow and pressure distributions and laboratory experiences. Prerequisites: PHYS 2425 and MATH 2414. Lab fee: \$2.

**ENVE 3401. Environmental Systems Modeling. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Apply conceptual and numerical techniques to model environmental systems. Use differential equations to describe processes. Prerequisites: MATH 3306 and ENVE 2310. Lab fee \$2.

**ENVE 3420. Groundwater Hydrology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Topics include aquifer characteristics, infiltration, fluid dynamics of groundwater flow, potential flows, well analysis, water quality, groundwater pollution, legal issues in groundwater. Credit for both HYDR 320 and ENVE 320 will not be awarded. Prerequisites: ENVE 2411, GEOL 1403 or ENVE 2310, CHEM 1412, MATH 2414. Lab fee \$10.

**ENVE 3440. Environmental Risk Assessment. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to the fundamentals of environmental and ecological risk assessment, including toxicity assessment, characterizing fate and transport processes in various environmental media, evaluating exposure pathways, dose-response assessment and modeling uncertainty. Prerequisite: ENVE 2310 and either ENGR 3311 or MATH 3311 Lab fee: \$2.

**ENVE 3450. Environmental Biotechnology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Application of fundamental principles of aquatic chemistry, molecular biology and biochemistry to understand and analyze complex chemical/biological processes in environmental engineering (natural and engineered systems). Prerequisite: CHEM 1409 or CHEM 1412, MATH 2414, ENVE 2310 Lab fee: \$2.

**ENVE 4086. Special Problems. 1-4 Credit Hours (Lecture: 1-4 Hours, Lab: 0 Hours).**

Directed study of selected topics in Environmental Engineering. May be repeated with approval of department head.

**ENVE 4302. Atmospheric Systems and Air Pollution Control. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of atmospheric impact on air pollution. Study of sources of air pollution and their control to include gases and particulate matter. Study of air pollution regulations and air pollution modeling. Design of systems to control and abate air pollution. Study and design of sampling systems to monitor air pollution. Prerequisite: CHEM 1409, ENGR 2322.

**ENVE 4310. Water Resources Engineering. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Fundamentals of hydraulics applicable to open channel flow, natural streams and waterways; irrigation flow characteristics; hydrologic analysis; fluid measurement methods; introduction to hydraulic models including HEC-RAS; and economic aspects of water resources. Prerequisite: ENVE 3300.

**ENVE 4319. Physical Operations in Water and Wastewater Treatment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Physical operations in water and wastewater treatment are covered in this course. These include the design of lift stations and gravity sewers, screens, sedimentation tanks, clarifiers and holding basins. Prerequisite: ENVE 3300.

**ENVE 4320. Chemical and Biological Processes in Water and Wastewater Treatment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers processes associated with water and wastewater treatment that are mediated chemically or using biological means as well as the design of systems that use such mechanisms. Design of secondary treatment systems, removal of nutrients and design of tertiary treatment systems are covered. Prerequisites: CHEM 2323 (coreq); ENVE 3350 (coreq).

**ENVE 4325. Environmental Monitoring and Measurements. 3 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

Studying and analyzing environmental engineering processes and systems through appropriate experimental methods. The course will include sampling, protocol development and design of experiments, relevant measurement techniques and experimental methods. Emphasis on quality control, calibration, documentation and interpretation of results facilitating the development of best practice approaches for experimental design and analysis. Prerequisite: ENVE 3350 (coreq); ENVE 4320 (coreq) Lab fee: \$2.

**ENVE 4330. Texas Water Resource Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The ecological relation of water in this biosphere with special reference to the human role; the role of behavioral sciences (social, legal, economic, political, and psychological) in the development, conservation, regulation, and utilization of water resources; current political structure and laws pertaining to the administration of water resources in the state of Texas. Prerequisites: ENVE 3310 and GOVT 2306.

**ENVE 4350. Solid and Hazardous Waste Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to provide students with the necessary background and knowledge pertaining to the engineering design of solid and hazardous waste management and disposal. Topics covered include landfill design, resource conservation recovery and reuse, hazardous waste management. Prerequisites: CHEM 1409 or CHEM 1412, and ENVE 2310.

**ENVE 4420. Water and Waste Water Treatment. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Treatment and distribution of residential and industrial water supplies, waste water treatment and disposal methods of municipal and industrial systems, environmental toxicology; aspects of groundwater monitoring and water quality maintenance. Laboratory analysis of water and waste water quality. Design of elementary treatment, distribution, and collection systems. Prerequisites: CHEM 2423 or both CHEM 2323 and CHEM 2123, ENVE 2310, and ENVE 3400 Lab fee \$2.

**ENVE 5088. Master's Thesis. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).**

Required each semester in which a student is working and receiving direction on a master's thesis in ENVE-MS. Minimum two semesters (6 hours) required for master's thesis option. Prerequisites: graduate standing.

**ENVE 5302. Atmospheric Systems and Air Pollution Control. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of atmospheric impact on air pollution. Study of sources of air pollution and their control to include gases and particulate matter. Study of air pollution regulations and air pollution modeling. Design of systems to control and abate air pollution. Study and design of sampling systems to monitor air pollution. Prerequisite: CHEM 1409; ENGR 2322.

**ENVE 5310. Water Resources Engineering. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Fundamentals of hydraulics applicable to open channel flow, natural streams and waterways; irrigation flow characteristics; hydrologic analysis; fluid measurement methods; introduction to hydraulic models including HEC-RAS; and economic aspects of water resources. Prerequisite: ENVE 3300 or consent of instructor.

**ENVE 5319. Physical Operations in Water and Wastewater Treatment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Physical operations in water and wastewater treatment are covered in this course. These include the design of lift stations and gravity sewers, screens, sedimentation tanks, clarifiers and holding basins. Prerequisite: ENVE 3000.

**ENVE 5320. Chemical and Biological Processes in Water and Wastewater Treatment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers processes associated with water and wastewater treatment that are mediated chemically or using biological means as well as the design of systems that use such mechanisms. Design of secondary treatment systems, removal of nutrients and design of tertiary treatment systems are covered.

Prerequisite: CHEM 2323 (coreq); ENVE 3350 (coreq);.

**ENVE 5322. Surface Water Hydrology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced study of the hydrologic cycle, including rainfall-runoff mechanisms, hydrographs, reservoir and channel routing and the application of modeling software in watershed analysis. Prerequisite: ENVE 3300 or consent of instructor.

**ENVE 5323. Ground Water Hydrology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Groundwater flow, well hydraulics, the exploration and management of groundwater resources, modelling of subsurface flow with software and the design of well fields. Prerequisite: ENVE 3300 or consent of instructor.

**ENVE 5324. Surface water quality modeling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Coverage of fate and transport of contaminants in surface water. The course includes modelling of occurrence and transport of dissolved oxygen, chemicals and other substances in surface water as well as the interphase movement of chemicals between water and sediments. Prerequisite: ENVE 3300 or consent of instructor.

**ENVE 5325. Environmental Monitoring and Measurements. 3 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

Studying and analyzing environmental engineering processes and systems through appropriate experimental methods. The course will include sampling, protocol development and design of experiments, relevant measurement techniques and experimental methods. Emphasis on quality control, calibration, documentation and interpretation of results facilitating the development of best practice approaches for experimental design and analysis. Prerequisite: ENVE 3350 (coreq); ENVE 4320 (coreq) Lab fee: \$2.

**ENVE 5350. Solid and Hazardous Waste Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to provide students with the necessary background and knowledge pertaining to the engineering design of solid and hazardous waste management and disposal. Topics covered include landfill design, resource conservation recovery and reuse, hazardous waste management.

**ENVE 5351. Environmental Biology and Bioremediation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course presents information on the role of microorganisms in the design of treatment processes and explores the factors affecting biologically-mediated treatment of wastes in the surface and subsurface environments.

**ENVE 5352. Green Engineering. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the design and use of non-traditional, greener alternatives in the treatment of wastes in various environmental media as well as the theoretical, practical and regulatory implications of such design.

**ENVE 5353. Environmental Case Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Through case studies rooted in environmental issues, this course offers a cross-disciplinary introduction to environmental studies. Environmental inquiry on political ecology, earth science, energy, economics, eco-literature, public health, ecological design, sustainability, policy, and environmental justice. Basic concepts—such as thermodynamics, biodiversity, cost-benefit analysis, contamination, governance, the Anthropocene, and the commons—are variously defined and employed within specific explorations of environmental challenges in the modern world.

**ENVE 5357. Environmental Bioprocess Technology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will cover principles of microbiological, biochemical, and biophysical processes used in environmental waste treatment and remediation processes. Enzyme kinetics, fermentation and other engineering applications with particular emphasis on water quality control processes.

## Environmental Science

### Courses

**ENVS 1100. Transitioning to University Studies and Environmental Science. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective.

**ENVS 1301. Society, Natural Resources, and the Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides a broad overview of the role of the environment and natural resources in human society, with particular emphasis on Texas and the United States. A history of the environmental movement is presented. Students study the importance of natural resources in providing basic human necessities, and how these resources are managed. Various careers in environmental science, natural resource management, and wildlife conservation are also discussed.

**ENVS 2451. Introduction to Geographic Information Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This is a cross-listed course with GEOG 2451 Intro to GIS. Basic concepts of design, planning and implementation of geographic information systems. Students will learn how to create, manipulate, project, and interpret geographic information. Students are encouraged to take GEOG 1451: Pre-GIS before this course. Lab fee: \$2.

**ENVS 3302. Soils, Land Use, and The Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Interactions among soil physical, chemical, and biological processes affecting soil, water, and environmental quality. Addressed in relation to land use management practices such as erosion control, soil conservation, soil reclamation, riparian buffers, bioswales, and artificial wetlands. Land use planning tools, including WebSoil Survey and GIS will be used. Prerequisites: WSES/ENVS 3401; or WSES/SOIL 3301 and WSES/SOIL 3101.

**ENVS 3305. GIS for Natural Resource Scientists. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An intermediate course on the use of geographic information systems (GIS) in natural resource management. Builds on concepts learned in introductory GIS course. Laboratory exercises will apply knowledge learned in lectures to solve real world problems in natural resource management using GIS software. Prerequisite: WSES 2451.

**ENVS 3307. Systems Thinking. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course focuses on the examination and analysis of complex systems, particularly in the environmental, natural resources, and sustainability fields. Major topics will include system structure, system behavior, feedback loops, stock and flow models, non-linear and emergent properties, self-organization, and the application of systems thinking to problem-solving. A significant component of the course will be development and analysis of computer models of complex systems. Prerequisite: C or better in MATH 1314 or equivalent, or approval of the instructor.

**ENVS 3315. Sustainability. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explore the varied perspectives of sustainability and analyze factors that contribute to or decrease system sustainability. Investigation of the social, economic, and environmental barriers to achieving sustainable systems and options for overcoming these barriers. Credit will be awarded only for POLS 3315, ENVS 3315, or WSES 3315. Prerequisite: GOVT 2305 or GOVT 2306 or POLS 2304 or approval of the instructor.

**ENVS 3323. Ethical Issues in Agriculture and the Natural Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will examine the several major ethical issues facing agriculture and natural resources sciences in our current society. Readings, discussions and lectures will focus on the scientific, capitalistic, and philosophical motivation in common ethical issues. Upon completion of the course, students will be able to construct and dissect ethical arguments and hopefully become more aware of the ethical dilemmas we all face each day. Can receive credit for WSES 3323, ENVS 3323 or ANSC 3323.

**ENVS 3375. Population, Pollution, and Resource Depletion. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles and philosophies associated with the development, management, and use of natural resources are studied in the relationship to the ecological and social implications inherent in management alternatives involving the natural environmental and the use of renewable natural resources. Can receive credit for either ENVS 3375 or WSES 3375. Prerequisite: Junior classification.

**ENVS 4084. Environmental Science Internship. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Formally arranged and approved on-the-job training with a cooperating sponsor in government or private sector of the environmental field. A minimum of 40 hours of training is required for each hour of academic credit. A maximum of six hours of credit may be earned. Oral and written reports of the experience are required. Prerequisite: Junior or Senior classification and approval of the instructor.

**ENVS 4086. Environmental Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Independent study or research of current topics in student's major. Content and credit dependant on depth of study. May be repeated for credit subject to approval of program lead or department head as appropriate.

**ENVS 4088. Undergraduate Research. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Fundamental research methods will be addressed through a faculty-directed project. Participation in an abbreviated lecture series may be required. Project components may include a literature review, data collection and analysis, testing, planning, project design, and/or computer modeling. The student may be required to prepare a final report and produce a presentation. Prerequisites: approval of the instructor. Prerequisite: Approval of the instructor.

**ENVS 4090. Special Topics. 1-6 Credit Hours (Lecture: 0-6 Hours, Lab: 0 Hours).**

Selected topics in environmental science. May be repeated for credit when topics vary.

**ENVS 4185. Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

A review of current problems and developments in environmental arena. Discussions of current literature and research. May be repeated once for credit.

**ENVS 4187. Environmental Science Capstone. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Integrate and use fundamental concepts learned in previous environmental science courses to research and analyze real-world environmental issues. Oral and written reports on experiential learning, supplemented by appropriate internet and multimedia materials.

**ENVS 4340. Environmental Science Field Study. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A field course involving visits to environmental science businesses, agencies, and organizations including TCEQ, watershed management organizations, river authorities, energy companies, and environmental advocacy organizations to learn about their work and engage in hands-on assessment activities. Requires an extended field trip at student's expense. Prerequisite: Grade of C or better in either WSES 2405 or BIOL 4401.

**ENVS 4390. Special Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).****ENVS 5086. Environmental Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Independent research under the supervision of an instructor. A formal report will be submitted to the instructor. A student may not count more than 6 hours of Environmental Science problems toward a degree. Lab fee \$10.

**ENVS 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thesis. No credit until the thesis is completed. Prerequisite: BIOL 5398 and consent of major professor.

**ENVS 5185. Graduate Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

A graduate seminar with content varying according to the needs and experiences of students and the instructor of record. May be repeated for up to three hours credit as content varies.

**ENVS 5300. The Regulatory Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of local, state, national, and international regulatory agencies to include their organization and authority. Case studies of environmental problems and legislated regulations are covered.

**ENVS 5310. Environmental Geology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explores the physical controls geology imparts to the global ecosystem through systems analysis of geologic processes. Hydrologic processes, river system processes and restoration, energy resources, coastal systems, and karst systems are all potential topics explored. Credit for both ENVS 5310 and GEOL 5310 will not be awarded. Prerequisites: GEOL 1403 or consent of department head.

**ENVS 5311. Environmental Chemistry. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of the impact of chemistry on the environment to include topics on air, water, and soil pollution, with special emphasis on water. Beneficial chemical modification of the environment will be covered.

**ENVS 5320. Issues in Water Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide a broad introduction to the critical issues relating to the world's freshwater resources. Students will examine the occurrence, use, management, and conservation of water and water resources in the U.S. and the world. Students will develop an understanding of the history and current issues in water resources and the environmental problems and political response to these issues.

**ENVS 5325. Environmental Hydrology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the processes that govern the earth's hydrologic cycle such as precipitation, evaporation and transpiration, runoff, infiltration and ground water and an exploration of anthropogenic effects on the hydrologic cycle. Topics include land-atmosphere interactions, movement of water in subsurface environments, contaminant transport in groundwater systems, streamflow generation, surface-water flow dynamics, urban runoff and flood control.

**ENVS 5329. Applications of Geographic Information Systems in Environmental Science. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Environmental and natural resource applications of Geographic Information Systems. Introduction to spatial analysis and 3-D analysis. The availability and uses of digital resources. Prerequisite: EASC 2320. Lab fee \$15.

**ENVS 5331. Advanced Meteorology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the Earth's atmosphere and processes within it. Topics include weather, climate, heating, adiabatic processes, precipitation types and formation, wind currents, geostrophic effects, prediction, and warnings. Historical events will be discussed in context of modern understanding.

**ENVS 5335. Watershed Modeling. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

The course will explore commonly used watershed models that can be used in linking sources of pollutants to receiving waterbodies. The course will explore large watershed, streamflow, water quality, urban watershed, and agricultural watershed models. Information will include model calibration and evaluation techniques.

**ENVS 5341. Environmental Site Assessment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to Phase I and Phase II investigations, principles of siting and installation of monitoring wells, a review of sampling methods and sample design, and the use of water quality data to characterize subsurface contamination. Prerequisite Course(s): Hydrogeology or consent of Department Head.

**ENVS 5345. Advanced Oceanography. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An integrated study of our oceans from the physical, chemical, biological, and geological aspects. Theory reinforced by practical field experience. Include analysis of seawater components, the effects of pollutants, and the impacts of chemical processes on marine organisms, as well as studying the physical conditions and physical processes within the ocean such as waves, currents, eddies, gyres and tides; the transport of sand on and off beaches; coastal erosion; and the interactions of the atmosphere and the ocean.

**ENVS 5370. Research & Analytical Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Research and analytical methods for Environmental Scientists. Explores the various approaches, methodologies, and philosophies behind research techniques.

**ENVS 5380. Research and Writing in Agriculture and Environmental Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Preparation of writing samples, technical reviews, and/or professional manuscripts related to various topics in agriculture or environmental science. Prerequisite: Approved research methodology course. Cross-listed with AGRI 5380.

**ENVS 5390. Topics in Environmental Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Scientific aspects of varied environmental topics, which may include waste disposal, wetlands, air pollution, energy, bioremediation, or watershed analysis. May be repeated for credit as topics vary. Prerequisites: 12 hours of science (including six hours of chemistry) or approval of department head.

**ENVS 5460. Applied Remote Sensing. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An introduction to the features and interpretation of remotely sensed images from airborne and satellite platforms. Formats of imagery will include radar, thermal, and multispectral. Focus on interpretation of images for various usages, including agriculture, forestry, geology, urban landscapes, and geography. Factors affecting acquisition of a variety of features will be discussed. Introduction to the theory of color sensing and interpretation is included. Lab fee: \$2.

## Earth Science

### Courses

**EASC 2310. Earth Systems Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduction to the nature and evolution of the Earth, hydrosphere, atmosphere and Solar System. Prerequisite: Enrollment in this course is restricted to Interdisciplinary Studies majors. Lab fee: \$2.

**EASC 2451. Introduction to Geographic Information Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This is a cross-listed course with GEOG 2451 Intro to GIS. Basic concepts of design, planning and implementation of geographic information systems. Students will learn how to create, manipulate, project, and interpret geographic information. Students are encouraged to take GEOG 1451: Pre-GIS before this course. Lab fee: \$2.

**EASC 3310. Geographic Information Systems for the Sciences. 3 Credit Hours (Lecture: 1 Hour, Lab: 5 Hours).**

Applications of geographic information systems in the geological, environmental, earth, and other sciences. Laboratory exercises will apply GIS programs to geological and environmental problems. Lab fee: \$2.

**EASC 3320. Astronomy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of astronomical instrumentation and methodologies, a survey of the solar system, star evolution, cosmology and the origins of the universe, and a review of galactic types and histories. Theory reinforced by field experience. Prerequisites: GEOL 1403 and 1404 or approval of department head. Lab fee \$5.

**EASC 3330. Meteorology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the Earth's atmosphere and the basic principles of weather analysis, climate and climatic controls, with emphasis on climatic effects on man. Theory reinforced by practical field experience. Prerequisites: GEOL 1403 or approval of department head. Lab fee \$5.

**EASC 3340. Oceanography. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of our oceans from the physical, chemical, biological, and geological aspects. Theory reinforced by practical field experience. Prerequisites: GEOL 1403, 1404, junior classification or approval of department head. Lab fee \$5.

**EASC 3350. Environmental Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Integration of existing knowledge of geological, hydrological, and environmental processes associated with environmental management and land-use planning issues; including discussions of surface and subsurface water quality and quantity, soil erosion, solid and liquid waste disposal and flooding. Case studies involving environmental impact analysis. Prerequisites: GEOL 1403, 1407; CHEM 1411, or approval of department head.

**EASC 3360. Remote Sensing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

An introduction to the features and interpretation of remotely sensed images from airborne and satellite platforms. Formats of imagery will include radar, thermal, and multispectral. Focus on interpretation of images for various usages, including agriculture, forestry, geology, urban landscapes, and geography Prerequisite: Junior classification Lab fee: \$2.

**EASC 3370. Biogeography. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Geographical distribution of plants and animals. Explores the concepts of evolutionary change, allopatric and sympatric speciation, vicariance and dispersal and how these processes affect species distributions through time. Covers the effects of topography, physical, and climatic factors which affect species distributions. Combines data and discoveries from a variety of fields, including biology, paleontology, ecology, evolution, and geology. Lab fee: \$2.

**EASC 4086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A course open to capable Earth Science and Geology students. Topics may vary according to student need. May be repeated for credit, subject to the approval of the department head. Prerequisite: Approval of department head.

**EASC 4313. Environmental Techniques. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A survey of techniques used in environmental investigations focusing on sampling and geochemical methods important to the environmental industry. Topics to be covered may include topographic surveying, geochemical sampling in surface waters and groundwater, soil sampling and site characterization. Prerequisites: GEOL 1403, and MATH 1316, MATH 2412, or MATH 2413 or approval of department head. Lab fee \$2.

**EASC 4384. Earth Science Internship. 3 Credit Hours (Lecture: 1 Hour, Lab: 8 Hours).**

Pre-approved and supervised work experience in an environmental or earth science position in industry or the public sector. Prerequisite: Junior classification and approval of department head. Field experience fee \$50.

## Fine Arts

### Courses

**FINA 1100. Transitioning to University Studies in Fine Arts. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual discipline perspective. These skill sets are presented in the context of fine arts disciplines.

**FINA 1360. The Art of Film. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview of the historical development of cinema (including contemporary and classic films) as an artistic and social force. Students study the aesthetic elements of the cinema, the terminology governing film production and the lines of critical inquiry that have been developed for the medium. Readings, screenings and written reports required.

**FINA 3301. The Arts in Contemporary Society. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

FINA 3301 ensures that Art, Music and Theatre students gain a broad knowledge of contemporary arts across disciplines and acquire an understanding of the relationship and interdependence of all art forms in any particular discipline. Students will research and study art that is being created now. Another emphasis is on formal analysis of works of contemporary art and the reason for its creation. Course work includes lectures, discussions, listening exercises, extensive viewing of works of art, class presentation and three research papers. This course is required for BFA-Art, BA-Music and BFA-Theatre majors. Prerequisite: Student with 18 hrs in ARTS, MUSI, or DRAM/THEA or approval of department head.

**FINA 4085. Fine Arts Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Design of course will focus on current topics and issues in fine arts of interest to a group of students. May be repeated twice for credit as topic and/or objectives of the course change. Prerequisite: upper-level status only.

**FINA 4086. Individual Problems in Fine Arts. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

A course featuring independent reading, research, and discussion under personal direction of instructor. Topics vary according to student need. Prerequisite: approval of department head.

**FINA 5386. Special Problems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Conference course. Independent reading, research, discussion under the supervision of an instructor. May be repeated as topic varies. Prerequisite: Full admission to the College of Graduate Studies or approval of department head.

**FINA 5390. Special Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Conference course. Independent reading, research, discussion under the supervision of an instructor. May be repeated as topic varies. Prerequisite: Full admission to the College of Graduate Studies or approval of department head.

## Family & Consumer Sciences

### Courses

**FACS 5086. Special Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

A problem selection course available to students who are capable of independent problem selection and development. Chosen problems will be approved in advance by the instructor. May be repeated for a maximum of six hours.

**FACS 5390. Advanced Topics in Family & Consumer Sciences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced topics in Human Sciences requiring in-depth research and discussion. This course may be repeated for a maximum 6 hours as topics change.

## Food Science

### Courses

**FDSC 1307. Concepts and Controversies in Food Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Principles of food studies and exploration of the role food narratives and exposés play in the consumer's perception of the current food supply. Foundation for understanding the connections among food production, ecology, ethics, cuisine, nutrition and health within the framework of sustainability. Can receive credit for either FDSC 1307 or WSES 1307.

**FDSC 1316. Principles of Food Preparation. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Study of food, food composition, and scientific principles involved in food preparation. Can receive credit for either FDSC 1316 or NUTR 1316.

**FDSC 3304. Food Processing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

The world food supply, trends and traditions in diet and food sanitation, safety, security, and biotechnology, and impact of processing on diet quality. Lab fee: \$2.

**FDSC 3325. Advanced Meal Management. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Fundamentals of nutrition and food preparation in all types of meal service. Special emphasis is on time and money management. Credit will be given for only one of the following: WSES 3325, FDSC 3325, or NUTR 3325.

**FDSC 4335. Food and Culture. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

A study of the food beliefs and practices of the major ethnic and religious groups in the U. S. and the nutritional implications of these food practices, a cultural analysis of American food trends; ethnic issues and dietary changes; and research methods in food habits. Credit will only be given for WSES 4335 or FDSC 4335.

**FDSC 4407. Fermentation and Brewing. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

History of food safety, sanitation, fermentation, fermented foods, beer brewing, wine and cheese making, along with an introduction to industry organization; from commodities production, to processing, distribution, marketing, and sales. Hands-on instruction in small-scale brewing. Combines elements of science (chemistry, biology, and physics), economics, food preparation, aesthetics, preferences, and taste. Modest cost of field trips will be borne by the student. Credit will not be given for both WSES 4407 and FDSC 4407. Prerequisites: 8 hrs BIOL and 8 hrs CHEM; must be 21 years or age or older on the first class day to enroll in course.

**FDSC 4408. Sustainable Food Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Issues surrounding food production and the environmental and social impact of current food production systems. Emerging trends to increase the sustainability of food production, distribution, and consumption. Includes a laboratory field component and will require some field work outside normal class times. Credit will not be given for both WSES 4408 and FDSC 4408.

## Finance

### Courses

**FINC 3301. Principles of Financial Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An analysis of financial decision-making at the corporate level with emphasis on the maximization of stockholder wealth. Topics covered include financial statement analysis, the valuation of stocks and bonds, cost of capital, capital budgeting, dividend policy, leverage and capital structure, methods of firm valuation, working capital management, mergers and acquisitions, and bankruptcy. Prerequisites: ACCT 2301, ACCT 2302 and ECON 2301; or ACCT 3300 and ECON 2301.

**FINC 3302. Financial Intermediaries. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the internal operations of financial intermediaries with major emphasis on organization, source and allocation of funds, supervision, and regulation. Prerequisite: FINC 3301.

**FINC 4084. Internship. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-20 Hours).**

Preapproved and supervised work experience in a Finance related position with a public or private business organization. May be repeated for a total of 6 hours credit. Prerequisite: Approval of department head.

**FINC 4086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A directed study of selected problems in finance. May be repeated with approval department head. Prerequisite: Approval of the department head.

**FINC 4300. Advanced Financial Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced analysis of value-based management techniques with emphasis on the factors affecting the corporation's quest to maximize shareholder wealth. Topics covered include financial statement analysis, cash flow analysis, economic and market valued added, securities valuation, the cost of capital, capital budgeting, capital structure, dividend policy, the use of leverage, working capital management, and corporate governance. Prerequisite: FINC 3301.

**FINC 4301. International Financial Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Issues and questions which concern financial management of international corporations. Analysis of the financing of investment abroad and the management of assets in differing financial environments. The foreign investments decision, cost of capital and financial structure for multinational decision making, management of foreign subsidiary working capital, and financial control of multinational operations. Prerequisite: FINC 3301 or approval of department head.

**FINC 4302. Real Estate Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of monetary systems, primary and secondary money markets, sources of mortgage loans, federal government programs, loan applications, processes and procedures, closing costs, alternative financial instruments, equal credit opportunity acts, community reinvestment act, and state housing agency.

**FINC 4303. Case Studies in Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Capstone course requires students to use fundamental concepts learned in previous finance, accounting, and economics courses to analyze real-world finance problems. Using both structured and unstructured cases, student teams analyze problems and recommend solutions. Argument is presented both orally and in writing. Cases draw from such areas as corporate finance, investments, international finance, and personal finance. Prerequisite: FINC 3301.

**FINC 4304. Principles of Investments I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The development of investment policy; the character of investment risk; a comparison of investment media; description and analysis of security markets and their operations. Prerequisite: FINC 3301.

**FINC 4307. Investments II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course builds on Investments I, adding new assets (e.g. derivatives), new theoretical models (e.g. option valuation), and new techniques (e.g. hedging strategies). In addition, the course will cover asset management theories and measures. Prerequisite: FINC 3301, FINC 4304.

**FINC 4308. Principles of Insurance and Risk Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey course focusing on the theory and practice of private insurance and its economic and social significance. Major types of insurance are examined: life, health, automotive, homeowners, and liability. Various forms of risk management, characteristics of insurance contracts, government regulatory characteristics, and institutional structures are studied.

**FINC 4385. Seminar in Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of selected topics dealing with problems or unique needs of Finance. May be repeated for credit as topics vary. Prerequisite: Approval from department head.

**FINC 5086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

This course offers students the opportunity to become acquainted with current research being conducted within the student's area of interest; directed reading of a number of sources selected in concert by the student's professor. Prerequisite: Approval of department head.

**FINC 5301. International Finance and Business Strategy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course examines the major international issues pertaining to finance, including choosing and implementing an appropriate corporate strategy, the determination of exchange rates, international risk management, transfer pricing, and evaluating and financing international investment opportunities. There will be readings and case analysis and students will be required to report on research findings. Credit for both FINC 5301 and BUSI 5301 will not be awarded.

**FINC 5305. Case Studies in Corporate Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course designed to use case studies and financial analysis to further the graduate student's knowledge and ability to make financial management decisions. Selected cases will be assigned for outside the classroom analysis, and preparation of proposed solutions. The classroom will be used to discuss the cases, the student's proposal for solutions, and desired courses of action. The cases will be such that students will be required to use prior knowledge, current research, and a good deal of analytical ability in preparing their proposals. Prerequisite: Graduate standing.

**FINC 5306. Financial Markets and Institutions. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is intended to give the student a broad coverage of the operation, mechanics, and structure of the financial system within the United States, emphasizing its institutions, markets, and instruments. Monetary policy of the Federal Reserve and its impact upon financial institutions are treated.

**FINC 5307. Financial Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Course focuses on financial decision making in the modern corporation. Basic issues include capital budgeting, capital structure, corporate sources of funding, dividend policy, financial risk management, standard theories of risk and return, and valuation of assets. Prerequisite: COBA 5102, or equivalent, or department head approval.

**FINC 5320. Health Care Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Health Care Finance offers an introduction to decision making in health care settings using accounting and finance theories, principles, concepts and techniques most important to managers. Credit for both FINC 5320 and ACCT 5320 will not be awarded.

**FINC 5335. Analysis of Financial Statements. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of financial statement analysis and accounting topics related to financial statement presentation and disclosure. Prerequisites: A background in both accounting and finance (at least leveling courses in both accounting and finance).

**FINC 5385. Seminar on Consumer and Business Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will cover selected consumer and business finance topics. Examples include debt management, initial public offering of a new business, Internet based finance and regulatory aspects, and management of compensation. Students will be expected to research assigned topics and submit reports.

**FINC 5390. Selected Topics in Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of different topics in finance from areas such as investments, corporate financial management, and financial markets and institutions. This course may be repeated for credit as the topic changes. Prerequisites: Graduate standing and FINC 3301 or FINC 5307 or approval of instructor.

## French

### Courses

**FREN 1411. Beginning French I. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Instruction and practice in understanding and speaking the French language with stress on sentence structure, inflections, vocabulary, and pronunciation. Lab fee \$5.

**FREN 1412. Beginning French II. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Instruction and practice in understanding and speaking the French language with increasing emphasis on reading and writing the language. Prerequisite: FREN 1411 or equivalent. Lab fee \$5.

**FREN 2311. Intermediate French I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Development of increased facility in the French language through reading, writing, and conversation. Prerequisite: FREN 1412 or equivalent.

**FREN 2312. Intermediate French II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Readings in literature with emphasis on vocabulary building, writing, and comprehension. Prerequisite: FREN 1412 or equivalent.

**FREN 4386. Special Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A course featuring independent reading, research, and discussion under personal direction of instructor. Topics vary according to student need. Open to students of senior classification or by approval of department head.



## Geography

### Courses

**GEOG 1303. World Regional Geography. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the basic concepts of geography through a study of the major regions of the world. This course enhances the understanding of world events, lifestyles, environments, cultures, and conflicts and emphasizes thinking spatially to study human-land relationships.

**GEOG 1320. Introduction to Human Geography. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to geography as a social science, emphasizing the relevance of geographic concepts to human problems.

**GEOG 1451. Pre-GIS: GPS, VGI and Cartography. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

An introductory course to GIS. Pre-GIS focuses on the knowledge, instruments, and data necessary for GIS. Pre-GIS is a student-centered, hands-on course that will introduce students to the GIS concepts that are intrinsic in introductory and advanced GIS courses. Students will create virtual maps by gathering data points using GPS instruments. Students will then use GIS to create detailed information relating to their map and data points to answer questions posed in the course. Lab fee: \$2.

**GEOG 2301. The Geography of Texas. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course uses the key concepts of regional geography to study the evolving character and nature of the different areas of Texas. The interaction of people and environment is used to study the economic development, social and political issues, urbanization, and other changes in Texas in the past and present.

**GEOG 2451. Introduction to Geographic Information Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Basic concepts of design, planning and implementation of geographic information systems. Students will learn how to create, manipulate, project, and interpret geographic information. Students are strongly encouraged to take GEOG 1451: Pre-GIS. Lab fee: \$2.

**GEOG 3300. Geography of Latin America. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the physical and cultural regions of Latin America. The course will examine the Spanish and Portuguese divide, indigenous, Afro, Asian, and European influence within one of the world's most vibrant regions. Prerequisite: GEOG 1303, or permission of instructor.

**GEOG 3301. Intro to Travel, Cultural Experience, & Study Abroad. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An introduction to travel and cultural experience, preparing students to maximize their perspective study abroad and international experiences. The course does not take students abroad, and the student does not need to be enrolled in a study abroad program to take this course.

**GEOG 3312. Economic Geography. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course examines economic activity and production as a function of geographic location. It introduces the basic concepts related to the advance, spread, and distribution of economic activity around the planet and considers the forces that are reshaping the global economy, the fundamentals of spatial economics, and classical location theories.

**GEOG 3352. Introduction to Crime Mapping. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course provides conceptual knowledge and practical skills to design and implement a GIS-based analysis of community crime problems. This course constitutes an introduction to the scope and methods of crime mapping and analysis. The theory, logic, and practical applications of mapping and analysis are examined with a focus on developing a knowledge base, skills, and integration of mapping and analysis concepts that are applicable to crime detection and prevention. No prerequisites. Lab fee: \$2.

**GEOG 3450. Intermediate Geographic Information Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course covers intermediate topics in geographic information systems (GIS) that will allow students to succeed in the advanced GIS class Prerequisite: GEOG 2451 for GIS-BS students only Lab fee: \$2.

**GEOG 4084. Internship. 1-4 Credit Hours (Lecture: 0 Hours, Lab: 1-4 Hours).**

Directed real-world learning experience under the supervision of a practicing GIS professional. The internship assignment must be approved by an academic advisor in the Geography and GIS program prior to enrollment. The internship must be related to the student's field of study and requires at least 240 hours of supervised work during the semester term. Student maintains a weekly log of work experience gained and, at semester-end, prepares a written report reflecting on the work experience. Student also provides to the academic advisor the employer's evaluation of performance and maintains records of all the listed documentation. No credit will be given for previous experience or activities. Prerequisites: Junior or Senior classification and approval of department head.

**GEOG 4086. Geography Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

**GEOG 4385. Geography Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will consider major issues in modern geography. May be repeated for credit when topics vary. Prerequisites: GEOG 1303, junior classification or permission of instructor.

**GEOG 4450. Advanced Geographic Information Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course focuses on advanced topics in geographic information systems (GIS), manipulation of raster data; advanced spatial analysis; advanced geoprocessing, and spatial modeling. Prerequisites: GEOG 3450 and for GIS majors only: GEOG 2451 Lab fee: \$2.

**GEOG 4451. Applied Remote Sensing. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course focuses on advanced topics in satellite remote sensing and digital image processing. Students will learn how to processes, interpret, classify and analyze satellite data for different applications. Lab fee: \$2.

**GEOG 5086. Geography Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Independent reading, research, and discussion under the supervision of an instructor. May be repeated for credit when topics vary.

**GEOG 5385. Geography Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will consider major environmental and socio-economic issues in modern geography. May be repeated for credit when topics vary.

## Geology

### Courses

**GEOL 1100. Transitioning to University Studies in Geosciences. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

An introduction to geosciences, including earth science, environmental science, geology, hydrogeology, and petroleum geology. Practical study designed to prepare the geoscience student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process.

**GEOL 1403. Physical Geology. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

An introduction to the physical processes that operate in and on the planet Earth. Topics of discussion include: the Earth's structure, rocks and minerals, volcanoes, earthquakes, groundwater, rivers, glaciers, and deserts. Lab fee: \$2.

**GEOL 1404. Historical Geology. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

History of the Earth from the formation of the solar system to the present. Topics include the Earth's development, evolution of life on Earth, changes in the Earth's geography throughout its history, and the tools geologists use to investigate these topics. Lab fee \$10.

**GEOL 1407. Introduction to Environmental Science. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduction to the study of the environment. The course will examine air, water, and soil pollution, and pollution remediation. Energy, mineral resources, and land use will be studied. The course will also emphasize a study of the water supply, water use, and water management. Much of the laboratory will focus on land use planning and environmental pollution remediation. Lab fee: \$2.

**GEOL 1408. Natural Disasters. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Course focuses on the causes, effects, and mitigation of natural disasters around the world. Topics covered will include: plate tectonics, earthquakes, volcanoes, tsunamis, landslides, meteor impacts, climate change, and major weather events such as tornadoes, floods, and hurricanes. Emphasis will be on methods used by scientists to monitor and study these natural phenomena, as well as the economic and societal impact of and response to the events. Lab fee: \$2.

**GEOL 3310. Geomorphology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Study of surface processes in geological environments with emphasis on environmental and engineering applications. Topics include weathering, soil formation and erosion, landslides, and landforms associated with rivers, groundwater, coasts, arid and semi-arid climates. Laboratory emphasizes aerial photo and topographic map interpretation. Prerequisites: GEOL 1403. Lab fee \$10.

**GEOL 3314. Geochemistry. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

A survey of the application of chemical principles to problems of geology. Topics include the origin and distribution of the elements and exploration of the behavior and distribution of various elements in igneous, metamorphic, and sedimentary rocks. Basic concepts of thermodynamics, solution chemistry, and isotope geochemistry will be discussed. Credit for both GEOL 3314 and CHEM 3314 will not be awarded. Prerequisite: CHEM 1412. Lab fee \$10.

**GEOL 3320. Hydrogeology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Aquifer characteristics, physical principles of groundwater flow, well analysis, geologic controls on local and regional groundwater movement, water chemistry, groundwater pollution, legal issues in groundwater. Prerequisites: GEOL 1403, CHEM 1412, and either MATH 1316, or MATH 2412, or MATH 2413, or approval of department head. Lab fee: \$2.

**GEOL 3400. Crystallography and Mineralogy. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the basic crystallographic forms, some of the common ore and rock forming minerals. An introduction to Optical Mineralogy. Prerequisite: GEOL 1403. Lab fee \$2.

**GEOL 3405. Paleontology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An introduction to the study of fossils. A survey of the systematics, evolution and paleoecology of microfossils and important macrofossil groups. Prerequisite: GEOL 1403, GEOL 1404 Lab fee: \$2.

**GEOL 3406. Igneous and Metamorphic Petrology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An introduction to the origin, characteristics, and associations of igneous and metamorphic rocks. Introduction to igneous phase diagrams and metamorphic phase equilibria. Prerequisite: CHEM 1411, 1412, GEOL 1403, MATH 1314 or higher. Course fee \$50. Lab fee \$10.

**GEOL 3412. Structural Geology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A study of the forces and processes resulting in the deformation of and structural features of units in the Earth's crust. Lab work includes solution of problems by descriptive geometry, geologic and topographic maps and cross-sections. Prerequisites: GEOL 1403 and GEOL 1404 Lab fee: \$2.

**GEOL 3413. Stratigraphy and Sedimentology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the origin, transportation, and deposition of sediments and the formation of sedimentary rocks. Emphasis on the study of strata and depositional systems and the utilization of sedimentology and stratigraphy in economic geology, environmental geology, hydrogeology and petroleum geology. Prerequisite: GEOL 1403 Lab fee: \$2.

**GEOL 4086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A course open to capable Geology and Earth Science students. Topics may vary according to student need. May be repeated for credit, subject to the approval of the department head. Prerequisite: Junior classification and approval of department head.

**GEOL 4305. Field Geology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An introduction to the identification and interpretation of rocks and geological structures in the field. Field and laboratory activities include rock identification and interpretation, surveying with plane table and alidade, measuring and describing geological sections and field mapping with Brunton compass, air photos, and topographic maps. Prerequisite: GEOL 1403, and 6 hrs upper level GEOL. Lab fee \$2.

**GEOL 4311. Economic Geology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

An introduction to the origin, classification, uses, and economics of metallic and nonmetallic mineral deposits. Lab will introduce reflected light microscopy, alteration petrology and simulate a complete mineral deposit exploration program. Prerequisite: GEOL 3406 or concurrent enrollment. Lab fee \$10.

**GEOL 4312. Petroleum and Subsurface Geology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Origin and distribution of petroleum. Geochemistry and maturation of organic matter; microbiological and thermal degradation of hydrocarbons, conventional and unconventional petroleum systems; principles of primary and secondary migration; seals; hydrocarbon traps, diagenesis of carbonate and clastic reservoir rocks; use of subsurface geologic data to prepare maps and identify prospects. Prerequisite: GEOL 3312, 3413. Lab fee: \$2.

**GEOL 4315. Sedimentary Petrology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Introduction to the physical, chemical, and biologic properties of sedimentary rocks, as revealed by petrographic microscopy, geochemical techniques, and field study. Emphasis is placed on the mineralogy, chemistry, textures, and sedimentary structures that characterize sedimentary rocks, and the relation of these features to their depositional origin and subsequent diagenesis. Prerequisites: GEOL 1403 and GEOL 3413 Lab fee: \$2.

**GEOL 4316. Well Log Analysis. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Petrophysics and modern well-logging methods. Theory and applications of measurements of physical properties of the formation near the well bore, types of well logging tools, interpretation and use of well log information in petroleum exploration and development Prerequisite: GEOL 3413 Lab fee: \$2.

**GEOL 4317. Seismic Interpretation. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Examination of seismic interpretation methods with emphasis on the petroleum industry. Topics include basic reflection theory, seismic acquisition and processing (prestack and poststack), incorporation of well data, picking and mapping horizons, structural interpretation, seismic stratigraphy, advanced seismic interpretation techniques, Direct Hydrocarbon Indicator (DHI), and depth conversion. Hands-on interpretation using standard industry software. Prerequisite: GEOL 3312, GEOL 3413. Lab fee: \$2.

**GEOL 4318. Plate Tectonics. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Plate Tectonics is the unifying theory in modern geology. This course will examine the driving mechanisms of crustal deformation, geophysical and geologic data supporting sea-floor spreading and plate motions, and major type of plate boundaries. We will explore implications of plate tectonics, continental drift, and mountain building, the role of plate tectonic cycle in renewal of Earth's surface, and relation with other geochemical cycles. Readings from original papers. Prerequisite: GEOL 1403, GEOL 3413, Geol 3312 Lab fee: \$2.

**GEOL 4320. Paleocology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

The ecology of ancient life. The course will focus on defining and identifying community structures through time, exploring the rise and fall of communities and the changing populations within them. Emphasis will be on field and hand-sample identification of community affinities based on sediments and life habit. Prerequisite: GEOL 1404, GEOL 3405, GEOL 3413 Lab fee: \$2.

**GEOL 4600. Field Camp. 6 Credit Hours (Lecture: 0 Hours, Lab: 12 Hours).**

Field course practicing field application of geological techniques. Locations visited and material covered vary by year and host institution. Methods practiced include: field mapping, data collection, measurement of sections, and geologic reporting. Prerequisite: Vary by institution. Lab fee: \$2.

**GEOL 5086. Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Independent research under the supervision of an instructor. A formal report will be submitted to the instructor. A student may not count more than 6 hours of problems toward a degree.

**GEOL 5088. Thesis. 1-6 Credit Hours (Lecture: 6 Hours, Lab: 6 Hours).**

Scheduled when the student is ready to begin the thesis. No credit until thesis is completed. Student must have submitted approved thesis proposal before taking for credit.

**GEOL 5100. Geology Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

A graduate seminar course providing the opportunity for students to lead discussions on a current topic in Geology. Topics vary according to interests of faculty and/or students. May be repeated for credit as topics vary.

**GEOL 5300. History of Geology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the development of geological concepts and their impact upon science and society. Biographical as well as contemporary readings will be involved, investigating the confluence of geological science development with historical and societal factors.

**GEOL 5400. History of Geology. 4 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the development of geological concepts and their impact upon science and society. Biographical as well as contemporary readings will be involved, investigating the confluence of geological science development with historical and societal factors.

**GEOL 5401. Crystal Chemistry. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

An advanced study of the atomic or molecular arrangement of minerals. Topics covered would include, crystal structure, P-T phase diagrams, solid solution, exsolution, diffusion, atomic site occupancy, mineral chemical bonding, and the relationship of crystal structure to optical and physical properties. Lab fee: \$2.

**GEOL 5402. Igneous Petrology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An advanced study of the origin of igneous rocks. The course would focus on geochemical aspects of igneous rocks, with a special emphasis on process such as fractionation, assimilation and liquid immiscibility. The course would involve an in-depth study of phase diagrams. Lab fee: \$2.

**GEOL 5403. Metamorphic Petrology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An advanced study of the origin of metamorphic rocks. The course would focus on mineral chemical reactions occurring during metamorphism. Topics in the course would include thermodynamics, and in-depth study of phase diagrams. Lab fee: \$2.

**GEOL 5404. High Temperature Geochemistry. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

A study of the chemistry involved in igneous and metamorphic processes. The course would emphasize trace elements, stable isotope systematics, and radioactive isotopic systems. Lab fee: \$2.

**GEOL 5405. Low Temperature Geochemistry. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

A study of surface chemical systems. This course is sometimes called the geochemistry of natural waters. The course would focus on the chemistry of weathering and sediment deposition. Topics could include acidity and oxidation (EH-pH), stable isotopes, evaporate chemistry, clay chemistry, and aqueous system chemistry. Lab fee: \$2.

**GEOL 5410. Field Paleoecology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The ecology of ancient life. The course will focus on defining and identifying community structures through time, exploring the rise and fall of communities and the changing populations within them based on field identification, utilizing sediments and life habit. Lab fee: \$2.

**GEOL 5420. Ichnology. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Study of Trace Fossils. Course will focus on identification and description of ichnotaxa, ichnofacies, and ethological classifications. Field application of course content will be a major component. Lab fee: \$2.

**GEOL 5430. Paleontological Data Analysis. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Study and application of statistical and multivariate techniques used in classifying and differentiating organisms, taphonomics, orientations, and ecologies. Methods covered will include DCA, PCA, PCO, NMDS, and Parsimony Analysis, as well as basic statistical methods. Lab fee: \$2.

**GEOL 5450. Geomechanics and Fracture System Analysis. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Mechanical analysis of stress and strain within the Earth's brittle crust. Major topics include analysis of present day stresses, Anderson stress classification, overpressure, mechanical properties of rock, Mohr failure envelopes, and critical stresses on faults. Characterization and quantification of natural fracture systems will be a major component of the course. Lab fee: \$2.

**GEOL 5451. Geometric and Kinematic Analysis of Structures. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Analysis of concentric folds of layered sedimentary rocks and fault-related folds with emphasis on geometric relationships. Introduction to quantitative models based upon geometric relationships between fault geometry, rheology, and fault slip rate. Techniques will be presented to incorporate surface and subsurface data to construct viable, admissible structural cross sections while minimizing artificial distortion. Modern structural software will be used. Techniques will be presented for reconstructions and restorations of cross sections. Use of growth strata to constrain the kinematic pathway of both compressional and extension folds and fault-related folds. Lab fee: \$2.

**GEOL 5452. Seal and Trap Analysis. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Examination of the geological and physical processes that trap hydrocarbons in the subsurface and techniques for the evaluation of seal competency. Lab fee: \$2.

**GEOL 5453. Structural Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Examination of extensional, compressional, and strike-slip systems from a tectonic and regional scale. The course will examine both kinematic and dynamic analysis of systems of associated structures. Emphasis will be on understanding key components and architectural elements of structural styles. Investigation of the mechanical and rheological controls on formation of structural regimes. Lab fee: \$2.

**GEOL 5460. Sequence Stratigraphy. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Fundamental concepts of sequence stratigraphy applied to both carbonate and clastic systems. Integration of surface and subsurface data with an emphasis on petroleum exploration. Field trips required. Prerequisite: GEOL 3413 or equivalent with a grade of "C" or better Lab fee: \$2.

**GEOL 5461. Carbonate Petrology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to the physical, chemical, and biologic properties of carbonate rocks, as revealed by petrographic microscopy, geochemical techniques, and field study. Emphasis is placed on the mineralogy, chemistry, textures, and sedimentary structures that characterize carbonate rocks, and the relation of these features to their depositional origin and subsequent diagenesis. Prerequisite: GEOL 3413 or equivalent with a grade of "C" or higher Lab fee: \$2.

**GEOL 5462. Clastic Petrology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to the physical, chemical, and biologic properties of clastic rocks, as revealed by petrographic microscopy, geochemical techniques, and field study. Emphasis is placed on the mineralogy, chemistry, textures, and sedimentary structures that characterize carbonate rocks, and the relation of these features to their depositional origin and subsequent diagenesis. Prerequisite: GEOL 3413 or equivalent with a grade of "C" or higher Lab fee: \$2.

**GEOL 5463. Clastic Depositional Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Clastic facies analysis and depositional environments: modern and ancient alluvial, lacustrine, desert, deltaic, estuarine, shoreline, shallow marine shelf and deep marine environments. Field trips required. Prerequisite: GEOL 3413 or equivalent with a grade of "C" or better Lab fee: \$2.

**GEOL 5464. Carbonate Depositional Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Carbonate facies analysis and depositional environments; examination of both modern and ancient carbonate environments. Field trips required. Prerequisite: GEOL 3413 or equivalent with a grade of "C" or better Lab fee: \$2.

**GEOL 5465. Basin Analysis. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Analysis of sedimentary basins, including their structural development, subsidence histories, thermal maturation, stratigraphy and depositional systems, and petroleum systems. Prerequisites: GEOL 3413 and GEOL 3312 (or equivalents) with a grade of "C" or better Lab fee: \$2.

## German

### Courses

**GERM 1411. Beginning German I. 4 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Instruction and practice in understanding and speaking the German language with stress on sentence structure, inflections, vocabulary, and pronunciation. Lab fee \$5.

**GERM 1412. Beginning German II. 4 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Instruction and practice in understanding and speaking the German language with increasing emphasis on reading and writing the language. Prerequisite: GERM 1411 or equivalent. Lab fee \$5.

**GERM 2311. Intermediate German I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Development of increased facility in the German language through reading, writing, and conversation. Prerequisite: GERM 1412 or equivalent.

**GERM 2312. Intermediate German II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Readings in either literary or technical German with emphasis on vocabulary building, writing, and translation skills. Prerequisite: GERM 1412 or equivalent.

**GERM 4686. German Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

A course featuring independent reading, research, and discussion under personal direction of instructor. Topics vary according to student need. Open to students of senior classification or by approval of department head.

## Government, Legal Studies, and Philosophy

### Courses

**GLSP 1100. Transitioning to University Studies in Government, Legal Studies, and Philosophy. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of cultural awareness perspectives and opportunities to explore diversity. The course will also introduce students to the Government, Legal Studies, and Philosophy department.

## Government

### Courses

**GOVT 2305. Federal Government (Federal Constitution and Topics). 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the American national governmental system. This course with POLS 202 satisfies the legal requirement for graduation from state colleges and universities.

**GOVT 2306. Texas Government (Texas Constitution and Topics). 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the constitution of the state of Texas and of the state and local governmental units created by the constitution. This course satisfies the TEA requirement for out-of-state teacher certification and, when taken with GOVT 2305, the legal requirement for graduation from state colleges and universities.

## General Studies

### Courses

**GSTU 3398. Career Skills. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is the prerequisite to the General Studies Capstone course (GSTU 4398) and focuses on developing core skills to prepare students for their respective future careers. The course will teach interview skills, resume writing, research methods, teamwork skills, personal marketability, and communication skills. For General Studies majors.

**GSTU 4398. General Studies Capstone Course. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course requires students to integrate and use fundamental concepts learned in previous courses within the students' degree concentrations including research and analysis of real-world phenomena and problems. Students will work in teams, and students will present written reports on their research, supplemented by appropriate internet and multimedia materials, as well as portfolios documenting their research. This is a writing intensive course for General Studies majors. Prerequisite: GSTU 3398, approved degree plan for Bachelor of Science in General Studies program.

## Home Economics

### Courses

**HECO 1322. Nutrition and Diet Therapy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

(TCCNS = HECO 1322 or BIOL 1322) A study of the essential nutrients, including nutrient functions, food sources, deficiency symptoms, and toxicity symptoms; the nutritional requirements of individuals throughout the life cycle; the effects of nutrition on health and fitness; nutrition fads and controversies; and evaluation of personal eating habits. Prerequisite Course(s): One semester of chemistry is recommended.

**HECO 1325. Housing and Interior Design I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

(TCCNS = HECO 1325) Factors influencing design selection with emphasis on the fundamental structure and decorative qualities of design, psychological approach to color, and creative problem-solving.

**HECO 1328. Clothing Selection, Design and Construction. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

(TCCNS = HECO 1328) Principles of clothing construction taught through lecture, demonstration, instructional media, and hands-on laboratory experience. Students are required to construct personal garments and to produce samples illustrating various construction techniques. Lab fee \$15. Prerequisite Course(s): FCSC 1201: Basic Clothing Construction.

**HECO 2311. Fashion Merchandising. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

(TCCNS = HECO 2311) An introductory overview of the fashion business and its scope, economic importance, and marketing practices. The power of fashion and the role of the ultimate consumer are also addressed. Field trips may be required.

# History

## Courses

### **HIST 1301. United States History I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a survey of United States history from the first European contacts through the end of the Reconstruction Period. It is designed to cover the broad sweep of United States political, cultural, social, and economic history with emphasis on those periods that have helped to shape a distinctive American character. This course with HIST 1302 will fulfill the legislative requirement of two semesters of United States history.

### **HIST 1302. United States History II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course continues the survey of United States history to present times. The emphasis is on the developments that contributed to the growth of modern America. This course with HIST 1301 will fulfill the legislative requirement of two semesters of United States history.

### **HIST 2321. World Civilizations I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of world history from prehistoric times to the beginning of the 18th century. Special attention will be given to the origins of civilization in Africa, Asia, and the Middle East and its development through the ancient, medieval, and early modern eras.

### **HIST 2322. World Civilizations II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of world history from the beginning of the 18th century to the present. Special emphasis will be placed on the rise and fall of Western global influence between the 18th and 20th centuries, and the numerous repercussions of this development.

### **HIST 3302. The Ancient World. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the ancient Near East, Greece, the Hellenistic period, and the Roman Republic and Empire. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of the department head.

### **HIST 3303. Europe in the Middle Ages. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of Medieval Europe from the decline of the ancient world to the eve of the Renaissance. Special attention will be given to the examination of economic and social changes underlying the formation and development of medieval civilization. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

### **HIST 3304. History of Texas. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of Texas from the Spanish colonial period to the present, with special attention to the Hispanic heritage, the Revolution and Republic, the Civil War and Reconstruction, and the political and economic developments of the modern state. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

### **HIST 3305. England and Great Britain to 1603. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of English history from Roman Britain to the death of Queen Elizabeth and the end of the Tudor dynasty. Special emphasis will be in political, legal, and religious changes which formed the foundations of modern England. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or approval of department head.

### **HIST 3306. British History from 1603 to Modern Times. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of English and British history from 1603 to modern times. Special emphasis will be on constitutional, political, economic, and legal changes. Included as well will be a survey of the empire and the United Kingdom. Prerequisite: 6 hours HIST or approval of department head.

### **HIST 3309. History of Christianity and Christian Thought to the Reformation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An overview of the history of Christianity and Christian thought from founding to the beginnings of the Reformation with particular attention to major themes, movements, events, leaders, and developments within their social, cultural and political contexts. The course also offers an introduction to the central ideas and debates that have shaped the historical development of Christian theologies, practices, and institutions. Credit will not be awarded for more than one of the following courses: PHIL 3309, HIST 3309, and RELI 3309. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

### **HIST 3310. Colonial America. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This writing intensive course tracks the history of North America from first contact between American Indians, Europeans, and Africans to 1800. The course emphasizes research into the primary and secondary sources relevant to European-Indian relations; imperial and intertribal rivalries; the emergence of slavery and plantation societies; and the development of the Spanish, English, Dutch, and French mainland colonies. Each student will complete a rigorous original research project that examines this history. Prerequisites: HIST 1301 and 1302; 3340 as prerequisite or concurrent course, which is already an extant expectation.

### **HIST 3311. Creating a Nation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The United States from 1763 to 1815. The course concentrates on the causes and consequences of the American Revolution, the creation of the Constitution, the role of slavery, and the tumultuous political and social events of the young republic. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or approval of department head.

### **HIST 3312. A Nation Divided, 1815-1860. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

The United States from 1815 to 1860. An era shrouded in myth and legend, the early decades of the 19th century saw dramatic changes in American technology, politics, religion, economics, and society. From railroads, reforms, and religion, to political parties, Old Hickory, and the Cotton Kingdom, antebellum America was an exciting and critical time. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

### **HIST 3313. Civil War and Reconstruction. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The United States from 1850 to 1877. From the infamous "Compromise of 1850" through the notorious "Compromise of 1877," this course will cover the immediate causes of disunion, the military and political battles of the Civil War, and the turbulent, controversial era of Reconstruction. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

### **HIST 3315. Rise of Industrial America, 1877-1929. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

The United States from 1877 to 1929. In the years following the Civil War and Reconstruction, the nation experienced dramatic economic and social changes. An era made famous by Big Business, Robber Barons, corruption, and the Roaring Twenties, this period also saw the birth of a global American Empire, the rise of Populist and Progressive reformers, and the development of conditions that would lead to the Great Depression. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

### **HIST 3317. U.S. Military History. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the beginnings and growth of the American military tradition from the first English colonies through the new challenges of the 20th Century requiring changes and growth in the American military tradition. Important battles will be considered, especially those that illustrate tactical and technological developments. The primary emphasis of the class, however, will be on policy and strategic thought. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or department head approval; the HIST 3340 prerequisite is waived for Military Science students.

### **HIST 3320. The Renaissance and Reformation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A survey of European political, diplomatic, and cultural history from 1300 to 1648. The course will focus on Renaissance Humanism, the Protestant movements, the Catholic Reformation, and the emergence of the European state system during the age of religious wars. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or approval of department head.

**HIST 3321. Europe in the Age of Absolutism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A study of the European state system from the end of the Thirty Years War to the outbreak of the French Revolution. The course will concentrate on the consolidation of absolute monarchies, the rise of colonial empires, enlightened despotism, and the proliferation of Enlightenment ideas in Europe. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of Department Head.

**HIST 3322. Revolutionary Europe 1789-1850. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the forces of change in modern Europe, beginning with the rise of Liberalism in the eighteenth century and culminating with the failure of the revolutionary movements of 1848-49. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or approval of department head.

**HIST 3323. Women and Gender in U.S. History. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines shifting conceptions and experiences of gender in the United States from the colonial period through the present. Topics to be covered include changing notions of masculinity and femininity; race, ethnicity, and sexual politics; the long struggle for women's rights; shifting family patterns; the media and popular culture; labor and the workplace; and the culture wars. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 3332. Latin America After Independence. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course on the history of Modern Latin America will discuss the American global hegemony, conflicts among civilizations, North and South separation, and Latin American influence in the Hispanic world. Prerequisites: 6 hours and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 3335. History of Mexico. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A survey of the political, economic, social, and cultural history of Mexico that includes pre-Columbian civilizations, especially the Maya and Aztec, the Spanish colonial era, and the national period. Prerequisites: 6 hours of HIST and HIST 3340 (this course can also be taken concurrently), or permission by department head.

**HIST 3340. Historical Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An examination of the concepts basic to all historical thinking; causation, periodization, change and continuity, the roles of social forces and individuals, and problems of interpretation, accuracy, and truth. A comparison of the social sciences and the humanities will focus on the distinctive nature of the historical discipline as it has developed since the late nineteenth century. Required of all history majors and students with teaching fields in history. Prerequisite: 12 hours of HIST or permission of department head.

**HIST 4085. History Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Individual instruction in selected fields of history. The course will stress reports and wide readings in the field selected. Prerequisites: Senior classification and HIST 3340, or approval of department head. May be taken more than once for credit.

**HIST 4086. History Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Independent reading, research and discussion. Entry into this course will be arranged with a history faculty advisor. Prerequisite: HIST 3340 or permission of department head.

**HIST 4300. World War II and the Holocaust. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of European history between the end of the First World War to the aftermath of World War II. Special attention will be devoted to the rise of Hitler in the early 1930s and the origins, process, and consequences of the Holocaust. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 4301. United States and the World. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A history of how world events influenced American history from 1789 to the present. The course will discuss American diplomatic and social reactions to major world occurrences. Emphasis will be on the twentieth century, particularly on the two world wars and the Cold War era. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 4303. History of the American Borderlands. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This class examines the history of the North American borderlands from the sixteenth century to the present. It takes a comparative approach, examining the history of the US-Mexico and US-Canada borderlands in relation to one another. We will address several key themes, including the establishment of formal legal regimes in the borderlands; changing notions of citizenship; immigration policies and experiences; intercultural and interracial communities and tensions; the rise of border cities as sites of tourism and 'sin'; Texas as a border state; crime and smuggling along the borderline; representations of the border in media and popular culture; and the political and economic relationships between the United States, Mexico, and Canada. Prerequisites: HIST 1301, HIST 1302, and HIST 3340.

**HIST 4305. Ideas in Action: American Social Thought from the Progressive Era to the Present. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This reading and writing intensive seminar offers students the opportunity to encounter the ideas that have been cornerstones of intellectual debate in the United States since the late 19th century. From the Pragmatists (and the progressive era) to the neoconservatives of the more recent past, ideas have been embedded within the more available world of policy, politics and major historical developments. Participants in this course will survey a wide array of intellectual debates that have been essential components of American history. HIST 4301 is recommended. Prerequisites: HIST 1301, 1302, and 3340.

**HIST 4307. History Careers Outside the Classroom. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examination of the choices available for historians who seek careers outside of classroom teaching, including museums, historic preservation, cultural resource management, archival administration, parks, oral history, corporate history, and editing and publishing. Will not count as a history course for purposes of teacher certification. Prerequisites: 6 hours of HIST and HIST 3340 (this course can also be taken concurrently), or with permission of department head.

**HIST 4310. Recent United States History, 1929-Present. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will cover the period of American history that stretches from 1929 to the present. Discussions of the diplomatic and the domestic realms will be intertwined, illustrating how each component influenced the other. On the diplomatic side, emphasis will be placed on the rise of the United States to world power status and how the country responded to the responsibilities that accompanied that position. Domestically the course will focus on the nation finishing its transformation from a rural society to an urban one. Emphasis will be placed on the role of and attitudes toward the federal government. Considerable attention will also be directed toward the nation's continued struggle to deal with its diversity. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or approval of department head.

**HIST 4311. Research in American Political History since 1929. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This writing intensive seminar offers students the opportunity to encounter vital American political history developments since 1929. All students will carry out extensive reading and research in primary and secondary resources. Those sources will have direct relevance to the research project the student pursues. Topics for the semester's research will vary based upon instructor prerogatives. Completion of HIST 4310 is recommended. Prerequisites: HIST 1301 and 1302; HIST 3340 or permission by the instructor or department head.

**HIST 4312. Social History of the United States Before 1865. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

The social, cultural, and economic development of the United States from colonial times to the end of the Civil War. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or approval of department head.

**HIST 4313. Social History of the United States Since 1865. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The social, cultural, and economic development of the United States since the Civil War. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or approval of department head.

**HIST 4314. History of the Trans-Mississippi West. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

History of the Great West from the Lewis and Clark expedition to the 20th century. Emphasis on the West as a distinctive region in national politics, state building in the 19th century, and the development of agriculture, transportation, and commerce. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 4315. Slavery and the American South. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

From English pirates in the 1610s to King Cotton in the 1830s to the Civil War in the 1860s, this course will explore the nuances of Southern culture, politics, and economics, as well as the evolution and patterns of American slavery. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 4320. Europe 1850-1919. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An analytical survey of important developments in the political, social, economic, and cultural history of Europe between the revolutionary movements of 1848 and the first World War. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 4324. National Histories. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Each time this course is offered, it will examine the history of a particular state. May be repeated for credit when topics vary. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or approval of department head.

**HIST 4325. European Intellectual and Cultural History. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of some of the fundamental ideas in the European intellectual tradition from the Renaissance to the contemporary age. The course focuses on the ideas and ideologies that have shaped modern European mentalities through an analysis of primary texts. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 4331. World Since 1919. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Major trends in world history following World War I, including the impact of the Great Depression, the rise of fascism, World War II and its impact, the Cold War, decolonization, and the rise and fall of the Soviet Union. Events of the latter 20th century receive special emphasis. Prerequisites: 6 hours HIST and HIST 3340 (this course can also be taken concurrently), or permission of department head.

**HIST 4341. History of Sexuality in the United States. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A broad survey of topics surrounding the study of sexuality in American history. The course focuses on the changing meanings and practices of sexuality in the United States, from the colonial period to the present, but with a specific focus on American History after 1880. Prerequisites: 6 hours of HIST and HIST 3340 (this course can be taken concurrently), or permission of the department head.

**HIST 4350. Special Topics in History. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of important periods, regions, and themes in history. May be repeated when the topic varies. Prerequisites: 6 hours of HIST and HIST 3340 (this course can also be taken concurrently), or permission by department head.

**HIST 4384. Practicum, Field Problem or Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised professional activities in workplaces where historians find professional careers including museums, historic preservation, cultural resource management, archival administration, teaching, parks, oral history, corporate history, and editing and publishing. Will count as an elective but not for teacher certification or completion of the history major. Prerequisites: 6 hours of HIST, HIST 3340, and HIST 4307. May be repeated once for credit.

**HIST 4390. History Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course requires students to synthesize knowledge and apply concepts and skills acquired in previous history courses. Students will identify a research question, consult relevant primary and secondary sources, analyze those sources, formulate an interpretation, and write a paper to communicate their conclusions. The topic of the Capstone will change every semester and will be determined by the instructor. Preferably, students will take this course in the last semester of their senior year. Prerequisites: HIST 3340 and senior status.

**HIST 5086. History Problems. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Conference course. Independent reading, research, discussion, under supervision of senior professor.

**HIST 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thesis. No credit until the thesis is completed. Prerequisites: 24 hours graduate credit, including HIST 5398 and at least one research seminar, and consent of major professor.

**HIST 5307. Public History Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of public history careers available for master's level history graduates in areas outside of classroom teaching. This is a gateway course for all public history courses.

**HIST 5308. Museum Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the theory and practice of the multiple careers available to historians in museums, including curating, collections care, educational programming, exhibits, media relations, financial development, and construction and management of facilities. Course fee \$50.

**HIST 5309. Historic Preservation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of historic preservation as an area of professional employment for historians. Course fee \$50.

**HIST 5310. Archival Principles and Practices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the principles and practices of archival management. Course fee \$50.

**HIST 5320. State and Local history. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected problems. Readings and research in Texas history. May be repeated when topics vary.

**HIST 5331. Directed Reading in American History Since 1877. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Readings and discussions of selected problems. May be repeated for credit when topics vary.

**HIST 5332. Selected Topics in American History. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Research and writing of papers on selected topics. May be repeated for credit when topics vary.

**HIST 5340. Directed Readings in European History. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Readings and discussions of selected topics in early modern and modern European history. May be repeated for credit when topics vary.

**HIST 5342. Selected Topics in European History. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Research and writing of papers on selected topics. May be repeated for credit when topics vary.

**HIST 5343. Directed Readings in World History. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Readings and discussion of selected topics in the history of regions and countries outside of Europe and the United States. May be repeated for credit when topics vary.

**HIST 5398. Historiography and Historical Method. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of various "schools" of history with particular emphasis on recent trends and techniques in historical writing. Prerequisite: Full admission to the graduate program or permission of instructor.

**HIST 5399. Practicum, Field Problem or Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised professional activities in workplaces where historians find professional careers including museums, historic preservation, cultural resource management, archival administration, teaching, parks, oral history, corporate history, and editing and publishing. Will count as an elective but not for teacher certification or completion of the history major. May be repeated once for credit. Requires approval of instructor and department head. Field experience fee \$50.

# Histology Technician

## Courses

**HLAB 100. Research Histotechnology Wrksh. 2 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).**

**HLAB 2182. Introduction to Medical Laboratory Sciences. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

An introductory course in medical laboratory science. Universal lab safety practices, computer applications for science and medicine, basic lab mathematics, quality control and basic laboratory equipment including microscopy, centrifugation, analytical weighing and other laboratory equipment common to all medical laboratories. This course must be taken during the first semester of enrollment in the HT/MLT certification programs. Lab Fee: \$2.

**HLAB 2285. Capstone Cases and Review. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Major theoretical and practical applications in histotechnology including preparation of staining portfolio, mock registry exam (program final) and attendance at pathologist case presentations. This course must be taken during the final semester of enrollment in the HT program. Lab Fee \$2.

**HLAB 2335. Histotechnology III. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

Histotechniques: Special Staining; Theory and practice of histochemical staining techniques, including microorganism, tissue pigments, minerals, and neural tissue staining. Includes specialized techniques such as electron microscopy, immunohistochemistry, and muscle enzyme histochemistry. Lab Fee \$2.

**HLAB 2364. Immunohistochemistry and Molecular Techniques. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course covers the preparation and evaluation of immunohistochemistry (IHC) stains. Procedures and terminology related to IHC are also discussed and strategies for troubleshooting problems are presented. Molecular techniques such as ISH and genetic profiling are also introduced. Lab fee: \$2.

**HLAB 2414. Introduction to Histotechnology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Introduction to the healthcare environment and histology laboratory with emphasis on safety; infection control; mathematics; communication; medical terminology and ethical, legal and professional issues. Lab Fee \$2.

**HLAB 2415. Histotechnology I. 4 Credit Hours (Lecture: 2 Hours, Lab: 6 Hours).**

Histotechniques: Tissue Processing; Introduction to basic theories and practices of histotechnology including laboratory safety, fixation, tissue processing, embedding, microtomy, routine staining and operation and maintenance of lab equipment. Lab Fee \$2.

**HLAB 2425. Histotechnology II. 4 Credit Hours (Lecture: 2 Hours, Lab: 6 Hours).**

Histotechniques: Theory and practice of histochemical staining techniques. Topics include reagent preparation, basic tissue dye bonding, differentiation, quality control, nuclear, connective tissue and carbohydrate staining techniques. Lab Fee \$2.

**HLAB 2460. Functional Histology. 4 Credit Hours (Lecture: 4 Hours, Lab: 4 Hours).**

Emphasizes the recognition, composition, and function of cells, cellular organelles, cell life cycles, blood and basic tissue types. This course also emphasizes the recognition, composition and function of organ systems including skeletal, nervous, circulatory, endocrine and reproductive system tissues. Lab fee: \$2.

**HLAB 2495. Clinical Histotechnology I. 4 Credit Hours (Lecture: 0 Hours, Lab: 15 Hours).**

An introductory histology laboratory-based learning experience that enables students to observe and apply theory, skills, and concepts. Direct supervision is provided by the clinical professional. This course must be taken during the first semester of the HT program. Field Assignment Fee: \$50.

**HLAB 2496. Clinical Histotechnology II. 4 Credit Hours (Lecture: 0 Hours, Lab: 15 Hours).**

An intermediate histology laboratory-based learning experience that enables students to apply theory, skills, and concepts. Direct supervision is provided by the clinical professional. Course must be taken during the second semester of the HT program. Field Assignment Fee: \$50 Prerequisite: HLAB 2495.

**HLAB 2497. Clinical Histotechnology III. 4 Credit Hours (Lecture: 0 Hours, Lab: 15 Hours).**

An advanced histology laboratory based learning experience that enables students to apply and integrate theory, skills, and concepts and to work independently. Direct supervision is provided by the clinical professional. This course must be taken during the last semester in the HT program. Prerequisites: HLAB 2495, HLAB 2496; Field Assignment Fee: \$50.

## Honors

### Courses

**HNRS 1185. Freshman Honors Seminar. 1 Credit Hour (Lecture: 1.5 Hour, Lab: 0 Hours).**

Discussion and argumentation about a topic of broad intellectual, academic, ethical, or public significance. Topics and content vary. Prerequisites: acceptance into Presidential Honors Program or permission of the director of the Presidential Honors Program.

**HNRS 2385. Honors Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

**HNRS 3385. Honors Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This is a course which stresses a reflective and critical approach to a topic of broad intellectual, academic, ethical, or public significance. Topics and content vary. Prerequisites: acceptance into Presidential Honors Program or permission of the director of the Presidential Honors Program.

## Horticulture

### Courses

**HORT 1301. Horticulture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the horticulture industry and the career opportunities that are available. The course includes an introduction to plant classification and structure, greenhouse construction and management, orchard and vegetable crops, and plant propagation.

**HORT 2320. Sustainable Horticultural Practices. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Introduction to gardening with a focus on using sustainable methods. Crop choice by season, soil fertility and weed, insect and disease identification and management using conventional and organic practices. Basic landscape design and management. Effects of organic and non-organic practices on the garden ecosystem. Students practice growing a garden using the techniques discussed in lecture. Home landscaping, container gardens, bonsai, herbs and medicinal plants and hobby greenhouse management. In addition to receiving class credit, students will be eligible to complete 50 hours of documented garden-related community service and education on- or off-campus to become a certified Master Gardener (<https://mastergardener.tamu.edu/become/>). Students may also participate in becoming a certified Master Composter to receive bonus credit in the class.

**HORT 2470. Introduction to Turfgrass Science. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An introduction to turfgrass history, benefits, and use. Growth and development of various turfgrass species and their culture.

**HORT 3300. Plant Propagation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Principles of propagating plants, including vegetables, ornamentals, and fruits. Methods of handling seed; starting plants by the use of cuttings, layers, buds, grafts, and bulbs; ways of propagating specific plants; factors influencing growth of plants after transplanting. Prerequisites: BIOL 1406 and HORT 1301. Lab fee \$2.



**HORT 3301. Landscape Design. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Planting design and use of plants in the landscape. Use of drafting instruments, preparation of plans, perspective drawings, and cost estimates. Prerequisite: Prior completion of or concurrent enrollment in HORT 3390.

**HORT 3309. Aquaponics. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Students will examine the pros and cons of various aquaponics methods like raft, nutrient film, vertical towers, and media filled beds and their applications for growing fish and plants sustainably for a family/community or for profit. Students will construct a backyard aquaponics system, establish/harvest plants, and prepare a meal in laboratory. Topics covered are plant and fish choices and recommendations; planting/growing techniques; fish biology, stocking rates, and feeds; plant/fish care and health; water quality; system design, filtration and plumbing components; daily operation; greenhouse management/seasonal adjustments; system start up; food preparation; economics and business considerations.

**HORT 3320. Landscaping and Gardening Practices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles of landscape, interior, and floral design. Plant identification, environmental requirements, and culture. Prerequisite: HORT 1301 or equivalent. Lab fee: \$2.

**HORT 3333. Mushroom Cultivation and Utilization. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Culture techniques, environmental requirements, species selection, and production systems. Current state of mushroom production, innovations, and new opportunities in the field. Intended for majors and non-majors.

**HORT 3370. Floriculture. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Principles and basic techniques in floral design and merchandising, introduction to the floral branch of the horticulture industry and floral production.

**HORT 3390. Horticultural Plants. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Identification, classification, and characteristics of horticultural plants. Includes the study of trees, shrubs, aroids, cacti, bromeliads, ferns, begonias, and orchids. Prerequisite: HORT 1301 or equivalent or approval of department head. Lab fee \$2.

**HORT 3415. Weed Management. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

General principles in the development of weed management programs. Common weed ecology and life cycles, land management factors, herbicide selection and performance, and cultural control strategies are presented. Laboratory includes weed identification and herbicide application methods. Prerequisites: AGRI 1307 and AGRI 1107; or WSES 1305; or HORT 1301.

**HORT 4086. Horticultural Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Individualized study of current topics in student's major concentration of study or supporting discipline. Specific content and credit dependent upon student's interest, needs, and depth of study.

**HORT 4088. Undergraduate Research in Horticulture. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Fundamental research methods will be addressed through a faculty-directed project. Participation in an abbreviated lecture series may be required. Project components may include a literature review, data collection and analysis, testing, planning, project design, and/or computer modeling. Student may be required to prepare a final report and produce a presentation.

**HORT 4090. Special Topics. 6 Credit Hours (Lecture: 6 Hours, Lab: 6 Hours).**

Selected topics in horticulture. May be repeated for credit when topics vary.

**HORT 4301. Greenhouse and Nursery Management. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

A study of the variables affecting greenhouse and nursery crop production. Both economic and physical variables will be explored. Particular emphasis will be placed on management techniques used by commercial establishments in producing and marketing ornamental nursery and greenhouse plants. Prerequisites: HORT 1301 and 3300. Lab fee \$2.

**HORT 4320. Landscaping with Native Plants. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Identification, characterization, and utilization of herbaceous and woody plants indigenous to Texas and other areas useful for landscaping purposes. Principles and procedures of xeriscaping will be emphasized. Field trips will be required. Prerequisite: HORT 1301.

**HORT 4323. Vegetable Production. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Vegetable production techniques including site selection, nutritional requirements, insects, diseases and varieties. Emphasizing small scale gardening techniques, crop rotation, and layout and design parameters to maximize production on small land areas. Seasonal variations (spring, summer, fall and winter) that influence crop selection and management. Prerequisite: HORT 1301.

**HORT 4330. Horticultural Enterprises. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Horticultural business and educational enterprises will be visited or explored. Students are required to complete a business portfolio which will include photographs and written documents. Prerequisite: Jr or Sr classification. Lab fee: \$2.

**HORT 4470. Turfgrass Management and Irrigation. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Characteristics and management of turfgrasses used for home lawns, recreational areas and sports fields. Turfgrass irrigation system design. Prerequisites: HORT 2470; or AGRI 1307 and AGRI 1107.

**HORT 5086. Horticulture Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Advanced independent study and research on horticultural topics. Credit hours dependent upon depth of study and type of report submitted to supervising professor. Prerequisite: Approval of instructor of record.

**HORT 5390. Special Topics. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Selected topics in horticultural sciences. May include field trips, independent study, research, community service projects, or other activities beyond the classroom. Prior academic training or experience requirements vary with topics offered. May be repeated once for credit as topics vary. Prerequisite: Consent of instructor or department head.

## Health Professions Technology

### Courses

**HPTC 3320. Biotechnology and Bioethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will cover the recent advances in biology which have made new techniques and technologies possible for the production of pharmaceuticals, foods, textiles, pesticides and chemicals. Ethical principles in biotechnology and biomedicine are studied and applied to contemporary problems in medicine and biomedical research. Additional topics include stem cell research; genetic testing; organ transplantation; and research involving human subjects.

**HPTC 3350. Microbiology for Allied Health Professionals. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will focus on an introduction to modern medical microbiology that is clinically relevant for the allied health professional. General concepts of bacterial, viral, parasitic and fungal infection will be addressed, followed by a survey of the major human pathogens in each of these categories. Conclusion of the course will include microbiology issues that are applicable to clinical infection control protocols.

**HPTC 4304. Health Care Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Comprehensive survey of management principles and practices in the health care setting, with particular attention to the allied health arena. Management strategies, strategic planning and implementation, budgetary preparation, personnel resource management and compliance with governmental and professional accreditation regulations are addressed with integration of health care ethics.

**HPTC 4305. Issues and Trends in Health Care. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course is designed to explore and discuss concepts and issues that are pertinent to allied health care professionals including legal and regulatory issues, health service reform and cost containment, workforce development, and quality assurance practices.

**HPTC 4349. Pharmacology for the Allied Health Professionals. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will focus on a survey of the more important drugs used in medicine, including basic principles, clinical uses and possible adverse effects. Students will be introduced to important issues affecting drug approval, legislation, manufacturing, formulation and delivery, metabolism and measurement.

**HPTC 4350. Pathophysiology for the Health Professionals. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will focus on presentation of interrelationships between normal body functioning and the physiologic changes that participate in disease production, and occur as a result of disease. Emphasis on major disorders and other selected disorders provides a concise, easy-to-understand introduction to the fundamentals.

## Human Resource Management

### Courses

**HRMT 5086. Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

This course offers students the opportunity to study human resource management topics and perform research within the student's area of interest as directed by the responsible professor. Prerequisite: approval of the department head.

**HRMT 5090. Select Topics in Human Resource Management. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

An examination of current topics in human resource management. Readings required from current HRM publications and other related periodicals. May be repeated for credit when topics vary.

**HRMT 5301. Law and Regulation in Human Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines legal issues and regulatory processes related to employment relationships, equal employment opportunity and affirmative action, privacy, employment testing and staffing, copyrights and patents, compensation and benefits, employee/labor relations, and occupational health and safety.

**HRMT 5302. Human Resource Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Presents the fundamental principles and techniques of personnel management and examines the management of human resources from the point of view of the personnel officer, the operational manager and the employee. Examines the responsibilities of organizational leadership for incorporating human resource issues in strategic planning and initiatives. Emphasis is placed on current legal considerations, issues and research. Credit for both MGMT 5302 and HRMT 5302 will not be awarded.

**HRMT 5303. Training & Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on elements of employee training and development within organizations and the management of the human resource development process. Examines management issues, identifying and responding to training needs, cost/benefit analysis, four-phase training evaluation, and the selection and development of training staff. Overall Course Objective As a result of this course, students will be able to successfully plan, design, and develop a business training program that effectively addresses a business problem.

**HRMT 5310. The Adult Learning Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines learning patterns, interests and participation among adults, with implications for training and development programs. Particular attention is given to the joint responsibility for learning between trainer and adult participants.

**HRMT 5314. Workforce Planning & Talent Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on the legal, ethical and organizational considerations related to recruitment, assessment, selection, placement and appraisal of employees and managers within various types of organizations including aspects of the role of the EEOC, INS, DOL and other enforcement agencies in this critical human resource function. Career development and record-keeping will also be addressed as will utilization of human resources within organizations including the use of pre and post-employment tests and other techniques in human resource management. Prerequisite: Admission to the COBA Graduate Program.

**HRMT 5315. Employee Benefits and Services. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines legal, social and technical issues and research surrounding current trends in employee benefit programs. Group health, disability and life insurance, retirement planning, time-off (leave) and wellness programs are addressed. Emphasis is placed on program administration, implementation and evaluation. Prerequisite: HRMT 5301 or approval of the instructor.

**HRMT 5316. Compensation Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analyzes the theories, concepts, operational practices and research related to managing comprehensive compensation programs. Various types of compensation plans, including job evaluation levels and wage structures are investigated. Emphasis is placed on the development of sound compensation programs which consider current trends, legal implications and social requirements. Quantitative applications are required to analyze various case studies and problems.

**HRMT 5324. Employee & Labor Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Exploration of the labor union movement and the process of collective bargaining, the formation of a union, labor agreement negotiation, labor agreement administration, grievance processes, and arbitration and mediation. Labor law and legal issues in labor relations are explored extensively to include the National Labor Relations Act and the functions of the NLRB. Negotiation skills are developed via mock labor contract negotiations. Prerequisite: Admission to the COBA Graduate Program.

**HRMT 5354. International Human Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Coverage of the special Human Resource issues corporations face when doing business internationally. Topics include the impact of culture, managing expatriates, global labor markets, recruiting globally, managing diverse teams, global employee benefits, repatriation, global security and terrorism. Credit for both HRMT 5354 and HRMT 5389 will not be awarded. Prerequisite: Admission to the College of Business Administration Graduate Program.

**HRMT 5355. Internship in Human Resource Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Provides work experience in the human resource field under the supervision of a faculty-approved management sponsor. Emphasis is placed on the application of human resource management skills to real world, practical problems and situations. A minimum of 20 work hours per week is expected, with a total of 200-300 on-the-job hours required during the semester. Prerequisite: Completion of 12 graduate semester hours in Human Resource Management, preregistration coordination and approval of the course instructor. Field experiences fee \$50.

**HRMT 5380. Strategic Human Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Coverage of the special Human Resource issues related to strategy formulation, competitive advantage, and the linkage between HR strategy and the mission, vision, and goals of corporations that lead to organizational effectiveness. An integrated view of the HR disciplines addressed in the MS HRM core curriculum and the interplay among the various disciplines. Course should be taken in the last semester of the student's program. Prerequisites: Admission to the College of Business Administration Graduate Program and approval of instructor. Co-requisites: The remaining MS HRM core courses.

**HRMT 5388. Thesis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thesis. No credit until the thesis is completed. Prerequisite: Approved research methodology course and approval of instructor of record.

**HRMT 5389. Global Human Resource Management Practices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of basic international business concepts, cultural literacy, and discipline specific content are applied to practical experiences and activities in the foreign country visited. Graduate students will be required to complete an extensive research project in addition to other course requirements. A study abroad at the student's expense is required. Credit for both HRMT 5354 and HRMT 5389 will not be awarded. Prerequisites: Admission into a COBA graduate program and permission of the instructor.

**HRMT 5391. Human Resource Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected topics of current importance to human resource management. May be repeated for credit when topics vary.

## History, Sociology, and Geography

### Courses

**HSGG 1100. Transitioning to University Studies in History, Sociology, and Geography. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of cultural awareness perspectives and opportunities to explore diversity. The course will also introduce students to the History, Sociology, and Geography department.

## Health Sciences and Human Services

### Courses

**HSHS 1100. Transitioning to University Studies in Health Sciences & Human Services. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual discipline perspective. These skill sets are presented in the context of health sciences and human services disciplines.

## Humanities

### Courses

**HUMA 1315. Fine Arts Appreciation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey course emphasizing the relationships of art, music, and theatre in the history of Western civilization. Designed especially for entry-level majors in these fields, but may be taken by any student. Requirements may include listening assignments and field trips to galleries and concerts.

## Industrial Distribution

### Courses

**IDIS 2302. Fluid Power. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The study of the theory and application of pneumatic and hydraulic systems in industrial manufacturing processes. Specific topics include interpreting and drawing fluid circuits based on a standard symbol set; theory, namely the energy equation; components and component sizing; pros and cons of hydraulics and pneumatics, and in comparison to electrical systems; how such systems may be controlled at the subsystem level; and how such systems may be integrated into a larger or overall manufacturing process. Lab fee: \$2.

**IDIS 2304. Mechanical Power. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Covers principles of power transmission and motion control. The course includes current design innovations in components, systems, and manufacturing along with industry news and events. Lab fee: \$2.

**IDIS 2305. Engineering Drawings and Documentation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students learn to interpret paper and electronic engineering drawings and datasets. Drawings and solid models are analyzed via computer aided design system(s). Students inspect parts to specified tolerances. Product data management systems, specifications and standards, and production planning documents are explored. Students learn to compile bid packages.

**IDIS 2306. Basic Electronics. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An introduction to basic electronics with an overview of computer components, digital systems using counters, registers, code converters, multiplexers, analog-to-digital-to-analog circuits, and large-scale integrated circuits. Lab fee: \$2.

**IDIS 3300. Basic Electricity. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Principles of electricity, magnetism, and basic laws. Fundamentals of analog and digital electronic components and circuits, including applied areas. Laboratory involves experiments with basic circuits and test equipment. Lab fee: \$2.

**IDIS 3302. Introduction to Industrial Distribution. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

As an introductory course to industrial distribution, this 2 credit hour course provides definitions and a history of industrial distribution, the types and range of products, lines of distribution, the function of manufacturers, distributors, and operations managers along with measures of effectiveness, and opportunities for employment and advancement.

**IDIS 3330. Technical Sales. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Sales and sales management techniques for analyzing distribution challenges and providing solutions through effective communication; establishing credibility, effective questioning techniques, developing solutions, presenting solutions, anticipating objections and gaining a commitment, plus techniques for building, developing and compensating an effective sales organization.

**IDIS 3343. Logistics, Transportation, and Distribution. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course logistics network design, capacity planning and demand management, inventory and warehouse management, transportation systems, global logistics considerations, reverse logistics and sustainability. Upon completion of the course students will be prepared to pass the APICS CLTD exam.

**IDIS 3344. Supply Chain Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Four credit course. A study of purchasing fundamentals performed by personnel who have the responsibility for procurement of materials, equipment, and/or services in a wholesale distribution environment. Upon completion of this course, students will be prepared to pass the APICS CPIM Part 1 and 2 exams.

**IDIS 4334. Quality for Industrial Distribution. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to decision making for industrial distribution using quantitative methods. The emphasis will be on identifying opportunities for process/product improvement in manufacturing using statistical applications. Besides exploratory data analysis, basic probability, distribution theory and statistical inference will be covered. Special topics will include experimental design, regression, control charts and acceptance sampling. Prerequisite: MATH 1342 or BUSI 2311.

**IDIS 4350. Strategic Planning and Data Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an overview of strategic planning and data analysis techniques and applies tools learned to industrial distribution scenarios. Prerequisites: BUSI 2311 or MATH 1342 and IDIS 4334.

## Kinesiology

### Courses

**KINE 1100. Transitioning to University Studies in Kinesiology. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective.

**KINE 1210. Archery. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

An introductory study of target archery. This course will include history, skills of shooting, equipment, and safety.

**KINE 1218. Golf. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to provide instruction in the basic skills of golf; putting, chipping, pitching, and full swing. An additional fee is required for facility rental and equipment use. Students must provide their own transportation to Legends Golf Course & Driving Range.

**KINE 1220. Fitness Walking. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to reduce sedentary lifestyles and enhance overall health & fitness by increasing cardiovascular endurance, muscular strength & endurance, and improve body composition.

**KINE 1221. Cardio Fitness. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to enhance overall health & fitness by increasing cardiovascular endurance, muscular strength & endurance, and improve body composition. Students are encouraged to refrain from a sedentary lifestyle. Activities include walking, indoor cycling, indoor rowing, and other aerobic activities.

**KINE 1222. Racquet Sports. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course provides students with an opportunity to experience and learn a wide variety of racquet sports such as: racquetball, badminton, pickleball, speedminton, and others. The course is designed to teach the basic rules, regulations and skills of each racquet sport.

**KINE 1223. Swimming. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

Basic and advanced swimming technique, water safety procedures, and the development of health-related fitness.

**KINE 1224. Scuba Diving. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course teaches the PADI Open Water Diver scuba curriculum through a combination of classroom and water instruction. Students pay a fee directly to a PADI certified instructor for scuba equipment rental, air fills, text book, and ancillary materials. Students provide their own headgear and footwear. Basic swimming skills are required. Upon successful completion of this course, students have up to one year to achieve certification by independently completing their final lake dives through a certified PADI instructor.

**KINE 1225. Advanced Scuba Diving. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course teaches the PADI Advanced Open Water Diver scuba curriculum through a combination of classroom and water instruction. Students pay a fee directly to a PADI certified instructor for scuba equipment rental, air fills, text book, and ancillary materials. Students provide their own headgear and footwear. Basic swimming skills are required. Prerequisite: PADI Open Water Diver certification or equivalent from an accredited scuba training organization.

**KINE 1226. Lifeguarding. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to meet American Red Cross (ARC) requirements related to lifeguarding and basic water safety skills. Upon successful completion of the course, the student will be awarded the American Red Cross Lifeguard Training certificate and CPR/AED/First Aid certification for Lifeguards. An additional fee is required to cover ARC textbook, ARC ancillary materials, and ARC certification cards. Basic swim skills are required. Prerequisite: Must be 15+ years of age, able to swim 500 yards, able to retrieve an object from under 10 feet of water, and able to tread water for 2 minutes without the use of the hands.

**KINE 1230. Powerlifting. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to provide a competitive weight lifting program for both novice and advanced lifters. Instruction will focus on exercise techniques, training principles, programming, and practical strength training application. The course will concentrate on improving the individual's 1-rep max in Squat, Deadlift and Bench Press by using different methods of resistance exercises. An optional fee is necessary for students who want to travel to competitive powerlifting events; the optional fee will be used to cover entry fees and travel to/from event.

**KINE 1231. Strength Bootcamp. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to promote the overall health & wellness benefits of strength training by incorporating High Intensity Interval Training (HIIT) in a motivating bootcamp setting. Traditional calisthenics, body weight exercises, speed work, agility drills, power development, reaction time, and balance workout will be designed to address and improved: cardiovascular endurance, muscular strength and endurance, flexibility and body composition.

**KINE 1232. Weight Training. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to teach the beginning weight training student the various types and benefits of strength training.

**KINE 1233. Aerobic Dance. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is design to explore dance as an aerobic exercise option as well as develop an appreciation for wellness by participating in various styles of dance.

**KINE 1235. Aquatic Fitness. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed for students to engage in basic water resistance exercises, shallow water plyometrics, stretching and strength exercises, and deep water muscular endurance exercises. This is an excellent opportunity to engage in a low-impact alternative to land-based fitness activities. No previous experience or aquatic expertise is required for this class.

**KINE 1236. Dance Techniques & Fundamentals. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to provide a basic foundation of dance with an emphasis on the fundamentals of dance. The class will consist of beginner ballet, jazz, hip hop, and modern dance techniques. The artistry and physicality of dance will be emphasized.

**KINE 1237. Innovative Dance. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

Intermediate level course that continues the exploration of ballet, jazz, hip hop, and modern dance techniques. Pom techniques will also be introduced. NOTE: Basic foundation of dance techniques & fundamentals or successful completion of KINE 1236 (Dance Techniques & Fundamentals) is encouraged. Prerequisite: This course is highly recommended for students interested in auditioning to become a member of the Texan Stars dance team or for current members of the Texan Stars dance team.

**KINE 1240. Dance Performance. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed for individuals who are members of the Texan Stars Dance team or Tarleton Cheer teams. It shall serve as a support group for school events/activities and promote school loyalty and spirit. NOTE: This course is intended for students currently participating on the Texan Stars or Texan Cheer teams at Tarleton State University. Prerequisite: Student must submit application, meet fitness and performance standards, and participate in a formal try-out. Please contact the Director of the Texan Stars or the Director of Texan Cheer for more information.

**KINE 1241. Global Sports I - Rugby, Soccer, Sand Volleyball. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed provide a diverse offering of games and sports that are played on an international level. The games and sports taught within this course will include, but are not limited to: Rugby, Soccer, and Sand Volleyball.

**KINE 1242. Global Sports II - Lacrosse, Cricket, Team Handball. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed provide a diverse offering of games and sports that are played on an international level. The games and sports taught within this course will include, but are not limited to: Lacrosse, Cricket, Team Handball.

**KINE 1243. Disc Golf. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course introduces the fundamentals of disc golf. Emphasis is placed on basic throwing techniques, putting, distance driving, scoring, and single and doubles play. Tournament and match play formats will also be introduced. NOTE: Basic equipment will be provided; however, students will be required to purchase specialty discs and carrying bag. Students must provide their own transportation to the Stephenville City Park.

**KINE 1244. Rock Climbing. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course introduces students to top-rope rock climbing and bouldering techniques in both an indoor and outdoor environment. Topics include equipment, knots, belaying, rappelling, anchor systems, and a range of climbing techniques. Risk assessment and safety techniques are thoroughly addressed throughout the course. NOTE: An additional fee is required for facility rental and equipment use. A day trip (1 day) to Mineral Wells State Park will be required; students must provide their own transportation to the park and pay their entry fee.

**KINE 1245. 5K / 10K Training. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

The course is designed for students who are interested in inspirational exercise, goal setting, and personal improvement through social & competitive walking and/or running. The course will begin with low intensity, short distance training before progressing into a more aggressive training scheme. The course will cover proper walking & running mechanics, types of training (5K, 10K, Trail Runs), weather conditions, and the benefits of cardiovascular training. NOTE: Students will be required to register and complete two events (5K, 10K, Color Run, Mud Run, Spartan Run, etc.). The entry fee for each event and transportation to/from the events will be the responsibility of the student.

**KINE 1246. Hunting and Fishing. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed for outdoor enthusiasts. Students will learn fundamental firearm safety, fishing rules and regulations, hunting rules and regulations, environmental recognition (aquatic life, wild-game species and gender identification), license and permit procedures, general outdoors law, seasonal guidelines and conservation methods. The 'Texas Parks and Wildlife Outdoor Annual Hunting and Fishing Regulations' will serve as the foundation for this course. FISHING: Basic fishing gear will be provided; however, students may bring their own fishing gear. Three day trips to area lakes will be required; students must provide their own transportation to the lakes. Students must purchase a Texas fishing license. HUNTING: An additional fee is required to cover ammunition and targets. Students must provide their own transportation to the shooting range. Two day trips to area game ranches will be required; students must provide their own transportation to the ranches. Students must purchase and pass a Hunter Safety course.

**KINE 1247. Trap and Skeet Shooting. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to introduce students to trap and skeet shooting as well as discuss proper firearm and ammunition selection. Firearm safety and range etiquette will be strongly emphasized. An additional fee is required to cover ammunition and targets. Students must provide their own firearm plus ear and eye protection. Students must provide their own transportation to the shooting range.

**KINE 1248. Yoga I. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course explores the asanas (poses) and vinyasa (flow) of yoga intended to target physical postures, breathing, relaxation, and mental concentration.

**KINE 1249. Yoga II. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

Intermediate level course that continues the exploration of mind and body through asana (poses). This course introduces more detailed aspects of the discipline of yoga. Topics include breathing and physical postures, relaxation, and mental concentration. The goal is to improve yoga practice and to develop an overall deeper understanding of yoga methodology through advanced postures, breathing techniques and relaxation practices. NOTE: Previous yoga experience or successful completion of Yoga I (KINE 1248) is encouraged. Prerequisite: Previous yoga experience or successful completion of Yoga I (KINE 1248) is encouraged.

**KINE 1250. Varsity Athletics. 2 Credit Hours (Lecture: 1 Hour, Lab: 2 Hours).**

This course is designed to introduce the student to competitive intercollegiate athletics. The student will be prepared both mentally and physically to participate and to take part in intercollegiate athletic competitions. NOTE: This course is intended for student-athletes currently participating on a NCAA athletic team at Tarleton State University.

**KINE 1301. Foundations of Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introductory course in the field of Kinesiology. Included will be the history of physical education and sport, career opportunities in Kinesiology, and objectives and principles of Kinesiology.

**KINE 1306. First Aid and CPR. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An examination and application of first aid, CPR, and emergency procedures given to victims of accident and illness.

**KINE 1308. Sports Officiating. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A course designed to teach the rules and mechanics of sports officiating in football, basketball, volleyball, and baseball/softball. Students will be required to assist in a variety of officiating activities outside the formal classroom.

**KINE 1338. Concepts of Physical Fitness. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study of the principles and techniques needed to promote human health and hygiene. Topics will include but not be limited to: fitness assessment and skills, personal awareness and management techniques, self-motivation, proper nutrition, responsibility, and health choices as related to wellness. Health-related physical fitness labs for testing skills and strategies will be conducted. Lab fee: \$2.

**KINE 2310. Fundamentals of Sport Pedagogy. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Overview of the physical education profession, including: philosophy, professional standards, program outcomes, appropriate practices, and factors impacting the learning environment. Field-based experience applying course content is a course requirement.

**KINE 2315. History and Philosophy of Sport, Recreation, and Exercise. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine the history and philosophy of physical activity, most notably in relation to the United States. Included areas of study are the exercise sciences, as well as physical education, recreation, and organized sport.

**KINE 2319. Medical Terminology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Medical Terminology introduces the language of science and healthcare. Students acquire knowledge and vocabulary by learning prefixes, suffixes, stem and root words, and compound medical terms for appropriate and accurate communication. Other areas include anatomy, physiology, pathology, equipment, diagnosis, and treatment.

**KINE 2320. Anatomical Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Investigation and analysis of human motion in relationship to structure and function according to general mechanical laws and other factors. Prerequisite: BIOL 2401.

**KINE 2330. Individual and Dual Sport Skills. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed to provide quality instruction in individual and dual sports skills and activities. It consists of basic knowledge of rules and strategies, planning and implementing quality instruction, and skills testing in selected lifetime sports. Prerequisite: KINE 1301.

**KINE 2340. Team Sport Skills. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed to provide quality instruction in team sport skills and activities. It consists of basic knowledge of rules and strategies, planning and implementing quality instruction, and skills testing in selected team sports. Prerequisite: KINE 1301.

**KINE 2356. Prevention and Care of Athletic Injuries. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The study and application of skills in the prevention and care of injuries affecting the athlete and physically active. Prerequisite: BIOL 2401 Lab fee: \$2.

**KINE 2360. Principles of Athletic Coaching. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The course is designed to present foundational knowledge essential for coaching any level athlete in any sport. Emphasis is on a comprehensive approach to the foundations and theories of coaching including development of a coaching philosophy, determining coaching objectives, coaching for character, coaching diverse athletes, motivational techniques, as well as, principles of teaching, physical training, and management.

**KINE 2380. Essentials of Personal Training. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed to prepare and qualify students to work as personal trainers. The course bridges the gap between exercise science-related course work and the practical application skills in preparation for a national certification exam in personal training. Topics include guidelines for instructing safe, effective, and purposeful exercise, essentials of the client-trainer relationship, conducting health and fitness assessments, and designing and implementing appropriate exercise programming. An additional fee is required to cover the costs of the national certification exam, textbooks, and ancillary material. BIOL 2401 recommended.

**KINE 2390. Fundamentals of Group Exercise Training. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course is designed to give students the knowledge and understanding necessary to prepare for the ACE Group Fitness Instructor Certification Exam and become effective group fitness instructors. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material.

**KINE 3304. Orthopedic Assessment. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The study and application of principles and techniques for assessment of injuries including signs and symptoms, classification of injuries, and emergency and clinical assessment. Prerequisite: KINE 2356 and BIOL 2401 Lab fee: \$2.

**KINE 3310. Tests and Measurements. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Use and function of tests in Exercise and Sport Studies. Test construction and interpretation will be studied. Statistical techniques will be reviewed. Prerequisites: 12 hours of Kinesiology course work and junior classification. Lab fee: \$2.

**KINE 3314. Therapeutic Exercise and Rehabilitation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The study and application of therapeutic exercise tools and techniques in the rehabilitation of injuries including restoration of flexibility and range of motion, muscular strength, endurance and power, cardiorespiratory endurance, and neuromuscular control and balance. Prerequisites: KINE 2356 and BIOL 2401.

**KINE 3320. Theory of Strength Training and Conditioning I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study and survey of contemporary strength training and conditioning. Successful completion of the course allows the student to sit for the appropriate examinations relative to being certified as a Strength and Conditioning Specialist. Conditioning Specialist. Prerequisite: BIOL 2401 Lab fee: \$2.

**KINE 3325. Theory of Sport Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the theories, concepts, and research associated with sport management including career preparation skills and professional opportunities available in the industry.

**KINE 3326. Outdoor Adventure. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Outdoor resources and adventure activities are utilized as opportunities for experiential learning. Activities can include the Tarleton Challenge Course, hiking, backpacking, camping, mountaineering, rock climbing, biking, canoeing, kayaking, orienteering, safety and first aid. Lab fee: \$2.

**KINE 3330. Motor Behavior. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A study of the behavioral characteristics for skill acquisition due to motor, physical, and neuromuscular development. Prerequisite: approval of the department head. Lab fee: \$2.

**KINE 3333. Tactical Strength and Conditioning. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Built on scientific principles and evidence-based research, the NSCA Tactical Strength and Conditioning (TSAC) Training Course is a foundational strength and conditioning program designed to provide tactical facilitators with the tools to decrease injury risk and increase longevity and effectiveness of tactical professionals. The TSAC Practitioners Course provides the principles of program design, basics of coaching exercise technique and mechanics, and how to lead a physical readiness program. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material. Prerequisite: NA.

**KINE 3345. Sport Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course is designed to give students a foundational understanding of key leadership principles and theories. Students will study concepts such as servant leadership, transformational leadership, and ethics in leadership, among many other important topics.

**KINE 3350. Corrective Exercise Training. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course will present an evidence-based approach to corrective exercise, the components of a comprehensive solution, and the practical know-how to develop and implement integrated strategies to improve common movement impairments. Students completing this course will be prepared to take NASM's Corrective Exercise Specialist credentialing examination. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material. Prerequisite: KINE 2380.

**KINE 3352. Principles of Health and Fitness for Children. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the essential knowledge and skills of health and physical education as they relate to children ages 6-14. Included will be skills related to personal health and safety, physical fitness, motor development, games and sports, gymnastics, and rhythmic activities.

**KINE 3355. Principles of Health and Physical Education In Elementary Schools. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The knowledge, skills, and dispositions for teaching developmentally appropriate health and physical education in elementary schools.

**KINE 3360. Sports Nutrition. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course covers the essentials of human nutrition that improve and sustain optimal performance for sport and exercise. The effects of eating disorders (in both male and female athletes), weight management, sport supplements, and application of nutritional concepts related to the physically active individual seeking improved athletic performance will be addressed. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material.

**KINE 3365. Principles of Health and Physical Education In Secondary Schools. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The knowledge, skills, and dispositions for teaching developmentally appropriate health and physical education in secondary schools.

**KINE 3370. Physiology of Exercise. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Effects of physical exercise on body processes. Prerequisite: BIOL 2401 Lab fee: \$2.

**KINE 3375. Legal Issues in Sport and Recreation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is designed to examine the legal issues involved in the supervision, management, and business operations of sport and recreation organizations. Students are provided with an introduction to various areas of law including: tort law, contract law, agency law, employment law, constitutional law, and product liability.

**KINE 3380. Adapted Physical Activity. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An introduction to adapted physical activity, including physical education, recreation, leisure, and sport for individuals with disabilities of all ages. Practical application with individuals with special needs is a course requirement.

**KINE 3385. Program Design for Special Populations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in depth study of the positive effects of exercise on the performance and quality of life of specific disease populations. The course teaches the student to design and modify exercise programs to fit the individual's needs. This course is taught using the ISSA Exercise Therapy curriculum. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material.

**KINE 3390. Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Investigation and analysis of human motion in relationship to structure and function according to general mechanical laws and other factors. Prerequisite: BIOL 2401.

**KINE 4085. Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

This course will focus on current topics and issues of interest in exercise and sport studies. It may be repeated for credit as topics change. Prerequisites: Junior-level standing or approval of department head.

**KINE 4086. Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Directed study of selected problems in Kinesiology. May be repeated for credit with approval of department head. Restricted to Kinesiology majors and minors.

**KINE 4302. Psychological Aspects of Sports. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course gives students a basic overview of sports psychology, covering aspects such as confidence, focus, mental training, visualization, peak performance, and the mind-body connection. It also examines the differences between group and individual sports and the mindsets of the prototypical athletes who engage in them. Prerequisite: Junior or higher classification.

**KINE 4305. Capstone in Kinesiology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Applied learning experience for Kinesiology majors. Students will complete capstone experiences within the department including professional development points, health related fitness components, interview and etiquette skills, resume and portfolio. Prerequisites: Senior classification (90 hours, counting in progress hours) REQUIRED.

**KINE 4330. Exercise Testing and Prescription. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Physiology of exercise in the treatment of the degenerative effects of sedentary lifestyles associated with chronic disease and/or disabilities. Prerequisite: KINE 3370 or KINE 4320. Lab fee: \$2.

**KINE 4335. Applications in Clinical Exercise Physiology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Advanced course in clinical exercise testing and prescription in individuals with chronic diseases of cardiovascular, pulmonary, metabolic, musculoskeletal, neuromuscular, and immunologic origin. Students will be actively engaged in testing and prescribing exercise for actual clients in a laboratory setting. Prerequisites: previous or current enrollment in KINE 4330 Lab fee: \$2.

**KINE 4340. Exercise Electrocardiography. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

A study of the rate, rhythm, and axis of the heart obtained during graded exercise testing. Prerequisite: BIOL 2401 and KINE 3370 Lab fee \$2.

**KINE 4350. Recreational and Sport Facility Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to the concepts, theories and practices related to the administration and management of athletic, physical activity, and recreational facilities. The course is designed to familiarize students with the basic concepts of facility planning, construction, facility operations, event planning, security, and finance. Areas under examination include facilities for scholastic, intercollegiate, amateur, professional, international and recreational sport.

**KINE 4355. Sport Governance. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Focused on the fundamental aspects of policy, legal and ethical issues, and administrative decision-making within any sport-related organization. Students are exposed to key industry concepts such as strategic management, ethics and event planning activities, in addition to governance and policy related topics such as scholastic, intercollegiate and amateur sport.

**KINE 4360. Theory of Strength Training and Conditioning II. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An in depth study of the effects of strength and conditioning on performance. This course is designed to be a follow up course to KINE 3320 and will help students further the knowledge and skills expected of a Certified Strength and Conditioning Specialist as defined by the NSCA. An additional fee is required to cover the costs of the certification exam, textbooks, and ancillary material. Prerequisite: KINE 3320 Lab fee: \$2.

**KINE 4370. Organization and Administration of Sport and Recreation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course designed to study the principles, practices, and procedures in the organization and administration of sport and recreation.

**KINE 4384. Clinical Internship in Kinesiology. 3 Credit Hours (Lecture: 1 Hour, Lab: 10 Hours).**

Supervised internship with selected agencies and organizations.

**KINE 4390. Biomechanics. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is designed to study the mechanics of human movement. The course design provides insight into the basic laws governing the forces of stability and motion. Interpretation and understanding of biomechanical principles will be addressed to enable coaches, athletic trainers, fitness, and clinical professionals to optimize human performance and rehabilitation. Prerequisite: BIOL 2401, and either KINE 3390 or KINE 2320.

**KINE 4395. Sport Promotion and Public Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course serves as the capstone course for the sport management program. This is a senior-level course focusing on evaluation of promotion and public relations within essential to sport management. Application of sport management theory and sport leadership will serve as the foundation of the capstone course. A case study approach is utilized to develop understanding of the practical challenges of creating viable promotional and public relation strategies within the sport industry.

**KINE 4398. Internship - Professional Development. 3 Credit Hours (Lecture: 1 Hour, Lab: 10 Hours).**

Supervised professional development activities focusing on the synthesis of the hard and soft skills acquired across the curriculum. There will be reflective writings that demonstrate growth relative to professional experiences, problem solving, and other discipline specific exercises to ensure professional readiness.

**KINE 4399. Internship - Field Experience. 3 Credit Hours (Lecture: 1 Hour, Lab: 10 Hours).**

Supervised field experience performed with selected agencies and organizations including but not limited to: rec sports, athletics, schools, parks and rec, YMCA/YWCA, Boys/Girls Clubs, Boy/Girl Scouts, rehabilitation centers, cardiac rehab, etc.

**KINE 4682. Internship in Kinesiology. 6 Credit Hours (Lecture: 1 Hour, Lab: 20 Hours).**

Supervised internship with selected agencies and organizations including: rec sports, athletics, schools, parks and rec, YMCA/YWCA, Boys/Girls Clubs, Boy/Girl Scouts, rehabilitation centers, cardiac rehab, etc.

**KINE 5086. Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Directed study of selected problems in Kinesiology.

**KINE 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Students are required to successfully complete a thesis under the direction and supervision of their thesis chair and committee members. The thesis will require a minimum of two semesters of work and possibly more depending upon their topic and design, thus students will be allowed to register for three hours each semester. The thesis option is designed for students that want to gain extensive experience in research and/or greater knowledge about a specific topic area. It is also designed for those that anticipate more advanced research (e.g., Ph.D.). Upon completion of their work there is a thesis defense. This course is scheduled when the student begins the thesis. No credit is given until the thesis is completed. Thesis hours only count toward the degree if and only if the thesis is complete and approved by the committee and the College of Graduate Studies. Prerequisite: KINE 5303.

**KINE 5301. Readings in Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of published reports and research in the field of Kinesiology.

**KINE 5302. Advanced Psychological Aspects of Sports. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to help students both learn and apply practical and theoretical information as it relates to psychology of sport. Mental training skills that can enhance athletic performance will be included. Additional areas include stress, motivation, goal-setting, leadership, imagery, and self-efficacy.

**KINE 5303. Research in Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is designed to prepare students for research publication and presentation within the Kinesiology discipline.

**KINE 5304. Principles of Sport Organization. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to teach the functions of organization and management in a sport context as well as traditional and contemporary principles and theories thereof.

**KINE 5305. Administration of Athletics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the administrative functions of directors of athletic programs. Liability laws, financial administration, personnel, public relations, and state laws governing athletic programs will be explored.

**KINE 5306. Health Trends in Sport Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the critical health issues and considerations related to sport administration. Topics include classical and contemporary issues and considerations related to mitigating health risks for sports teams, coaching and support staff, and spectators in sport and ancillary facilities.

**KINE 5310. Social Psychology in Sports. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course gives students a basic overview of sports psychology, covering aspects such as confidence, focus, mental training, visualization, peak performance, and the mind-body connection. It also examines the differences between group and individual sports and the mindsets of the prototypical athletes who engage in them. Prerequisite: Graduate standing.

**KINE 5312. Contemporary Issues in Sports Medicine. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview and study of contemporary issues as related to Sports Medicine.

**KINE 5313. Administrative Practices in Sports Medicine. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination and application of administrative practices related to Sports Medicine.

**KINE 5314. Special Topics in Sports Medicine. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview and study of selected special topics as related to Sports Medicine.

**KINE 5317. Leadership and Professional Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course designed to prepare students for the leadership roles related to Kinesiology and Athletics. Issues in Professional development will also be examined.

**KINE 5320. Exercise Physiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Physiological responses to exercise are studied. Areas include metabolism, cardiorespiratory components, body composition, neuromuscular concepts, heat stress, applied nutritional aspects, and ergogenic aids.

**KINE 5321. Contemporary Issues in Sport Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an analysis of current issues in management strategies and the body of knowledge associated with pursuing a career in sport management. The course introduces the student to sport management career opportunities, problems within the profession and to sport principles as they apply to management, leadership style, communication, motivation and entrepreneurship.

**KINE 5322. Sport Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is dually designed to assist students in self-evaluating and developing their moral and ethical reasoning skills. Students will learn to view situations common to the industry of sport through multiple ethical lenses to assess and understand the perspectives of others. Special consideration will be given to both the macro and micro ethical concepts of competition and fair play, doping and genetic enhancement in sport, gender and sexual equity and issues in the social ethics of sport. Contemporary case studies examining personal, social and organizational examples of application of legal and ethical principles will be utilized.

**KINE 5323. Sport Marketing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to be an application of analytical concepts and principles to the development of effective strategies for solving sport marketing issues. Students learn the principles of organizing and promoting events and activities associated with the sport industry.

**KINE 5324. Sport Sales. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will create informative and persuasive presentations, improve communication skills, establish alternative solutions for objections, and build strong customer relationships while informing them of the unique aspects and details involved in sports sales. Students will compose needs assessments, analyze prospective clients, gather information, develop effective time management, create customer profiles, and move prospective customers to clients.

**KINE 5325. Exercise Prescription Through the Lifespan. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Advanced course in clinical exercise testing and prescription relative to children, healthy adults, and diseases of the cardiovascular, pulmonary, metabolic, musculoskeletal, neuromuscular, and immunologic systems. It is designed to provide the student with a basic understanding of the pathophysiology and exercise responses in these populations and as related to the American College of Sports Medicine.

**KINE 5326. Facilities in Kinesiology, Athletics, and Recreation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles, terminology, and standards for planning, constructing, and maintaining kinesiology, athletic, and recreation facilities.

**KINE 5328. Adapted Exercise and Sport. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of muscle re-education and the application of exercise to orthopedic, muscular, and neurological disorders. Principles of planning and directing adapted and therapeutic exercise and sport programs.

**KINE 5329. Sport Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the financial tools that sports managers use to run their sport businesses. As such, it explores traditional and innovative methods of revenue acquisition and financial management in sports organizations, the financial business structure of sports organizations, and the financial planning and forecasting processes that make organizations effective. Various other aspects of finance are discussed as they relate to sports organizations, including the time value of money, capital structuring, stocks and bonds, inventory management, and taxation.

**KINE 5330. Teaching in Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to introduce a variety of teaching styles, instructional practices, and pedagogical strategies for use within kinesiology and the higher education setting.

**KINE 5333. Theory of Exercise Programming and Evaluation. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course is designed to teach students how to apply various theories of training and periodization, to aid in appropriately designing exercise programs. Additionally, students will learn to use modern technologies to track and evaluate athlete/client progress, leading to informed decisions for subsequent programming of exercise.

**KINE 5335. Laboratory and Research Techniques in Exercise Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This laboratory-based course is designed to provide students with a basic understanding of selected research methods used in the quantitative assessment of health, exercise tolerance, muscle metabolism, and training adaptations. Specifically, exercise physiology tests and procedures, laboratory guidelines, and supervision. Emphasis on choice and implementation of proper procedures; calibration; operation and maintenance of exercise physiology equipment. In addition, we will discuss decision making regarding test selection, data collection and organization procedures, and interpretation and reporting of exercise test results.

**KINE 5336. Statistics in Kinesiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of descriptive and inferential statistical techniques used in a variety of health-related and athletic-related tests. Test construction, reliability, validity, and objectivity methods will be studied.

**KINE 5340. Motor Learning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the theories and practical applications of human motor performance and achievement.

**KINE 5342. Advanced Principles of Athletic Coaching. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is designed to present knowledge essential for coaching any level (youth, recreational, club, elite, and professional) athlete in any sport. Emphasis is on a comprehensive approach to the foundations and theories of coaching including development of a coaching philosophy, determining coaching objectives, coaching for character, coaching diverse athletes, motivational techniques, as well as, principles of teaching, physical training, and management.

**KINE 5343. Law for Sport and Recreation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines legal issues related to the administration and management of athletic, and recreation programs. Issues include the area of tort, constitutional, contract, employment, and statutory law. Also discussed are the issues of intellectual property, products liability, and antitrust. Case law is used to illustrate the application of the law in everyday situations.

**KINE 5370. History of Sport. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of sport from the origins in Ancient Greece to the present. The emphasis on social and cultural developments that contributed to the growth of sport in the modern world.



**KINE 5383. Fitness and Wellness Applications in Athletic Training. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course is designed to teach students how to instruct clients/patients in the principles of ergodynamics and their relationship to the prevention of illness and injury. Additionally, students will be exposed to various exercise and wellness programming concepts. Students will also learn how to administer and interpret results of fitness and wellness screenings.

**KINE 5385. Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview and study of various topics related to Kinesiology.

**KINE 5399. Internship. 3 Credit Hours (Lecture: 1 Hour, Lab: 7 Hours).**

Supervised experience in related fields in Kinesiology.

## Foreign Language

### Courses

**LANG 1411. Foreign Language Immersion. 4 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).**

Foreign language immersion in a language other than FR or SPAN for communication on a basic level. Applies the four skills approach of reading, writing, listening, and speaking. Lab fee: \$5.

**LANG 1412. Beginning Foreign Language II. 4 Credit Hours (Lecture: 3 Hours, Lab: 4 Hours).**

Continuation of the four skills introduction to the foreign language for communication on a basic level. PREREQ: LANG 1411 or equivalent as approved by the department head. Prerequisites: LANG 1411. Lab fee: \$5.

**LANG 2311. Intermediate Foreign Language I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Review of basic language structure, oral and written expression on an intermediate level. Prereq: LANG 1411 and 1412, or equivalent as approved by the department head. Prerequisites: LANG 1411 and 1412.

**LANG 2312. Intermediate Foreign Language II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

intensive review of language and structure with continued practice in oral and written expression at an intermediate level. Prerequisite: LANG 1411, 1412, 2311 or equivalent as approved by the department head.

## Liberal and Fine Arts

### Courses

**LBFA 1100. Transitioning to University Studies in the Liberal and Fine Arts. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of cultural awareness perspectives and opportunities to explore diversity.

## Leadership Studies

### Courses

**LDRS 1100. Transitioning to University Studies, First Year Seminar (FYS) - Leadership and Military College. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

LDRS 1100 Transitioning to University Studies (First Year Seminar) – Specifically tailored for members of the Tarleton State University Corps of Cadets, this course will serve as a practical study designed to prepare cadets for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. Includes an introduction to and analysis of various topics centered on the Texan Cadet experience. Prerequisite: Membership in Corps of Cadets.

**LDRS 1201. Basics of Self-Leadership and Staff Work. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Individual assessments to provide insights into personal traits, characteristics, and tendencies. Basic skills of time management, goal setting, and personal planning. Identifying organizational protocols and procedures. Develop interpersonal communication skills, project implementation and quality assurance. Fundamentals of reporting orally and in writing.

**LDRS 1202. Leadership and the Humanities. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Introduction to leadership as an object of study through examination of its historical foundations and intellectual development. Readings selected from history, literature, philosophy, political theory, religion, and social theory. Emphasis on assessing these texts in light of reasoned argument and on drawing out their implications for leadership studies.

**LDRS 2301. Foundations of Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced study of leadership theories and models. Explores major theories and applications associated with various leadership practices throughout the late 20th and early 21st centuries. Provide students the framework to critically think about their leadership philosophy and the situations they will encounter in future careers.

**LDRS 2302. Elements of Leading Teams. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced study of team leadership and management. Explores team and group dynamics, organization, planning, and group behavior. Strategies for organizational assessment, tools for developing people within organizations, and techniques for developing and delivering training programs.

**LDRS 3301. Leadership and Change. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This survey course introduces the student to a broad range of concepts, theories, and practices important for a basic understanding of the similarities and differences between leadership and management. Contemporary and advanced issues in change leadership such as creating a climate for change, implementing and sustaining change, building a change vision, adaptive leadership and change readiness.

**LDRS 3302. Leadership and Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced study of important historical and contemporary ethical theories. Includes assessment and development of character and actions, application of ethical theories, their justification and relationship to society, and objective or subjective status in today's society.

**LDRS 4086. Independent Study. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Topics vary according to student need. May be repeated for a maximum of 6 hours. Open to students of junior or senior classification. Prerequisite: Approval of the department head.

**LDRS 4108. Leadership Studies Capstone. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Culmination of comprehensive knowledge gained about leadership and social change throughout a student's undergraduate career. Involves reflection on collegiate leadership experiences and coursework in the leadership minor. Results in student development of an electronic portfolio (i.e., ePortfolio). Prerequisites: Senior standing.

**LDRS 4384. Leadership Field Experience. 3 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

A supervised field based internship in which the student applies skills and knowledge gained through the John Tarleton Leadership Academy. The course provides students with an opportunity to exercise leadership fundamentals, specialized language, or technical/research skills within a governmental, public, or private business organization. Prerequisite: Approval of department head.

**LDRS 4389. Cultural Understanding and Leadership Proficiency. 3 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

This course is Cadet Professional Development Training for the Texan Corps of Cadets and is conducted at various sites outside the United States. It is designed to develop future leaders who are culturally astute, having gained experience to prepare them to lead organizations in a multi-national environment. Prerequisite: Approval of department head.

## Legal Studies

### Courses

**LEGL 2330. Introduction to Legal Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an introduction to the study of law and the many opportunities available within the legal services industry. Emphasis is placed on the judicial system and its role within the state and federal governments, the importance of judicial opinions including how to read, understand, and summarize case law, an introduction to legal research and writing, and an overview of the ethical obligations, regulations, professional trends, and skills required of those working in this field. This course is a legal specialty. Prerequisite: ENGL 1301.

**LEGL 3330. Fundamentals of Jurisprudence. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of the dependence of the law on the political regime. Review of classical and modern conceptions with emphasis on the modern. Prerequisite: GOVT 2305, GOVT 2306.

**LEGL 3331. Legal History. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the Anglo-American legal tradition. Particular attention paid to legal documents such as Magna Carta, The English Bill of Rights, and the Organic Laws of the United States, and jurists such as Blackstone, Marshall, and Holmes. Prerequisite: GOVT 2305, GOVT 2306.

**LEGL 3332. Legal Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to expose students to the major ethical problems they may face as part of a legal team. The focus of the course is the ABA Model Code and Model Rules of Professional Conduct. The course also addresses the role of non-lawyers in the delivery of legal services and the various professional codes of ethics which provide guidance to non-lawyers. Emphasis will be placed on related codes of civility, the attorney-client privilege and work product doctrine, proper handling of legal fees and client property, as well as the disciplinary process. This course is a legal specialty.

**LEGL 3340. Legal Research & Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course provides an introduction to the fundamentals of legal research and writing. After an overview of the various primary and secondary sources, students will invest significant time in hands-on practice using the most common legal sources in print and electronic form. Emphasis will also be placed on properly evaluating, communicating, and attributing findings within the legal genre. This course is a legal specialty. Prerequisite: ENGL 1301, ENGL 1302, LEGL 2330.

**LEGL 3350. Professional Practices in Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will continue to develop the professional skills and dispositions necessary for students to be competitive in a changing legal profession. Course topics will include emerging technology, critical interpersonal skills, formation of a professional identity, and the positive role that members of the legal profession have played, and continue to play, in our neighborhoods, towns, and communities. Prerequisite: LEGL 2330.

**LEGL 3388. Civil Procedure. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the theory and practical aspects of basic civil litigation, including preliminary investigation, pleadings, motions, discovery, trials, and appeals. Emphasis will be placed on the requirements and restrictions of the Federal Rules of Civil Procedure which apply throughout the United States; however, individual distinctions of the Texas Rules of Civil Procedure will be raised. Prerequisite: LEGL 2330, ENGL 1302.

**LEGL 4084. Paralegal Internship. 3-6 Credit Hours (Lecture: 3-6 Hours, Lab: 0 Hours).**

This course provides students with an external learning experience. Students will work in law offices, corporations, and other industries involved in the delivery of legal services. Students are required to work approximately forty (40) hours for each credit attempted for a minimum of 120-140 hours per 3-units. This course is a legal specialty. Prerequisites: LEGL 2330, LEGL 3332, LEGL 3340, LEGL 3388 and junior or senior status.

**LEGL 4301. Constitutional Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An introduction to the principles of American constitutionalism, specifically, the prerogatives of American political institutions. The subject is approached by close study of the documents which outline these principles, the four Organic Laws of the United States, Supreme Court cases, and political speeches. Prerequisites: GOVT 2305, HIST 1301, and HIST 1302; or approval of the instructor.

**LEGL 4330. Legal Research and Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to legal research and writing. Emphasis on legal sources, case analysis, and legal citation. Prerequisite: LEGL 3330, LEGL 3331, POLS 3309.

**LEGL 4331. Law Office Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to law office management. Emphasis on law office organization, accounting, and legal computing programs. Prerequisite: LEGL 3330, LEGL 3331, LEGL 4330.

**LEGL 4344. Tort Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides a comprehensive overview of civil wrongs (torts). Students will learn the three major categories of torts: intentional torts, negligence, and strict liability. Emphasis will be placed on understanding the elements of various civil claims (causes of action) within each category as well as common defenses. Students will also gain practice at legal analysis, the skill of evaluating the evidence to determine what, if any, claims would be supported. Prerequisite: LEGL 2330.

**LEGL 4346. Texas Wills, Estates, and Probate. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course deals with transfers of property, including intestate succession, probate administration, execution and revocation of wills, the use of trusts in estate planning, and rules of construction that affect will and trust drafting. The course also will cover community property laws and basic estate tax and gift tax principles. Relevant Texas Estates Code and Uniform Probate Code statutes will be used in addition to a textbook. This course is a legal specialty. Prerequisite: LEGL 2330.

**LEGL 4348. Sports and Entertainment Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course deals with an introduction to many fields of law. These are copyright law, publicity and privacy law, First Amendment law, trademark law and contract law. Sports and Entertainment law impacts many different business types such as film, television, music, professional sports, and live theatre. While there are many similarities, the differences can be overwhelming and an introduction to these business types will be covered. Relevant Universal Commercial Code, Title 17 of the United States Code, and the Lanham Act will be used in addition to the textbook. Prerequisite: LEGL 2330.

**LEGL 4350. Family Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to the procedural and substantive law affecting the family and domestic relations. The law affecting prenuptial agreements, separation, divorce, annulments, spousal support, alimony, spousal abuse, custody, child support, and adoption is also discussed. Emphasis is placed on the preparation of relevant legal documents and procedures for various court filings. Prerequisite: LEGL 2330, LEGL 3340.

**LEGL 4382. Virtual Paralegal Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course provides students with a series of simulated, experiential learning environments which give students an interactive law office environment suitable for the development and refinement of competencies needed for the real-world legal workplace. The simulation modules are supplemented with exercises and instruction geared toward preparing students for the transition from the academic environment to the workplace. Prerequisite: LEGL 2330, LEGL 3332, LEGL 3340, LEGL 3388.

**LEGL 4385. Legal Studies Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Specialized legal studies course on topics such as natural law, legal positivism, or Roman constitutionalism. May be taken more than once as topics will vary. Prerequisite: POLS 3309, LEGL 3330 or permission of program coordinator.

**LEGL 4386. Problems: Paralegal Specializations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Specialized paralegal course on topics such as probate, real estate, or litigation. Prerequisite: LEGL 4330, LEGL 4331 or permission of program coordinator.

**LEGL 4390. Legal Studies Capstone Course. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course will serve as a culminating experience where students will demonstrate proficiency in legal analysis and expand their repertoire of documents within the legal genre to include more sophisticated and complex documents such as appellate briefs, multi-issue legal office memoranda, and memoranda in support of a motion. This course is a legal specialty. Prerequisites: LEGL 2330, LEGL 3332, LEGL 3340, LEGL 3388.

## Public Administration

### Courses

**MAPA 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thorough and scholarly investigation of a topic acceptable to the thesis committee. The thesis must provide evidence that the candidate has pursued a coherent program of research related to the student's area(s) of specialization, the results of which reveal academic excellence and which make an original contribution to the discipline. Prerequisite: Student must successfully complete the MPA comprehensive examinations and all preliminary coursework. Project must have approval of major professor.

**MAPA 5300. Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This is an introductory, survey course designed to give students an understanding of public administration as a scientific discipline applied to professional practice within the context of American government at the local, state and federal level. Topics include a master's level survey of the major theories of public administration and governance, interagency and intergovernmental relations, agency reform, ethics of public service, organizational dynamics and behavior, human resource issues, and public budgeting and finance.

**MAPA 5301. Organizational Behavior in the Public Sector. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Behavioral theory in organizational context for the public sector. A study of individual and group dynamics in the business environments. Specific emphasis is given to leadership, motivation, communication, employee supervision, and morale in all organizational settings.

**MAPA 5302. Human Resource Management in the Public Sector. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Presents the fundamental principles and techniques of personnel management and examines the management of human resources from the point of view of the personnel officer, the operational manager and the employee for the public sector. Examines the responsibilities of organizational leadership for incorporating human resource issues in strategic planning and initiatives. Emphasis is placed on current legal considerations, issues and research.

**MAPA 5303. Public Sector and Non-Profit Marketing and Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine the role and application of marketing in public and nonprofit settings. The course focuses on a conceptual understanding of the marketing discipline and marketing processes and shows how basic concepts and principles of marketing are applicable to public and nonprofit organizations.

**MAPA 5304. Legal Aspects for Public Managers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A critical evaluation of the role courts play in American public administration. Topics include the structure, function, and operations of the courts at the state and federal level.

**MAPA 5307. Statistical Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of basic and advanced descriptive and inferential statistics, with an emphasis on applications in public administration. Credit will not be awarded for both MAPA 5307 and CRIJ 5300. Prerequisite: MAPA 5398 or CRIJ 5398.

**MAPA 5310. Introduction to Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview of the history and intellectual foundation of public administration including the major ideas, developments, theories, concepts, and contributors to the growth of public administration and its practice in the United States. Credit will not be given for both MAPA 5300 and MAPA 5310.

**MAPA 5311. Intergovernmental Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course is a study of the interrelationship of local, state, and federal government entities with emphasis on intergovernmental relations on administration, planning, budgeting, and policy making.

**MAPA 5315. Budgeting and Financial Management for Public and Nonprofit Organizations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a master's level introduction to the principles of planning, budgeting and budget administration as applied to the unique requirements of local, state, and federal government agencies. Although strongly based in budgeting theory, the major course goal is to provide students with the basic skills needed to effectively work as an effective team member with agency professionals and external consultants to create and administer public agency budgets.

**MAPA 5320. Management and Strategic Planning for State and Municipal Government. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

State and local governments within the context of the American governmental system. Special emphasis on federalism, the constitutional/legal relationships between state and local governments, and the institutions, organizational forms, and political processes in American state and local government especially related evolving governance models, such as new public management, new public service and other models.

**MAPA 5322. Ethics in Public Service. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the moral and ethical issues surrounding public administration and governance in an environment of socially responsible public service. This course will expose students to the underlying themes that will prepare them for situations they are likely to confront in the field of public administration, which includes the non-profit and none-governmental organization (NGO) environments.

**MAPA 5323. Program Evaluation and Assessment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course aims to teach students the skills to conduct program evaluations and assessments, research efforts that determine if a public program is working as intended (processes) and achieving the objectives for which it was designed, goals known in program evaluation as outcomes. Students will learn the components of an evaluation, how to craft a logic model that illustrates the processes of a program and intended outcomes as well.

**MAPA 5330. Advanced Public Budgeting and Financial Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an in-depth study of the budgeting and financial management of government agencies. Topics include taxation, bonds, special issues in administering matching funds, grants and grant administration, revenue flow, contracts, and fiscal problems of local and state governments including maintenance of services during revenue shortfalls. Prerequisite: MAPA 5320 Public Budgeting and ACCT 5307 Governmental and Not-For-Profit Accounting or permission of instructor.

**MAPA 5331. Public Policy Formulation and Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Course provides broad exposure to the fundamental tools of policy formulation, negotiation, implementation and analysis. While competitive markets are often efficient, there are many barriers to perfectly functioning markets, such as market failure(s), that lead to the need for public policy. Ultimately, the goal of the course is to lead students to appreciate the method of thought and processes associated with allocation of resources at their disposal as seems "best" to them — and how this method can be a widely useful tool for assessing the need for and impact of public policy.

**MAPA 5335. Diversity Management in the Public Sector. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to the study of diversity management in the public sector. Understanding diversity and learning how to manage it is among the most important challenges public managers are facing today. The purpose of this class is to provide students with the knowledge and understanding required to meet the challenges presented by our increasingly diverse society. Students will examine the need for diversity and cultural competency in the workplace and the roles that public institutions play in defining inclusions, differences and identities. The course covers key dimensions of diversity such as strategic race/ethnicity, sexual orientation, religion, skill level, physical ability, communication styles, and multi-generations in the workplace.

**MAPA 5340. Critical Incident Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a graduate level introduction to crisis planning and management for mass casualty and high profile events. Topics include agency roles natural and man-made disasters, terrorism and other major criminal events, and other high profile incidents. Emphasis will be placed in inter-agency cooperation and interfacing in planning, event management, and long-term, post-event management.

**MAPA 5343. Public Health Economics and Budgetary Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This three-credit graduate level course provides a comprehensive introduction to the multiple systems that define, describe, and shape the health care budgeting and public funding in the United States. The course provides opportunities to examine the historic, social, political, philosophical, and economic factors that shape the U.S. health care system. Topics include the components of the health care system such as public health budgeting, organizational structures, multi-organizational systems and networks, financing, access and quality improvement, cost containment, ethics, technology, communication, and leadership. The course focuses on the administration of public provision of care and public funding of health care, such as the Affordable Care Act and the health care exchanges, Medicare, Medicaid, S-CHIP, Tri-Care. The government has a large role in both the funding of health care and the provision of care with the goals of increasing access, increasing equity, and increasing quality of care. The role of public health care administration and how public sector health care systems are budgeted will be stressed, along with public sector economic and fiscal impacts, which effect public service and the communities they serve.

**MAPA 5345. Managing Critical Social Problems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide students with an overview of the contemporary social issues and the role of government in management or mitigation of those issues. Topics include crime, employment, health care, neighborhood stability, gentrification and community regeneration, and their effects on community residents.

**MAPA 5350. Public Administration Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course requires demonstration of competency in public management through completion of a substantial research project incorporating independent study and critical analysis of a specialized area of the field. This is the capstone course for the Master of Public Administration Program. Prerequisite: completion of all other course work required for the Master of Public Administration degree, including core courses and emphasis area courses, unless an exception is approved by the major professor.

**MAPA 5363. Leadership in Public and Non-profit Organizations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to help students understand how nonprofits and public organizations exercise leadership. Students will examine the theory, issues, and skills associated with leadership and management of nonprofit and public organizations. Students will also understand the concept of public ownership of nonprofit organizations and how it imbues specific ethical and legal responsibilities beyond what is standard for private sector organizations.

**MAPA 5370. Public Health Services Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide graduate students an overview of the United States public health and healthcare system. This will be an introduction to a complex healthcare system that is currently undergoing systematic change. This is a discussion course in which text books, lectures, discussion, and outside reading will be used. Comparisons to health care systems in other countries will be made. At the conclusion of the course, students will have a comprehensive awareness of factual information, data, and statistics unique to the United States public health and healthcare delivery system. This is an advanced level graduate course.

**MAPA 5380. Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course gives students the opportunity to integrate the more theoretical aspects of their coursework with participant observation of the operations of a government agency closely related to the student's area of specialization. The experience will utilize a series of work assignments within the agency to give students a range of experiences to enhance their understanding of professional, public administration. Students will document their experience for presentation as determined through consultation with their major professor who will arrange placements with agency mentors. Prerequisite: Approval of major professor.

**MAPA 5385. Seminar in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will allow for flexible topic choice related to current and future trends in public administration. Topics such as comparable and futures studies in public administration along with other evolving and emerging issues in public administration can be further explored via this course.

**MAPA 5390. Independent Study. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This is an independent research course requiring development of a literature review, methodology, and/or data collection in collaboration with the supervising professor. Prerequisite: Approval of MPA graduate advisor.

**MAPA 5398. Research Methods in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will introduce students to multiple research methods, specifically applied in the fields of public administration, in particular to public, non-profit and non-governmental organizations, and policy evaluation. This course will assist the student in understanding the role of research and evaluation in public programs. Credit will not be awarded for CRIJ 5398 and MAPA 5398.

**PUAD 3301. Principles of Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introductory course in public administration and PA theory.

**PUAD 3302. Intergovernmental Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introductory course exploring and describing the duties, responsibilities and relationships of the American Federalism system.

**PUAD 3303. Introduction to Public Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An introductory course in the public policy making process to include formulation, negotiation and implementation of public policy as well as policy evaluation.

**PUAD 3304. Texas and Local Governmental Intergovernmental Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course on the intergovernmental relationships and responsibilities between state and local governments (counties, municipalities, schools districts and special districts). This course should be offered in a semester in which the state legislature is in session so that students can experience reality based field observation (field trip to the state legislature).

**PUAD 3305. Introduction to Public Budgeting. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will introduce the processes, formats, and theories of public budgeting to include taxation, service delivery levels and expenditures at the federal, state and local levels.

**PUAD 3306. Leadership in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will explore the various leadership theories as well as other related topics to leadership associated with the public sector and public governance.

**PUAD 3307. Futures Studies in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will offer an introduction into futures studies methods and processes and how futures studies can be utilized to improve public administration and prepare future public administration models and issues, particularly as they relate to future conditions, challenges and opportunities facing public administration, responsible government and public governance.

**PUAD 3308. Seminar in Professional Practices in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will offer an introduction into professions and professionalism in public administration. The course will address professional conduct, responsibilities and roles at the various levels of government as it relates to public administrators.

**PUAD 3309. Comparative Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introductory course in comparative public administration; exposure to other systems of governance and public administration (foreign).

**PUAD 4301. Legitimacy in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will explore legitimacy, legal authority and trust related to public administration. It will also delve into the US Constitution, Constitutional Law and the Federalists Papers and other sources of authority and legitimacy of public administration.

**PUAD 4302. Evidence Based Decision Making in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will explore utilizing information, research, statistics, other types of information and sources as it relates to the disciplined process of evidence based decision making in the public sector.

**PUAD 4303. Emergency Management in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This class will focus on all areas of emergency management, National Incident Management System (NIMS), Incident Management System (ICS), and the duties and responsibilities of the various players, at all levels of government in responding to natural, man-made, bio-hazard, chemical, medical and terrorist type incidents and how it relates to American Federalism. Included in this course will be the study of emergency management from the perspective of continuity of government and planning related to emergency management.

**PUAD 4304. Organizational Behavior in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Public sector organization behavior related processes, motivation, leadership, systems and other topics related to how public organizations perform, establish and pursue public sector objectives in the public interest paradigm.

**PUAD 4305. Human Resource Management in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Human resource management from the point of view of the unique demands and circumstances found in the public sector including motivation theories, talent management (recruitment, hiring, development, training, promotion and discipline) and strategic human resource needs of public sector organizations, now and into the future.

**PUAD 4306. Project Management in the Public Sector. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will focus on planning, executing and finishing public sector project utilizing a number of systems approaches and project management models.

**PUAD 4307. Public Policy Domains in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will focus on a variety of policy areas (domains), issues and challenges across the spectrum of public administration. This course can be repeated once, but requires the approval of the department head or academic advisor.

**PUAD 4308. Public Policy Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will focus on the policy analysis process to include problem identification, formulation of alternatives, measurement criteria, evaluation and decisions loops and the tools associated with decision-making in the public sector.

**PUAD 4309. Basic GeoSpatial Techniques and Technologies. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Basic introductory course in geospatial technologies and techniques associated with geographical information systems.

**PUAD 4310. GeoSpatial Methods for Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The use of GeoSpatial equipment and techniques, utilizing GIS information for intelligence led governance (aka smart governance), planning and project development and management. Prerequisite: PUAD 4309 or equivalent.

**PUAD 4311. Emerging Issues in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Seminar class on emerging issues across the political, cultural, economic, and social spheres that are related to World/USA issues that might impact public administration at any one or all levels of government -- federal, state and local.

**PUAD 4312. Non-Profit Sector Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will focus on management of nonprofit organizations delivering public goods and services.

**PUAD 4313. Alternative Dispute Resolution and Mediation for Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will focus on alternative dispute resolution methods and mediation for problem-solving associated with individual and community disputes.

**PUAD 4315. Research Methods in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will focus on research methods and processes associated with scholarly inquiry and the practical application of research and evaluation research in public administration.

**PUAD 4316. Statistics in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Dedicated course in statistical methodologies and applications associated with public administration. Prerequisite: PUAD 4315.

**PUAD 4317. Capstone in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course will provide for a capstone experience in public administration leading to the completion of a senior paper in some area of public administration. This course is a required course for the BSPA. Prerequisite: Junior or Senior Status.

**PUAD 4318. Public Administration Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course presents an analysis of contemporary ethical issues in public administration. Classical and contemporary ethical theories will be applied to the discussion of such issues as discretion, corruption, public interest, equity, deception, professionalism, and the nature and meaning of justice. Prerequisite: Junior classification or approval of instructor.

**PUAD 4319. Professional Writings in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The process of developing and documenting information related to undergraduate studies in public administration, including researching, editing, revising, and creating technical reports, case narratives, grant applications and reports, academic and field related research proposals, training modules, and formatting professional correspondence to include memoranda. Students will use word processing and related graphic software. Prerequisites: ENGL 1301 and ENGL 1302.

**PUAD 4384. Internship in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide an opportunity for a student to work in a public sector organization to gain experience, establish work ethic and create a network for career development. Prerequisite: Junior or Senior Status.

**PUAD 4386. Problems in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course provides flexibility of inquiry and study in an area of interest in public administration. Requires approval of department head or academic advisor.

**PUAD 4390. Special Topics in Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course is will examine and explore various topics of interests in public administration that will be determined on an rotational basis. Requires approval of the department head or academic advisor.

## Mathematics

### Courses

**MATH 0001. NCBO Math. 0 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).****MATH 0303. Basic Mathematics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course features an intensive study of basic arithmetic concepts and skills, and the introduction to basic algebra as a preparatory course for MATH 0304, Fundamentals of College Algebra. It does not count for degree credit. A student must earn a grade of at least C in order to progress to MATH 0304.

**MATH 0304. Fundamentals of College Algebra. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Functions, algebraic expressions, polynomials, exponents, equations, and systems of linear equations. Primarily for non-science and non-mathematics majors; not for degree credit. A student cannot get credit for MATH 0304 if credit has previously been received for MATH 1314. A student must earn a grade of at least C in order to progress to MATH 1314. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**MATH 0305. Foundations of Statistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An intensive study of fundamental concepts and skills that support the processes in statistics and probability. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**MATH 0306. Foundations of College Algebra. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An intensive study of fundamental concepts and skills that support the processes in College Algebra. Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**MATH 0324. Foundations of Math for Business & Social Sciences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An intensive study of the fundamental concepts and skills that support the mathematical processes in Math for Business & Social Science.

**MATH 0332. Foundations of Contemporary Mathematics 1. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An intensive study of the fundamental concepts and skills that support the mathematical processes in finance, probability, statistics, and geometry. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**MATH 1100. Transitioning to University Studies in Mathematics. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

This course seeks to transition new mathematics majors into university academic life. It will help new students utilize campus resources effectively, learn academic skills, and develop a support network with mathematics faculty and fellow mathematics majors. The course will introduce students to the culture of the mathematics department and mathematics community at large. Prerequisites: Must be a mathematics major.

**MATH 1314. College Algebra. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

The study of radical, quadratic, polynomial, exponential, and logarithmic functions and expressions. Additional topics may include: the Binomial Theorem; sequences and series, matrices, variations, mathematical induction, and conic sections. Approved graphing calculator required. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**MATH 1316. Plane Trigonometry. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Angles and coordinates, trigonometric functions, solutions of triangles and applications, reduction theorems and formulas, identities and conditional equations, addition formulas and derived relations, angular and linear speed, logarithms, and radian measure. Prerequisite: MATH 1314 or concurrent registration.

**MATH 1324. Math for Business & Social Sciences I (Finite Mathematics). 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The application of common algebraic functions, including polynomial, exponential, logarithmic, and rational, to problems in business, economics, and the social sciences. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices; linear programming; and probability, including expected value. Prerequisites: Enrollment in the course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**MATH 1325. Math for Business & Social Sciences II (Business Calculus). 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is the basic study of limits and continuity, differentiation, optimization and graphing, and integration of elementary functions, with emphasis on applications in business, economics, and social sciences. This course is not a substitute for MATH 2413 (Calculus I). This course cannot be counted on a degree program for a mathematics major. Prerequisite: MATH 1314 or MATH 1324.

**MATH 1332. Contemporary Mathematics I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Elementary mathematical applications to problems of finance, probability, statistics, and geometry, and the development of reasoning skills. This course cannot be counted on a degree program for a mathematics major. Prerequisite: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**MATH 1342. Elementary Statistical Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Technology will be incorporated where appropriate. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**MATH 2318. Linear Algebra. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduces and provides models for application of the concepts of vector algebra. Topics include finite dimensional vector spaces and their geometric significance; representing and solving systems of linear equations using multiple methods, including Gaussian elimination and matrix inversion; matrices; determinants; linear transformations; quadratic forms; eigenvalues and eigenvectors; and applications in science and engineering. Prerequisite: MATH 2414.

**MATH 2412. Precalculus Math. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Applications of algebra and trigonometry to the study of elementary functions and their graphs including polynomial, rational, exponential, logarithmic, and trigonometric functions. Additional topics will be chosen from analytical geometry, mathematical induction, sequences, and series. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules. Lab fee: \$2.

**MATH 2413. Calculus I. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Algebraic and transcendental functions, limits, continuity, derivatives and related applications, an introduction to the definite integral, integration, and the Fundamental Theorem of Calculus. Use of computer technology and laboratory assignments will be required in this course. Prerequisite: MATH 1316 or MATH 2412. Lab fee: \$2.

**MATH 2414. Calculus II. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Applications of integration, integration techniques, sequences and infinite series, power series, parametric and polar curves. Use of computer technology and laboratory assignments will be required in this course. Prerequisite: MATH 2413. Lab fee \$5.

**MATH 3301. Number Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of congruence relations, rational integers, diophantine equations, quadratic reciprocity law, linear forms, integral domains, and related topics. Prerequisite: 6 hours of Mathematics including MATH 2413.

**MATH 3302. Principles of Geometry. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduction to Euclidean geometry. Topics will include an introduction to logic, properties of parallel lines, triangles, quadrilaterals, and measurement. Similarity and proportionality will also be addressed. Credit for both MATH 3302 and MATH 4302 will not be awarded. Prerequisite: MATH 2413. Lab fee: \$2.

**MATH 3303. Concepts of Elementary Mathematics I. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course is designed to develop and extend the mathematical content knowledge of prospective elementary and middle school teachers. Topics will include problem solving, sets, functions, mathematical reasoning, numerical fluency, operations and properties of whole numbers, integers, rational numbers, and real numbers. Prerequisites: minimum of 45 hours complete and a C or better in MATH 1314 Lab fee: \$2.

**MATH 3305. Concepts of Elementary Mathematics II. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Basic concepts in algebra, geometry, measurement, probability, data collection, and statistics. Prerequisite: C or better in MATH 3303 Lab fee: \$2.

**MATH 3306. Differential Equations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Solutions and applications of homogeneous and nonhomogeneous ordinary differential equations, including first-order equations and higher-order linear equations. Qualitative properties of solutions are investigated, as well as exact methods for solving differential equations and initial value problems including series, Laplace transform, separation of variables, variation of parameters, and undetermined coefficients. Prerequisite: MATH 2414.

**MATH 3310. Discrete Mathematics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduces students to the techniques and tools of reasoning, decision making and combinatorial problem solving. Topics include sets and logic, combinations, probability, relations, functions and graphs, symbolic logic, finite state and Turing machines. Prerequisites: MATH 2413 or concurrent enrollment.

**MATH 3311. Probability and Statistics I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will include probability axioms and properties; conditional probability and independence; counting techniques; and discrete, continuous, univariate, and multivariate random variables. Prerequisite: MATH 2414.

**MATH 3320. Foundations of Mathematics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to concepts and forms of proof found in advanced mathematics courses. Topics include logic, set theory, mathematical induction, relations, functions, and cardinality. Prerequisites: MATH 2413.

**MATH 3360. Numerical Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to numerical analysis. Topics will be selected from error analysis, solving algebraic equations, interpolation, numerical differentiation and integration, methods for solving systems of equations, approximation theory, and initial value problems of ordinary differential equations. Prerequisite: MATH 2414 and 3 hours of COSC.

**MATH 3364. Data Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Mathematical foundations of data analysis techniques. Applications of Lagrangians to support vector machines, gradient descent methods for artificial neural networks, and conditional probabilities for Bayesian classifiers. Additional topics will be selected from: the class imbalance problem, cost sensitive learning, bootstrapping, kernel methods, impurity measures, distance metrics, topological data analysis, anomaly detection and convergence theorems for various methods. Prerequisites: MATH 2318, MATH 3433, COSC 1310 and one course from MATH 1342, MATH 3311, or MATH 3450.

**MATH 3433. Calculus III. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The calculus of two dimensional vectors, parametric equations, cylindrical and spherical coordinates, multivariable differential calculus, directional derivatives and their applications, multiple integration, vector analysis, line and surface integrals, Green's Theorem, Stokes's Theorem. Use of computer technology and laboratory assignments will be required in this course. Prerequisite: MATH 2414. Lab fee \$5.

**MATH 3450. Principles of Bio-Statistics. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

An introduction to statistical methods that are applied in biology and agriculture. Use of technology and hands-on laboratory assignments will be required in this course. This course cannot be counted on a degree program for a mathematics major. Credit cannot be awarded for both MATH 1342 and 3450. Prerequisite: MATH 1314 or MATH 1316 or MATH 2412 or MATH 2413. Lab fee: \$2.

**MATH 4086. Mathematics Problems. 1-4 Credit Hours (Lecture: 0 Hours, Lab: 1-4 Hours).**

Special problems in mathematics. Not covered by any course in the curriculum. Work may be either theory or laboratory. May be repeated with approval of the department head for additional credit. Prerequisite: Approval of department head.

**MATH 4088. Undergraduate Research Project. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Methods of research in the mathematical sciences or in mathematics education through a research project directed by a departmental faculty member. The student is required to prepare a final report and presentation. No credit is earned until the student has enrolled in at least 3 credit hours and the final report and presentation are certified as completed by the faculty member directing the project, at which time the student will receive 3 credit hours. Prerequisite: Mathematics major, junior standing, 24 semester hours MATH and department head approval.

**MATH 4302. College Geometry. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Topics will include logic, properties of circles and transformations, projective and non-Euclidean geometry. Technology will be included when appropriate. Credit for both MATH 3302 and MATH 4302 will not be awarded. Prerequisite: MATH 2413 Lab fee: \$2.

**MATH 4304. Survey of Mathematical Ideas I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to bring together and supplement the technical material of other mathematics courses to communicate mathematics effectively. Topics in number & operations, number theory, algebra, statistics, and probability will be explored. Technology will be used where appropriate. Prerequisites: MATH 2413 and (MATH 3302 or MATH 4302).

**MATH 4305. Concepts of Elementary Mathematics III. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to develop and extend the mathematical content knowledge of prospective elementary and middle school teachers. Topics will include ratios, proportionality, number theory, and the development of algebraic reasoning through the use of patterns, relations, and functions, with an emphasis on multiple representations (numerical, graphical, verbal, and/or symbolic). Technology will be integrated into the curriculum where appropriate. Prerequisites: Junior Standing and a C or better in MATH 3305.

**MATH 4306. Partial Differential Equations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to theory and applications of partial differential equations. Topics for study may include separation of variables, heat equation, Laplace's equation, wave equation, Fourier series, and Sturm-Liouville eigenvalue problems. Prerequisites: MATH 3306.

**MATH 4308. Survey of Mathematical Ideas II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to bring together and supplement the technical material of other mathematics courses to communicate mathematics effectively. Topics in statistics, probability, trigonometry, precalculus, and calculus will be explored. Technology will be used where appropriate. Prerequisites: MATH 4304 and (MATH 1342 OR MATH 3311).

**MATH 4309. Advanced Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A study of the theory of the calculus of functions of a single variable. Topics include the topology of the real line, functions, sequences and their limits, continuity, differentiation, and analysis of variance. Prerequisite: MATH 2414 and MATH 3320.

**MATH 4311. Probability and Statistics II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will include normal distributions; sampling distributions; the central limit theorem; descriptive statistics; and the theory of statistical estimation and testing, with applications to proportions, means, contingency tables, univariate linear regression, and analysis of variance. Prerequisite: MATH 3311.

**MATH 4320. Mathematical Modeling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced course in mathematical modeling requiring students to build and validate deterministic models of complex phenomena. The course will emphasize both qualitative and quantitative computational techniques of applied mathematics. Prerequisites: MATH 2414 and 6 hours of advanced MATH.

**MATH 4332. Abstract Algebra. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The study of preliminary notions, group theory, the theory of rings and ideals, and polynomial rings. Prerequisites: MATH 2414 and MATH 2318.

**MATH 4370. Introduction to the History of Mathematics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the historical and philosophical development of the various branches of mathematics. The evolution of mathematical ideas will be studied from their developmental stages to the modern concepts used today. Prerequisites: 6 advanced hours in MATH.

**MATH 4384. Internship. 3 Credit Hours (Lecture: 0 Hours, Lab: 4 Hours).**

The student will complete a supervised and comprehensive work experience in a mathematics-related position with a public or private business organization for career preparation in a mathematics-related enterprise. The work experience must be formally approved and arranged with a cooperating sponsor prior to semester of enrollment in the course, and should be completed within the semester of course enrollment. Oral and written reports of the internship experience will be required. Prerequisite: At least 24 hours of degree-applicable MATH coursework with no grade lower than a 'C' in a MATH course, minimum 2.6 MATH GPA, minimum 2.6 overall GPA, junior or senior classification, and approval of department head.

**MATH 4390. Math Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will be selected from areas of mathematics suitable for upper level study. This course may be repeated once, with department head approval, as topics change. Prerequisite: MATH 2414 and 6 hours of upper level mathematics.

**MATH 5086. Advanced Special Problems in Mathematics. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Special problems in mathematics. Work may be either theory or laboratory. May be repeated with approval of the department head for additional credit.

Prerequisite: Approval of department head.

**MATH 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student's committee chair determines the student is ready to begin the thesis. No credit is earned until the student has enrolled in at least 6 credit hours of thesis and the thesis is certified as completed by the student's committee, at which time the student will be awarded 6 credit hours of thesis.

Prerequisite: 18 hours of approved graduate credit toward the degree and consent of the student's committee.

**MATH 5198. Research Analysis. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

An overview of the components of research in the main areas of mathematics. These areas will include pure mathematics and statistics, applied mathematics and statistics, and mathematics education. The course will culminate with a study of what is a proper literary review and how to submit an article for publication.

Prerequisite: Graduate standing in the mathematics department or approval of the department head.

**MATH 5301. Nonparametric Statistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to nonparametric statistics. Topics will include hypothesis testing, contingency tables, rank tests, and goodness-of-fit tests. Prerequisite: Junior or senior level statistics course.

**MATH 5305. Statistical Models. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the basics of experimental design, mathematical theory for linear and logistic regression models in the multivariate case, and diagnostics and remedial measures for these models. Other topics will be selected from time series analysis, principle components, canonical correlations, factor analysis, discriminant analysis, and cluster analysis. Prerequisite: MATH 3311.

**MATH 5306. Dynamical Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced study of dynamical systems. Topics will be selected from discrete and continuous dynamical systems, sensitivity analysis, models of the physical, life, and social sciences, and bifurcation analysis. Prerequisites: Differential Equations and Linear Algebra.

**MATH 5308. Abstract Algebra. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will be selected from: groups, homomorphism, isomorphism, direct products and sums, invariant properties, rings, and fields. Prerequisite: MATH 4332.

**MATH 5309. Complex Variables. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to complex analysis. Topics will be selected from elementary operations and analytic functions, curves and integrals, power series, Cauchy's theorem, zeroes and singularities of analytic functions, Laurent series, maximum principle, analytic continuation, harmonic functions, conformal mapping and transformations. Prerequisite: MATH 2414 or approval of department head.

**MATH 5312. Design of Experiments. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will learn about planning and conducting an experiment. Data analysis using appropriate software is covered. Prerequisite: MATH 5305 or approval of department head.

**MATH 5320. Real Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics will be chosen from: sets and operators; cardinal numbers and ordinal types; metric spaces and Lebesgue measure; metric properties of sets; differentiation and integration. Prerequisite: MATH 4309.

**MATH 5330. Mathematical Modeling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced course in mathematical modeling. Topics will be selected from scaling, dimensional analysis, regular and singular perturbation theory, stability theory, and asymptotic analysis. Prerequisites: Differential Equations and Linear Algebra.

**MATH 5340. Topology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to point set topology. Topics will include open and closed sets, interior, closure, boundary, neighborhoods, continuous functions, separation and subspaces. Additional topics will be selected from compactness, connectedness and continua. Prerequisite Course(s): MATH 4309.

**MATH 5350. Linear Algebra. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced course in linear algebra. Topics to be selected from linear spaces and operators, canonical forms, quadratic forms and optimization, computation and condition, and compatible systems. Prerequisite: Linear Algebra.

**MATH 5360. Numerical Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced study of numerical analysis. Topics will be selected from linear systems, approximation theory, numerical differential and integral equations, integration theory. Prerequisite: MATH 3360.

**MATH 5362. Data Warehousing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Use SQL for manipulation and exploration of large data sets by creating tables, transforming data, using joins, and performing simple queries. Prerequisites: COSC 1310 or equivalent.

**MATH 5364. Data Science I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course centers on the identification, exploration, and description of new patterns contained within data sets using appropriate software. Selected topics will be chosen from data exploration, classification, cluster analysis, and model evaluation and comparison. Prerequisites: Probability and Statistics.

**MATH 5366. Data Science II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course centers on the identification, exploration, and extraction of new patterns from natural language text documents using appropriate software. Selected topics will be chosen from association analysis, anomaly detection, text mining, dimensionality reduction, and model evaluation and comparison. Prerequisites: MATH 5364.

**MATH 5370. History of Mathematics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A historical and philosophical development of mathematics from earliest times down to the present. Mathematical topics are presented in a historical and philosophical setting not only to provide a unifying theme, but also to illustrate how the evolution of mathematical ideas finally led to modern concepts in the field. Students having prior credit for History of Mathematics will not receive credit for MATH 5370. Prerequisite: 6 advanced hours in MATH.

**MATH 5371. Euclidean and Non-Euclidean Geometries. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on important geometric concepts of Euclidean and non-Euclidean geometries from an axiomatic perspective. Technology will be included where appropriate. Prerequisite: 3 hours of undergraduate geometry.

**MATH 5373. Theory of Functions. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to emphasize the role of function as the key unifying concept of mathematics and to extend the understanding of the structural foundations of mathematics. The properties of various families of functions will also be studied. Prerequisite: 24 hours of MATH, including MATH 2413. Course fee \$15.

**MATH 5375. Statistical Reasoning and Probability. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on statistical reasoning and decision making by extending the elements of probability and statistics introduced in an undergraduate course. Topics may include probability theory, distribution functions, statistical inference, sampling methods, regression analysis, and ANOVA. Technology will be incorporated where appropriate. Prerequisite: 3 hours of undergraduate statistics.

**MATH 5376. Algebraic Structures. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines algebraic structures in secondary and post-secondary mathematics from an advanced perspective. Analysis of algebraic concepts and underlying theory, along with the appropriate integration of manipulatives and technology in accordance with the standards of the National Council of Teachers of Mathematics, will be emphasized. Prerequisite: 24 hours of MATH at the undergraduate level, including Calculus.



**MATH 5377. In-Depth Mathematical Reasoning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of mathematics from an advanced perspective, taking into account not only the interconnections among topics but their relationship to higher mathematics. Important new mathematical insights and understandings will be revealed in its structure and its applicability. The focus will be on concept analysis, problem analysis, and mathematical connections as well as mathematical habits of mind. Prerequisite: 24 hours from MATH, including MATH 2413.

**MATH 5378. Technology-Aided Mathematics-. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will engage in mathematical problem-solving using technological tools. Technologies may include graphing handhelds, data collection devices, computer software packages, and internet resources. This course may be repeated for credit as the topic changes. Prerequisite: 24 hours of MATH, including MATH 2413.

**MATH 5379. Trends and Issues in Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In this seminar-style course, students have a forum for discussion and presentation of inquiries into the history, current trends, and issues pertaining to analysis of research trends in mathematics education and its effect on policy, curriculum, and the teaching and learning of mathematics. Prerequisite: 24 hours of MATH, including MATH 120.

**MATH 5380. Selected Topics in Mathematical Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of topics in mathematical theory appropriate for secondary mathematics educators. Topics will be selected from geometry and topology, number theory, modern algebra, and library research in mathematics. This course may be repeated for credit as the topic changes. Prerequisite: Approval of department head.

**MATH 5390. Selected Topics in Mathematics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of topics in applied mathematics. Topics for study will be selected from advanced mathematical modeling, advanced numerical techniques, practical optimizations, calculus of variations, dynamic programming, integral equations, optimal control, perturbation methods, and library research in applied mathematics. This course may be repeated for credit as the topic changes. Prerequisite: Approval of department head.

**MATH 5699. Internship. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

The student will complete a supervised and comprehensive work experience in a mathematics-related position with a public or private business organization for career preparation in a mathematics-related enterprise. Credit in this course does not count towards the 24 hour requirement for the M.S. in Mathematics. Prerequisite: Mathematics graduate student with department head approval. Field assignment fee \$75.

## Mechanical Engineering

### Courses

**MEEN 2115. Engineering Computer Aided Manufacturing. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours).**

This is a fundamental course that demonstrates the integration of Computer-Aided-Design (CAD) and Computer-Aided-Manufacturing (CAM), and examines how to program and operate Computer Numerical Control (CNC) mills and lathes. It is a study of modern prototyping and machining methods, with emphasis on teaching the use of CAM software. This program converts 2D and 3D CAD drawing geometry directly into tool path information that is used to drive numerically-controlled turning and milling machines. Prerequisite: MEEN 2210 (prereq); MATH 2413 (coreq).

**MEEN 2210. Engineering Computer Aided Design. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Fundamentals of engineering design and solid modeling using computer aided drafting tools; application of solid modeling, analysis and simulation software and 3-D printing to problem solving and design. Prerequisite: ENGR 1211 (coreq); MATH 2412 (coreq) Lab fee: \$2.

**MEEN 2310. Engineering CAD/CAM. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Application of solid modeling, analysis and simulation software and 3-D printing to problem solving and design. Fundamentals of engineering design and solid modeling using computer-aided drafting tools. Standard terminologies, conventions, processes, operations, design and operational characteristics of key hardware components, programming techniques, applications, merits and demerits of Computer Numerical Controlled (CNC) machines. Prerequisite: ENGR 1212; MATH 2413 or concurrent registration Lab fee: \$2.

**MEEN 3305. Fluid Mechanics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to fluid mechanics, and emphasizes fundamental concepts and problem-solving techniques. Topics to be covered include fluid properties, fluid statics, fluid kinematics, control volume analysis, dimensional analysis, internal flows (pipe flows), and external flows (lift and drag). Brief introductions to computational fluid dynamics (CFD), compressible flow, and fluid power systems such as turbomachinery (pumps and turbines) will also be provided. Prerequisite: PHYS 2425, MATH 2414, ENGR 2322.

**MEEN 3310. Materials and Manufacturing Processes in Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers the relationship between product design and manufacturing, assembly, testing and service. Includes materials selection, traditional and nontraditional manufacturing process, inspection, reliability, quality engineering and the economic impact of modern process engineering. Also emphasizes mechanical properties of materials, material microstructures and use of design methodology. Prerequisites: MEEN 2210, CVEN 3423.

**MEEN 3314. Signals and Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Modeling and analysis of electrical and mechanical systems using Laplace transformation methods; transient and steady-state analysis; Fourier series; Fourier transform; elementary feedback. Prerequisite: ELEN 2425, MATH 3306 or concurrent registration.

**MEEN 3325. Advanced Thermodynamics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Design of power and refrigeration systems, mixing or separation, multiphase, air conditioning and energy conversion processes; engine design and operating parameters dealing with thermo-chemistry of fuel air mixtures; properties of working fluids; power cycle analysis with thermodynamic properties and working fluids. Prerequisites: ENGR 2322, CHEM 1409, and MATH 3306 (coreq).

**MEEN 3335. Mechanical Vibration. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Modeling, analysis and design for mechanical vibrations. Fundamentals of free vibration, harmonically excited vibration and vibration under general forcing conditions for one degree and multidegree of freedom systems; vibration design strategies including isolation and absorbers; analysis of mechanical systems for stability, resonance, damping, and modal coupling. Prerequisite: ENGR 2324, CVEN 3423, MATH 3306 Lab fee: \$2.

**MEEN 3345. Heat Transfer. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Heat transfer by conduction, convection, and radiation; steady-state and unsteady heat conduction; free and forced convection heat transfer; radiative heat transfer; heat exchanger analysis. Prerequisite: ENGR 2322, MEEN 3305, MATH 3306.

**MEEN 3350. Measurement System Design. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Design of measurement systems including hardware and software specifications, design, prototyping and testing. Includes fundamentals of data acquisition, design of experiments, instrumentation and sensor calibration commonly used in industry and research (e.g., sensors, signal conversion and conditioning, and wireless data communications). Prerequisite: ELEN 3314, MEEN 2210, PHYS 2426 Lab fee: \$2.

**MEEN 3400. Fluid Mechanics. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Perform analyses involving hydrostatics, fluid dynamics, pipe flow, open-channel flow, pumps, and dimensional analysis. Design and conduct fluid mechanics experiments. Perform computer simulations of fluid processes. Prerequisites: PHYS 2425 and MATH 2414 Lab fee: \$2.

**MEEN 3440. Heat Transfer. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Steady and transient conduction in one- and two-dimensions; forced and natural convection; radiation; phase change; basic heat exchangers design; elements of thermal system design. Includes an introduction to computational analysis of heat transfer and temperature distributions and laboratory experiences. Prerequisite: ENGR 2322 Lab fee: \$2.

**MEEN 4086. Special Problems. 1-4 Credit Hours (Lecture: 1-4 Hours, Lab: 1-4 Hours).**

Directed study of selected topics in Mechanical Engineering. May be repeated with approval of department head.

**MEEN 4205. Mechanical Engineering Experimental Lab. 2 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

Experimentation and measurements in fluid mechanics and heat transfer; efficiency analysis; design of experiment; data processing and analysis; report writing. Prerequisite: MEEN 3305, MEEN 3345 Lab fee: \$2.

**MEEN 4300. Renewable Energy Systems and Applications. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Study of renewable energy sources, future demands, energy management and conservation techniques with focus on sources such as solar energy, biomass (conversions), wind power, geothermal energy, ocean energy, fuel cells and hydro power; assessing the viability of renewable energy systems; and analysis of renewable energy systems, applications, backup energy needs and economic factors. Prerequisites: MEEN 3325, MEEN 3305, MEEN 3345.

**MEEN 4310. Mechanical Engineering Design I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Application of principles of mechanics and physical properties of materials, stress fundamentals and failure theories to the design, selection and analysis of linear elastic solid materials in machine elements with consideration of economics, safety and design for manufacturing. Prerequisite: MEEN 2210, MEEN 2115, CVEN 3423, ENGR 2324.

**MEEN 4320. Mechanical Engineering Design II. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Modeling, analysis and design of machine elements such as springs, bearings, gears, shafts, and mechanisms based on extensive application of physics, mathematics, core engineering principles and industrial practice; design for optimal manufacturability, quality and reliability in the mechanical engineering practice of design. Prerequisite: MEEN 4310, MEEN 3305 Lab fee: \$2.

**MEEN 4420. Thermal-Fluid System Design. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Application of thermodynamics, heat transfer and fluid mechanics concepts to the analysis and design of thermal-fluid systems. Emphasis on component and system modeling, energy balances, performance measurements and experimental design. Prerequisite: ENGR 2322, MEEN 3305, MEEN 3345 Lab fee: \$2.

**MEEN 4425. Mechatronics. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

The study and design of electromechanical devices including comprehensive principles from mechanics, electronics, instrumentation and software; includes sensors, control systems and actuators along with how to choose a proper controller for mechanical engineering design problems. Prerequisites: ELEN 2425, MEEN 4310; ELEN/MEEN 4443 Lab fee: \$2.

**MEEN 4443. Linear Control Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Application of state variable and frequency domain techniques to modeling and analysis of single input, single output linear control systems; physical implementation of control systems by integrating sensors, actuators and other control system components; use of software design tools. Prerequisite: ELEN 2425, ELEN 3320 or COSC 3344, MATH 3306. Lab fee: \$2.

**MEEN 5088. Master's Thesis. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).**

Required each semester in which a student is working and receiving direction on a master's thesis in MEEN-MS. Minimum two semesters (6 hours) required for master's thesis option. Prerequisites: Graduate standing.

**MEEN 5310. Advanced Solid Mechanics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Application of continuum mechanics to study the response of materials to different loading conditions; general principles common to all media such as conservation of mass, balance of linear momentum, conservation of momentum and energy; constitutive equations defining idealized materials for structural elements, mechanical energy considering stress and strain.

**MEEN 5311. Finite Element Analysis: Theory and Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Line, plane, solid, plate, and shell elements-theory; practical aspects of modeling; applications in mechanical engineering; final project.

**MEEN 5320. Optimization of Engineering Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Applications of optimization techniques to engineering design problems from a variety of fields, including aerospace, automotive, chemical, electrical, construction, and manufacturing; the focus is on using optimization techniques in a comprehensive manner, to enhance the creative process of conceptual and detailed design of engineering systems.

**MEEN 5321. Lean Six Sigma. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A close examination of Lean Six Sigma tools and methodology, and its relationship to the engineering design, optimization, and validation processes for product development. Students will learn about translation of requirements, Taguchi's robust design solutions, and failure mode-effect analysis for design and processes.

**MEEN 5330. Mechanics of Viscous Flow. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The mechanics of Newtonian viscous fluids. The use of modern analytical techniques to obtain solutions for flows with small and large Reynolds numbers, particularly in the areas of boundary layer theory, laminar flows, and turbulent flows.

**MEEN 5331. Computational Methods for Fluid Mechanics and Heat Transfer. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Numerical methods for solving Navier-Stokes equations in complex geometries, including theory, implementation, and applications.

**MEEN 5332. Advanced heat transfer. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

General problems of heat transfer by conduction, convection, and radiation; solution by the analog and numerical methods, thermal boundary layers, analysis of heat exchanges; problems on thermal radiation.

**MEEN 5333. Advanced Engineering Thermodynamics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Concepts and laws of thermodynamics, including energy, entropy, and energy analysis, property relations, equilibrium conditions, and evaluation of properties; advanced special topics such as kinetic theory, statistical thermodynamics, radiation, and photovoltaic energy conversion.

**MEEN 5340. Advanced Energy Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced energy conversion technologies that are currently on the market or under development; tools used by professionals to design energy systems and to evaluate their performance; related concepts from thermodynamics, heat transfer, fluid mechanics, geophysics, and chemistry.

**MEEN 5360. Introduction to Robotics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to robotics through computational methods commonly used in this field; fundamentals of kinematics, dynamics, and control of robot manipulators, robotic vision, and sensing; mechanisms, actuators, sensors, controllers, and processors for engineering of mechanical manipulation; advanced concepts from mechanics, control theory, optimization, probabilistic inference, simulation, kinematics, and computer science.

**MEEN 5390. Advanced Engineering Mathematics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Mathematical analysis techniques for the solution of engineering analysis problems and for the simulation of engineering systems; both continuous and discrete methods are covered; initial and boundary value problems for ordinary and partial differential equations.

## Management

### Courses

**MGMT 3300. Principles of Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the basic managerial functions of planning, organizing, leading, and controlling resources to accomplish organizational goals. Management theories and the business environment are also covered.

**MGMT 3302. Human Resource Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Fundamental functions of human resources management; relationship between personnel management and organizations' emerging role of personnel administration in development of strategic policy for organizations.

**MGMT 3304. Small Business Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Oriented toward planning for and managing a small business, starting a business, and buying a business franchise. May include computer simulation and consultation for actual small business. Prerequisites: Approval of the instructor and department head to enroll in the course.

**MGMT 3325. Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced studies of contemporary leadership issues; the history of leadership; leadership theories; leadership ethics and values; group dynamics; organizational behavior; methods of effective team building; community activism; the politics of gender, race, disability, and age; the dynamic of power; and the aspect of professional networking. Course will include in depth study of above mentioned topics, as well as extensive discussion and research of related leadership issues.

**MGMT 3350. Organization Behavior. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides a comprehensive analysis of the behavior of people at work in all types of organizations. Topics include fundamentals of organizational behavior: values, ethics, motivation, group dynamics, individual differences, attitudes, decision-making, conflict, power, change, stress, leadership, rewarding behavior, communication, and organizational structure.

**MGMT 3385. Managing Diversity in Organizations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course examines the changing workforce demographics, including multiple demographic groups and areas of difference important to organizational treatment and outcomes. This course examines research on treatment, access, and inclusion. Legislation related to diversity is also reviewed. This course also provides suggestions for individuals and organizations to increase opportunities and outcomes for workers of all backgrounds.

**MGMT 4084. Internship. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-20 Hours).**

Preapproved and supervised work experience in a management related position with a public or private business organization. May be repeated for a total of 6 hours credit. Prerequisite: Approval of Instructor and Department Head.

**MGMT 4086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A directed study of selected problems in management. May be repeated with department head approval. Prerequisites: Approval of Instructor and Department Head.

**MGMT 4090. Special Topics in Management. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

An examination of current topics in management. Readings required from current management publications and other related periodicals. May be repeated for credit when topics vary. Prerequisite: 9 hours in MGMT.

**MGMT 4303. Strategic Compensation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Wage and salary administration in public and private organizations; determinants of general wage and salary levels and structures; total compensation systems, interrelationship among employee performance, intrinsic and extrinsic rewards, perceived equitable payments, employee satisfaction. Prerequisite: MGMT 3302.

**MGMT 4304. Staffing Organizations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Recruitment and selection of human resources for organizations; optimal utilization of human resources within organizations; use of tests and other techniques in human resource management. Prerequisite: MGMT 3302.

**MGMT 4305. Human Resource Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Practical and theoretical approaches to training and development of employees in an organization. Topics include organization, role and scope, training and development functions, philosophies, strategies, need analysis, development of program content, methods, materials and techniques, and evaluation and control of the training and development function.

**MGMT 4306. Employee and Labor Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Collective bargaining, labor market fundamentals, unionism, and related issues of labor economics.

**MGMT 4307. Business Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An analysis and examination of significant contemporary ethical issues and problems existing throughout the professional business arena. Emphasis will be upon the manager's social and environmental responsibilities to employees, customers, and the public.

**MGMT 4308. Negotiation & Conflict Resolution. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to the principles and methods of negotiation and conflict resolution that come about due to interpersonal and inter-group conflict. Explores the major theories, models, and concepts of bargaining and negotiation and introduces the topics of mediation and alternative dispute resolution.

**MGMT 4312. Entrepreneurship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Addresses the process of generating ideas for new business, writing comprehensive business plans. Emphasis on information sources, industry analysis.

**MGMT 4315. Project Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is geared towards teaching students the fundamentals of project management based on the Project Management Body of Knowledge developed by the Project Management Institute. In particular, students will learn about scope, time, cost, quality, human resource, communication and procurement management and develop a comprehensive project plan accordingly.

**MGMT 4320. International Entrepreneurship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Entrepreneurship is a driver of growth, innovation, and wealth creation across developed, developing, and undeveloped nations. Increasingly, entrepreneurship is international from the founding of the venture. Entrepreneurial ventures source inputs from foreign firms and sell goods to foreign markets. Herein, we identify and address global entrepreneurial activities and evaluate the complex environment of global entrepreneurship. The course integrates theory with practical experiences in international entrepreneurship to provide students with the foundation to identify, evaluate and develop global entrepreneurial opportunities. The course is designed to prepare students for careers as founders of, early hires in, investors in, advisors to, or managers in global ventures.

**MGMT 4321. Production and Operations Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics covered include: industrial organization, scientific management, planning and control, building locations and layouts, wage rates, corporation relationships, and research. Prerequisite: BUSI 2311 or concurrent enrollment.

**MGMT 4323. Innovation and Creativity in Business. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course explores the entrepreneurial mindset as it relates to creativity, innovation and creative problem-solving in the current business environment. Students will investigate various perspectives to ground an understanding of creativity, innovation and the uses of creative problem-solving. We will review theoretical and applied models of creativity and innovation as they relate to individuals, groups, and organizations. The materials address the creative process and its complexity as it fuels innovation in both a corporate and entrepreneurial environment through video presentations and discussions.

**MGMT 4354. International Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A global approach to the study of management to include international dimensions of the marketplace and environment, the role of culture, international strategic management, organizational behavior and human resource management.

**MGMT 4385. Seminar in Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Deals with current issues in management. Readings are required from current management publications and other related periodicals. May be repeated for credit when topics vary. Prerequisites: 15 hours in MGMT and approval of department head.

**MGMT 4389. Global Management Practices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of basic international business concepts, cultural literacy, and discipline specific content are then applied to practical experiences and activities in the foreign country visited. A study abroad at the student's expense is required. Student may complete a maximum of six hours of COBA sponsored study abroad toward degree completion.

**MGMT 5086. Problems. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

This course offers students the opportunity to study management topics and perform research within the student's area of interest as directed by the responsible professor. Prerequisite: Approval of the department head.

**MGMT 5090. Special Topics in Management. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

An examination of current topics in management. Readings required from current management publications and other related periodicals. May be repeated for credit when topics vary.

**MGMT 5301. Organizational Behavior. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Behavioral theory in organizational context. A study of individual and group dynamics in the business environments. Specific emphasis is given to leadership, motivation, communication, employee supervision, and morale in all organizational settings.

**MGMT 5303. Managerial Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an overview of foundations for professional success in business and professional communication. The course will focus on applying communication and management theories to practices in business organizations, implementing optimal business and professional communication strategies, and focus on effective oral and written communication skills for business leaders.

**MGMT 5306. Influencing Organizational Productivity through Interpersonal Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A practical and theoretical course dealing with interpersonal behavior and its influence on organizational productivity. Emphasis will be on identifying and classifying behavior in order to better understand behavior and to develop strategies for creating productive relationships with others. Particular emphasis is directed toward the impact of interpersonal behavior in business organizations and the potential effect on productivity. Materials fee required.

**MGMT 5307. Responsibilities and Ethics of Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of an organization's social and environmental responsibilities to its employees, customers, and the general public. Practical emphasis is given to the case study method for evaluating the performance of various organizations. Establishes a theoretical framework for understanding ethics, principles and values of leadership as they affect the organization, the organizational environment and society.

**MGMT 5310. Leadership Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Leadership is explored through the process of developing oneself as a leader while developing followers. Emphasis is placed upon learning the skills necessary to lead through the ethical use of influence in order to achieve organizational strategic goals.

**MGMT 5311. Managing Operations and Services. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of concepts, models and methods used to effectively manage the manufacturing and/or service operations of for-profit and not-for-profit organizations. Emphasis will be placed on the design and use of cross-functional operations planning, control, and support systems. Topics of contemporary relevance will be examined to include supply chain management, enterprise resource planning, time-based competition, and quality improvement.

**MGMT 5312. Project Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Project Management is a growing field in many disciplines from manufacturing and from technology to training. Students will plan, document, and execute a simulated or real project while learning the principles and practices of project management.

**MGMT 5313. Small Business Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Provide students with an overview of entrepreneurial best practices for leading through influence while incorporating self-reflection, strategic management, and high-performance team leadership validated practices for successful ventures. Explore the implications for comprehensive leadership abilities in the small business context and integrate fundamental insights from the entrepreneurship, leadership, and strategic management disciplines. Identify strategies and techniques for effectively leading small and medium-sized enterprise start-ups, and existing firms.

**MGMT 5354. International Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Coverage of the management issues corporations face when doing business internationally. Topics include the impact of culture, role of international relations, ethical decision-making, international strategic management, organizational behavior and human resource management.

**MGMT 5368. Organizational Development and Change. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study, research and analysis of pro-active strategies for organizational change using the theories and techniques of applied behavioral science. Examines the phases of consulting, strategies, intervention decisions and actions, multiple roles, skills and phases of internal and external consultants, ethical dilemmas and guidelines and the implementation of action research. A complete, step-by-step, intervention strategy is developed during this course.

**MGMT 5378. Strategic Business Planning & Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course provides students with an opportunity to integrate various topics related to strategic execution. The perspective of the organization as a total system, which encompasses internal, specialized sub-systems, interacting with an external, dynamic environment serves as the foundation of study. The emphasis will be on the development, implementation, and analysis of organization strategies and policies that impact a firm's survival and success in a progressively competitive global marketplace. Models for strategic formulation, implementation, and control are analyzed for the facilitation of an integrated understanding of the courses that comprise the MSM curriculum. Readings and lectures illustrate strategic management theories and frameworks while case discussions, experiential exercises, and team projects provide opportunities for application.

**MGMT 5388. Thesis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thesis. No credit until the thesis is completed. Prerequisite: Approved research methodology course and approval of instructor of record.

**MGMT 5389. Global Management Practices. 3 Credit Hours (Lecture: 4.5 Hours, Lab: 0 Hours).**

A study of basic international business concepts, cultural literacy, and discipline specific content are then applied to practical experiences and activities in the foreign country visited. A study abroad at the student's expense is required. Student may complete a maximum of six hours of COBA sponsored study abroad toward degree completion. Prerequisites: Admission into a COBA graduate program and permission of the instructor.

**MGMT 5391. Management Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected topics of current importance to management. May be repeated for credit when topics vary.

**MGMT 5395. Internship. 3 Credit Hours (Lecture: 1 Hour, Lab: 8 Hours).**

Prepared and supervised work experience in a management-related position with a public or private business organization. May be repeated for a total of 6 hours credit. Prerequisite: Approval of MBA Director. Field experiences fee \$50.

## Marketing

### Courses

**MKTG 2314. Marketing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examination of the principles and concepts of marketing goods, services, and intangibles by profit and non-profit organizations in a free enterprise and global economy.

**MKTG 3312. Marketing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examination of the principles and concepts of marketing goods, services, and intangibles by profit and non-profit organizations in a free enterprise and global economy.

**MKTG 3315. Personal Selling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the role and function of personal selling as a part of the marketing mix. Techniques in identifying and locating prospective customers, approaching the prospect, presentation, and demonstrations of products and services, closing the sale, and servicing customer accounts are covered in theory and practice. Prerequisite: MKTG 2314 or MKTG 3312.

**MKTG 3316. Consumer Behavior. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Acquaints students with individual and group behavior of people performing in consumer role. Considers such topics as buying motives, social class, and research techniques in consumer behavior. Prerequisite: MKTG 2314 or MKTG 3312.

**MKTG 3317. Retailing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Fundamental operations of retailing, studying of buying practices, pricing, store locations and layout, sales promotions, personnel management, and stock control. Designed to aid the student seeking a general knowledge of the retail field as well as those specializing in Marketing. Prerequisite: MKTG 2314 or MKTG 3312.

**MKTG 3318. Promotional Strategy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of a controlled, integrated program of promotional variables. Designed to present a company and its products to prospective customers; to promote need-satisfying attributes of products toward the end of facilitating sales and long-run performance. Prerequisite: MKTG 2314 or MKTG 3312.

**MKTG 4084. Internship. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-20 Hours).**

Preapproved and supervised work experience in a marketing related position with a public or private business organization. May be repeated for a total of 6 hours credit. Prerequisite: Either MKTG 2314 or MKTG 3312, and approval of Department Head.

**MKTG 4086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A directed study of selected problems in marketing. May be repeated with approval of the department head. Prerequisites: Approval of instructor and Department Head.

**MKTG 4090. Special Topics in Marketing. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

An examination of current topics in marketing. Readings required from current marketing publications and other related periodicals. May be repeated for credit when topics vary. Prerequisite: 9 hours of MKTG.

**MKTG 4302. Services Marketing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduce the student to the service environment. An in-depth analysis of the most successful service-oriented industries and firms within the world's fastest-growing economic sector will be presented. Prerequisite: MKTG 2314 or MKTG 3312.

**MKTG 4312. Sales Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Administration of an effective sales force, including strategy, planning, recruiting, training, motivating, coordinating, leading, and directing sales forces at all levels of marketing enterprises. Prerequisites: Either MKTG 2314 or MKTG 3312, and MKTG 3315.

**MKTG 4314. Supply Chain and Logistics Concepts. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explore key business concepts, issues and decisions required for the organization and management of supply chains within the global marketplace. Supply Chain Management involves planning and coordinating the value-added activities and flow of materials, finished goods and information. Supply chain organizations participate in the product fulfillment process so that products are distributed to customers in the right quantity, time, and at the lowest cost subject to customer expectation and other service requirements. Prerequisite: MKTG 2314 or MKTG 3312.

**MKTG 4315. Marketing Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Familiarizes students with the accurate, objective, and systematic gathering, recording, and analyzing of data about problems relating to marketing goods and services. Prerequisites: Either MKTG 2314 or MKTG 3312, and either BUSI 2311 or BUSI 3311.

**MKTG 4316. Marketing Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The application of strategic planning and management of all functional aspects of the marketing operation of an enterprise using comprehensive analytical methods and an integrated marketing mix. Prerequisites: Either MKTG 2314 or MKTG 3312, and 6 hours of upper level MKTG.

**MKTG 4354. International Marketing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A global approach to the study of comparative marketing systems, including economic, social, technological, governmental, and political environments as they affect international marketing operations. Prerequisite: MKTG 2314 or MKTG 3312.

**MKTG 4385. Seminar in Marketing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of selected topics dealing with problems or unique needs of Marketing. May be repeated for credit as topics vary. Prerequisite: Approval from instructor & department head.

**MKTG 4389. Global Marketing Practices. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of basic international business concepts, cultural literacy, and discipline specific content are then applied to practical experiences and activities in the foreign country visited. A study abroad at the student's expense is required. Student may complete a maximum of six hours of COBA sponsored study abroad toward degree completion. Field assignment fee of \$50. Prerequisites: Either MKTG 2314 or MKTG 3312, or approval of instructor and department head.

**MKTG 5086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

This course offers students the opportunity to become acquainted with current research being conducted within the student's area of interest; directed reading of a number of sources selected in concert with the student's professor. Prerequisite: Approval of department head.

**MKTG 5303. NonProfit & Public Sector Marketing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will examine the role and application of marketing in public and nonprofit settings. The course focuses on a conceptual understanding of the marketing discipline and marketing processes and shows how basic concepts and principles of marketing are applicable to public and nonprofit organizations.

**MKTG 5308. Marketing Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of the planning and coordination of marketing functions specifically related to product, pricing, promotion, and distribution strategies. Includes case analysis and presentation of results. Prerequisite: MGMT 5300 or approval of department head.

**MKTG 5309. Marketing Strategy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Develops the role of product, pricing, promotion, and channel and physical distribution in the development of a firm's integrated marketing program. Cases are used to evaluate and compose alternative courses of action.

**MKTG 5354. International Marketing. 3 Credit Hours (Lecture: 4.5 Hours, Lab: 0 Hours).**

A global approach to the study of comparative marketing systems, including economic, social, technological, governmental, and political environments as they affect international marketing operations. Graduate students will be required to complete an extensive research project in addition to other course requirements.

**MKTG 5389. Global Marketing Practices. 3 Credit Hours (Lecture: 4.5 Hours, Lab: 0 Hours).**

A study of basic international business concepts, cultural literacy, and discipline specific content are then applied to practical experiences and activities in the foreign country visited. A study abroad at the student's expense is required. Graduate students will be required to complete an extensive research project in addition to other course requirements. Student may complete a maximum of six hours of COBA sponsored study abroad toward degree completion. Prerequisites: Admission into a COBA graduate program and permission of the instructor.

**MKTG 5391. Marketing Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected topics of current importance to marketing. May be repeated for credit when topics vary.

## Medical Laboratory Technician

### Courses

**MLAB 2182. Introductory Skills for Medical Laboratory Science. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

An introductory course in the medical laboratory sciences program that includes basic laboratory safety practices, computer applications, lab mathematics, quality control and basic laboratory equipment. This course must be taken during the first semester of enrollment on the MLT and HT certification programs. Course fee \$25.

**MLAB 2193. MLT Field Practicum III. 1 Credit Hour (Lecture: 0 Hours, Lab: 7 Hours).**

Structured supervised work-based instruction that helps students gain practical experience, enhance skills and integrate knowledge in microbiology and urinalysis.

**MLAB 2194. MLT Field Practicum I. 1 Credit Hour (Lecture: 0 Hours, Lab: 7 Hours).**

Structured supervised work-based instruction that helps students gain practical experience, enhance skills and integrate knowledge in blood bank, serology and automation.

**MLAB 2195. MLT Field Practicum II. 1 Credit Hour (Lecture: 0 Hours, Lab: 7 Hours).**

Structured supervised work-based instruction that helps students gain practical experience, enhance skills and integrate knowledge in chemistry and hematology.

**MLAB 2214. Introduction to Urinalysis. 2 Credit Hours (Lecture: 1 Hour, Lab: 5 Hours).**

An introduction to urinalysis and body fluid analysis, including the anatomy and physiology of the kidney, and physical, chemical and microscopic examination of urine, cerebrospinal fluid, and other body fluids. Lab fee \$2.

**MLAB 2228. Coagulation. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

A course in coagulation theory, procedures, and practical applications. Includes laboratory exercises which rely on commonly performed manual and semi-automated methods.

**MLAB 2285. Advanced Topics and Capstone Review. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course examines the integration of all areas/concepts of the laboratory and correlates laboratory test data with diagnostic applications and pathophysiology using critical thinking skills. This course includes a capstone examination and may only be taken during the last semester of the MLT/HT programs.

**MLAB 2292. MLT Field Practicum IV. 2 Credit Hours (Lecture: 0 Hours, Lab: 14 Hours).**

Structured, supervised work-based instruction that helps students gain practical experience in the clinical laboratory. Opportunities are centered in the rural health setting. Course must be taken in the last semester of the MLT program.

**MLAB 2364. Introduction to Immunology-Serology. 3 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

An introduction to the theory and application of basic immunology, including the immune response, principles of antigen-antibody reactions, and principles and techniques of serologic procedures. Lab fee \$2.

**MLAB 2424. Introduction to Hematology. 4 Credit Hours (Lecture: 2 Hours, Lab: 6 Hours).**

Introduction to the theory and practical application of routine procedures, both manual and automated. Red blood cell and white blood cell physiology, morphology (normal and abnormal), maturation sequences and associated diseases are included. Lab fee \$2.

**MLAB 2444. Introduction to Immunohematology. 4 Credit Hours (Lecture: 2 Hours, Lab: 8 Hours).**

A study of blood group antigens and antibodies. Performance of routine blood banking procedures, including blood group and Rh typing, antibody screens, antibody identification, cross matching, elution and absorption techniques. Lab fee \$2.

**MLAB 2474. Laboratory Operations. 4 Credit Hours (Lecture: 2 Hours, Lab: 7 Hours).**

An intermediate course in the clinical laboratory sciences that includes the principles of laboratory instrumentation and automation, quality control concepts, point of care testing and phlebotomy. Supervised laboratory experiences in instrument operation, calibration and maintenance, and point of care testing and phlebotomy. Lab fee \$2.

**MLAB 2534. Introduction of Medical Microbiology. 5 Credit Hours (Lecture: 4 Hours, Lab: 5 Hours).**

Instruction in the theory, practical application and pathogenesis of clinical microbiology, including specimen collection, processing, identification, susceptibility testing and reporting procedures. Lab fee \$2.

**MLAB 2576. Introduction to Clinical Chemistry. 5 Credit Hours (Lecture: 3 Hours, Lab: 8 Hours).**

An introduction to the principles and procedures of various tests performed in clinical chemistry. Presents the physiological basis for the test, the principle and procedure for the test and the clinical significance of the test results including quality control and normal values. Also includes basic chemical laboratory techniques and safety for electrolytes, acid-base balance, proteins, carbohydrates, lipids, enzymes, metabolites, endocrine function, therapeutic drug monitoring, and toxicology. Lab fee \$2.

## Medical Laboratory Sciences

### Courses

**MDLS 1100. Transitioning to University Studies in Health Professions. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, and in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. Also included will be the development of skills to promote physical and mental health.

**MDLS 1111. Surv Allied Health Prof. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Course description is needed.

**MDLS 4086. Clinical Laboratory Science Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A course open by invitation to capable Clinical Laboratory Science students who wish to pursue a selected problem study. Students are permitted and encouraged to work independently under the guidance of an instructor. May be repeated for credit, subject to the approval of the department head. Lab fee \$2.

**MDLS 4091. Integrated Clinical Laboratory Practice and Research. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 5-15 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An integrated clinical laboratory course designed to introduce the concepts of specimen tracking and processing using a laboratory information system, test result utilization, utilization review, and clinical research. Emphasis will be placed on workload organization; quality control evaluation accuracy; consistency; validity of results generated; and appropriate reporting of results. Lab fee: \$2.

**MDLS 4092. Clinical Laboratory Practicum I. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 5-40 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in hematology, hemostasis, and body fluid analysis. Emphasis is placed on the analysis of quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 4093. Clinical Laboratory Practicum II. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 8-40 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in medical microbiology and parasitology. Emphasis is placed on the analysis of quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 4094. Clinical Laboratory Practicum III. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 8-40 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in immunology, serology, and blood banking. Emphasis is placed on the analysis of quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 4095. Clinical Laboratory Practicum IV. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 8-40 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work and solving problems in clinical chemistry, toxicology, and molecular pathology. Emphasis is placed on the analysis of quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 4096. Advanced Clinical Practicum. 1-8 Credit Hours (Lecture: 0 Hours, Lab: 3-24 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in the clinical laboratory. Emphasis is given to high complexity testing. Grading in this course is satisfactory/unsatisfactory.

**MDLS 4104. Clinical Correlations and Capstone Review Specialty. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course employs an integrative approach to laboratory medicine with emphasis on the review of patient cases and appropriate utilization of laboratory tests in diagnosis and case management. A comprehensive review and assessment of the concepts in a specialty area of medical laboratory medicine. Prerequisite: Acceptance to Public Health Microbiology Categorical Certification program.

**MDLS 4114. Urinalysis and Renal Physiology. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

A study of renal physiology, the formation of urine, and the relationship to renal and other systemic diseases. Co-Requisite: MDLS 4115 or approval of department head.

**MDLS 4115. Urinalysis and Body Fluids Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 4 Hours).**

Supervised learning experiences using microscopic, chemical, and automated techniques in analysis of urine, synovial, seminal, cerebrospinal, serous, and amniotic fluid.

**MDLS 4116. Body Fluids Analysis. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Advanced concepts related to the biochemical and cellular analysis of body fluids. Includes normal physiologic function and pathophysiology of synovial, seminal, cerebrospinal, serous, and amniotic fluid.

**MDLS 4125. Hematology I Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised experiences with emphasis placed on the enumeration, morphology and staining characteristics of normal blood cells as well as analytes to evaluate coagulation and fibrinolysis. Manual and automated techniques will be used. Emphasis will be placed on specimen collection, processing, and generation and evaluation of diagnostic data.

**MDLS 4127. Hematology II Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised experiences with emphasis placed on the enumeration, morphology, and staining characteristics of abnormal blood cells. Emphasis will be placed on specimen processing and generation and evaluation of diagnostic data. Lab fee \$2. Prerequisite: MDLS 4125 or approval of department head. Co-Requisite: MDLS 4226 or approval of department head.

**MDLS 4128. Hemostasis. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours).**

Discussion and comparison of the hemostatic coagulation and fibrinolytic systems with emphasis on normal and abnormal physiology. Supervised learning experiences with emphasis on analytes to evaluate coagulation and fibrinolysis. Manual and automated techniques will be discussed and used. Prerequisite: MDLS 4224 and MDLS 4125 or approval of department head.

**MDLS 4135. Medical Microbiology I Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised experience with emphasis on isolation, staining, culture, and differential biochemical characteristics of pathogenic microorganisms and human parasites. Specimen collection, processing and criteria for rejection will also be addressed. Emphasis will be placed on deriving diagnostic laboratory results and evaluation of those results.

**MDLS 4137. Medical Microbiology II Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised experience with emphasis on staining, isolation, identification, and antimicrobial susceptibility testing of microorganisms isolated from clinical specimens. Emphasis is also placed on specimen processing and generation and evaluation of diagnostic data. Lab fee \$2. Prerequisite: MDLS 4135 or approval of department head. Co-Requisite: MDLS 4236 or approval of department head.

**MDLS 4138. Medical Mycology and Virology. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Discussion of the epidemiology and pathogenesis of fungi and viruses implicated in human disease. Emphasis will be placed upon diagnostic tools used in the clinical laboratory to isolate, culture, and identify these microorganisms.

**MDLS 4145. Immunohematology I Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 4 Hours).**

Supervised experiences related to blood grouping and typing and compatibility testing. Emphasis is placed on specimen processing and generation and evaluation of diagnostic data. Lab fee \$2. Co-Requisite: MDLS 4244 or approval of department head.

**MDLS 4147. Immunohematology II Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 4 Hours).**

Supervised experiences related to antibody detection and identification, incompatibility and transfusion reaction resolution; component processing and storage; and selection for therapy. Emphasis is placed on specimen processing, laboratory techniques, and generation and evaluation of diagnostic data. Lab fee \$2. Prerequisite: MDLS 4145. Co-Requisite: MDLS 4246.

**MDLS 4148. Introduction to Medical Genetics. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An introduction to the concepts of gene structure and inheritance patterns. Emphasis will be placed on the types of inheritance patterns associated with different disease conditions in which clinical diagnostics plays a valuable role in disease diagnosis or patient counseling.

**MDLS 4149. Immunohematology Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised experiences related to blood grouping and typing and compatibility testing, antibody detection and identification, incompatibility and transfusion reaction resolution; component processing and storage; and selection for therapy. Emphasis is placed on specimen processing, laboratory techniques, and generation and evaluation of diagnostic data.

**MDLS 4151. Clinical Parasitology Lecture. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Discussion of parasites causing disease in humans and their life cycles, identification, and pathology in humans. Opportunistic parasites in the immunocompromised host will also be addressed.

**MDLS 4152. Clinical Parasitology Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised experiences in the identification of human parasites. Specimen collection, processing and criteria for rejection will also be addressed. Emphasis will be placed on deriving diagnostic laboratory results and evaluation of those results. Lab fee \$2.

**MDLS 4164. Immunology and Serology I Lecture. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Discussion of immunological mechanisms fundamental to resistance to disease with emphasis on basic humoral and cellular immune response and resistance to microbial disease. Co-Requisite: MDLS 4165.

**MDLS 4165. Immunology and Serology I Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Supervised laboratory experience with emphasis on the detection, identification, and characterization of antigens and antibodies of infectious etiology using serologic techniques. Emphasis is placed on specimen processing and generation and evaluation of diagnostic data. Lab fee \$2. Co-Requisite: MDLS 4164.

**MDLS 4166. Immunology and Serology II Lecture. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Discussion of immunologic mechanisms and pathogenesis involved in autoimmune, allergic, and immunodeficient diseases. Prerequisite: MDLS 4164. Co-Requisite: MDLS 4167.

**MDLS 4167. Immunology and Serology II Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Supervised learning experience with emphasis on the detection, identification, and characterization of antigens and antibodies involved in autoimmune disease. Also emphasis on cells involved in cellular immunity using immunologic techniques. Emphasis is placed on specimen processing and generation and evaluation of diagnostic data. Lab fee \$2. Prerequisite: MDLS 4165. Co-Requisite: MDLS 4166.

**MDLS 4169. Immunology and Serology Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 4 Hours).**

Supervised learning experience with emphasis on the detection, identification, and characterization of antigens and antibodies involved in autoimmune disease and infectious etiology using serologic techniques. Also emphasis on cells involved in cellular immunity using immunologic techniques, specimen processing and generation and evaluation of diagnostic data.

**MDLS 4174. Introduction to Laboratory Safety and Instrumentation. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours).**

Introduction to the theories and principles of instrument operation and safety practices commonly used in the clinical laboratory. Supervised learning experience in instrument operation and troubleshooting.

**MDLS 4175. Advanced Laboratory Automation, Statistics, and Quality Assurance Concepts. 1 Credit Hour (Lecture: 12 Hours, Lab: 0 Hours).**

Discussion and comparison of operating principles of automated analyzers, complex laboratory techniques, statistical methods and quality assurance concepts applicable to the clinical laboratory. Supervised learning experience in instrument operation, troubleshooting, electrophoresis and chromatography. Application of statistics to quality assurance and evaluation of laboratory results will be discussed.

**MDLS 4177. Clinical Chemistry I Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised learning experiences with emphasis on manual, semi-automated, and automated procedures for assaying electrolytes, blood gases, carbohydrates, lipids, proteins, and drugs. Emphasis is placed on specimen processing and generation and evaluation of diagnostic data. Lab fee \$2. Prerequisite: MDLS 4174. Co-Requisite: MDLS 4276.

**MDLS 4179. Clinical Chemistry II Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised learning experiences with emphasis on manual, semi-automated, and automated procedures for assaying metabolites, drugs, enzymes, hormones, and tumor markers. Emphasis is placed on specimen selection, processing, analyses, and evaluation of diagnostic data. Lab fee \$2. Prerequisite: MDLS 4177. Co-Requisite: MDLS 4278.

**MDLS 4182. Computer Applications in Science and Medicine. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Use of computers in the scientific and medical fields. Emphasis is placed on using word processing and spread sheets; charting and graphing of data; presentation packages; tools for literature search; information search using the internet; and description and evaluation of current laboratory information systems.

**MDLS 4202. Molecular Diagnostics. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

An overview of molecular mechanisms including replication, transcription, and translation. Emphasis is placed on the principles of molecular methods and their application in diagnosis of microbiologic, immunologic, genetic, endocrine, hematopoietic, and metabolic disease.

**MDLS 4204. Clinical Correlations and Capstone Review Speciality. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course employs an integrative approach to laboratory medicine with emphasis on the review of patient cases and appropriate utilization of laboratory tests in diagnosis and case management. A comprehensive review and assessment of the concepts in a specialty area of medical laboratory medicine.

**MDLS 4214. Urinalysis and Body Fluids Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion in renal physiology, relationship to renal and other systemic diseases, physiologic function and pathophysiology of synovial, seminal, cerebrospinal, serous, and amniotic fluid.

**MDLS 4224. Hematology I Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Studies on the formation, function, and identification of normal cellular blood elements are discussed. Emphasis is placed on normal physiology and characteristics of blood cells in all ages. Co-Requisite: MDLS 4125 or approval of department head.

**MDLS 4226. Hematology II Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Studies on the formation and identification of abnormal cellular blood elements are discussed. Emphasis is placed on abnormal physiology and hematologic manifestations of disease. Prerequisite: MDLS 4224 or approval of department head. Co-Requisite: MDLS 4125 or approval of department head.

**MDLS 4234. Medical Microbiology I Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion of growth characteristics, morphology, physiology, and identification criteria of human pathogenic microorganisms and normal flora. Co-Requisite: MDLS 4135 or approval of department head.

**MDLS 4236. Medical Microbiology II Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion of antimicrobial susceptibility, anaerobic bacteria, mycobacteria, chlamydia, rickettsia, and an overview of infections by organ system. Emphasis is on epidemiology, pathogenesis, source of isolation, and conventional and molecular methods of diagnosis of human pathogenic organisms. Prerequisite: MDLS 4234 or approval of department head. Co-Requisite: MDLS 4137 or approval of department head.

**MDLS 4244. Immunohematology I Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion of the principles of immunohematology in relation to blood grouping, typing, compatibility testing, and antibody detection and identification. Co-Requisite: MDLS 4145 or approval of department head.

**MDLS 4246. Immunohematology II Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion of the principles of immunohematology in relation to transfusion and transplant medicine, donor processing, and component preparation and storage. Prerequisite: MDLS 4244. Co-Requisite: MDLS 4147.

**MDLS 4274. Introduction to Lab Safety and Operations. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Introduction to the theories and principles of instrument operation and safety practices commonly used in the clinical laboratory. Supervised learning experience in instrument operation and troubleshooting and the use of computers in the scientific and medical fields.

**MDLS 4276. Clinical Chemistry I Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

An introduction to the theories and principles of diagnostic methods used to measure common analytes involved in water and acid base balance, mineral and metabolic homeostasis in serum and other body fluids. Normal physiology and biochemical manifestation of disease are emphasized. Co-requisite : MDLS 4177.

**MDLS 4278. Clinical Chemistry II Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion and comparison of diagnostic methods employed in the clinical chemistry laboratory. Emphasis is placed on diagnostic metabolites, enzymology, endocrinology, and tumor markers. Normal physiology and biochemical manifestations of disease are discussed. Prerequisite: MDLS 4276. Co-Requisite: MDLS 4179.

**MDLS 4324. Hematology I Lecture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussion of the formation, function, physiology, and identification of normal blood cellular elements in all ages and hemostatic coagulation and fibrinolytic systems with emphasis on normal and abnormal physiology.



**MDLS 4334. Medical Microbiology I Lecture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussion of pathology, growth characteristics, morphology, physiology, and identification criteria of human pathogenic microorganisms, normal flora and parasites causing disease in humans. Opportunistic parasites in the immunocompromised host will also be addressed.

**MDLS 4336. Medical Microbiology II Lecture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussion of advanced microbiological concepts including anaerobic bacteria, mycobacterium, antimicrobial susceptibility, mycology, virology, and infections by organ system. Emphasis is on epidemiology, pathogenesis, source of isolation, and conventional and molecular methods of diagnosis of human pathogenic organisms.

**MDLS 4360. Introduction to Clinical Immunology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussion of immunological mechanisms fundamental to resistance to disease. Emphasis is placed on the basic humoral and cellular immune response and resistance to microbial disease with particular attention to medical laboratory assay principles.

**MDLS 4364. Immunology and Serology Lecture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussion of immunological mechanisms fundamentals to resistance to disease including basic humoral and cellular immune responses, mechanisms and pathogenesis involved in microbial, autoimmune, allergic, and immunodeficient disease.

**MDLS 4378. Clinical Chemistry II Lecture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussion and comparison of diagnostic methods employed in the clinical chemistry laboratory. Emphasis is placed on diagnostic metabolites, enzymology, endocrinology, tumor markers, and advanced methods and technologies. Normal physiology and biochemical manifestations of disease are discussed.

**MDLS 4391. Integrated Clinical Laboratory Practice and Research. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 5-15 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An integrated clinical laboratory course designed to introduce the concepts of specimen tracking and processing using a laboratory information system, test result utilization, utilization review, and clinical research. Emphasis will be placed on workload organization; quality control evaluation accuracy; consistency; validity of results generated; and appropriate reporting of results. Lab fee \$2.

**MDLS 4444. Immunohematology Lecture. 4 Credit Hours (Lecture: 4 Hours, Lab: 0 Hours).**

Discussion of the principles of immunohematology in relation to blood grouping, typing, compatibility testing, and antibody detection and identification, transfusion and transplant medicine, donor processing, and component preparation and storage.

**MDLS 4592. Clinical Laboratory Practicum I. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 5-40 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in hematology, hemostasis, and body fluid analysis. Emphasis is placed on the analysis of quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 4593. Clinical Laboratory Practicum II. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 8-40 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in medical microbiology and parasitology. Emphasis is placed on the analysis of quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 4594. Clinical Laboratory Practicum III. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 8-40 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in immunology, serology, and blood banking. Emphasis is placed on the analysis of quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 4595. Clinical Laboratory Practicum IV. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 8-40 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work and solving problems in clinical chemistry, toxicology, and molecular pathology. Emphasis is placed on the analysis of quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 4896. Advanced Clinical Practicum. 1-8 Credit Hours (Lecture: 0 Hours, Lab: 3-24 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in the clinical laboratory. Emphasis is given to high complexity testing. Grading in this course is satisfactory/unsatisfactory.

**MDLS 5086. Clinical Laboratory Science Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Independent research under the supervision of an instructor. A formal report will be submitted to the instructor. A maximum of six hours may be taken.

**MDLS 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin thesis. No credit until thesis is completed.

**MDLS 5090. Special Topics. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Study of selected topic(s) directly related to medical laboratory science. May be repeated once for credit as topic varies.

**MDLS 5091. Integrated Clinical Laboratory Science and Research. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 5 Hours).**

An integrated clinical laboratory course designed to introduce the concepts of specimen tracking and processing using a laboratory information system, test result utilization, utilization review, and clinical research. Emphasis will be placed on workload organization; quality control evaluation accuracy; consistency; validity of results generated; and appropriate reporting of high complexity results.

**MDLS 5092. Clinical Laboratory Practicum I. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 16 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in hematology, hemostasis, and body fluid analysis. Emphasis is placed on the analysis of high complexity quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 5093. Clinical Laboratory Practicum II. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 16 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving high complexity problems in medical microbiology and parasitology. Emphasis is placed on the analysis of quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 5094. Clinical Laboratory Practicum III. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 16 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work, and solving problems in immunology, serology, and blood banking. Emphasis is placed on the analysis of high complexity quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 5095. Clinical Laboratory Practicum IV. 1-5 Credit Hours (Lecture: 0 Hours, Lab: 16 Hours).**

Structured clinical experience directed toward development of laboratory skills, organizing work and solving problems in clinical chemistry, toxicology, and molecular pathology. Emphasis is placed on the analysis of high complexity quality assurance data and application of laboratory information systems and automation. Grading in this course is satisfactory/unsatisfactory.

**MDLS 5099. Practicum, Field Problem, or Internship. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 8-24 Hours).**

Supervised professional activities in specialized laboratory settings. A maximum of six hours may be taken.

**MDLS 5101. CLS Literature review Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Review of current literature topics in the medical laboratory sciences. Emphasis is placed on critique of methods, research design and value to the current body of knowledge. May be repeated for credit for a maximum of 6 credit hours.

**MDLS 5110. Hematology for Cytogeneticist. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Study of the formation and function of the formed elements of the blood. Emphasis is placed on the pathogenesis of peripheral blood and bone marrow disorders including the correlation of cytogenetic abnormalities. Course Fee \$30.

**MDLS 5116. Body Fluids Analysis. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Advanced concepts related to the biochemical and cellular analysis of body fluids. Includes normal physiologic function and pathophysiology of synovial, seminal, cerebrospinal, serous, and amniotic fluid. Emphasis on additional analysis and troubleshooting skills.

**MDLS 5127. Hematology II Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised experiences with emphasis placed on the enumeration, morphology, and staining characteristics of abnormal blood cells. Emphasis will be placed on specimen processing and generation and evaluation of diagnostic data and additional analysis and troubleshooting skills. Prerequisites: Students must be admitted into the Medical Laboratory Sciences Master of Science program. Co-requisite MDLS 5226.

**MDLS 5137. Medical Microbiology II Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised experience with emphasis on staining, isolation, identification, and antimicrobial susceptibility testing of microorganisms isolated from clinical specimens. Emphasis is also placed on specimen processing and generation and evaluation of diagnostic data and additional analysis and troubleshooting skills. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program. Co-requisite MDLS 5236.

**MDLS 5138. Medical Mycology and Virology. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Discussion of the epidemiology and pathogenesis of fungi and viruses implicated in human disease. Emphasis will be placed upon diagnostic tools used in the clinical laboratory to isolate, culture, and identify these microorganisms and additional analysis and troubleshooting skills.

**MDLS 5147. Immunohematology II Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 4 Hours).**

Supervised experiences related to antibody detection and identification, incompatibility and transfusion reaction resolution; component processing and storage; and selection for therapy. Emphasis is placed on specimen processing, laboratory techniques, and generation and evaluation of diagnostic data and additional analysis and troubleshooting skills. Prerequisites: Students must be admitted into the Medical Laboratory Sciences Master of Science program. Co-requisite MDLS 5246.

**MDLS 5149. Immunohematology Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised experiences related to blood grouping and typing and compatibility testing, antibody detection and identification, incompatibility and transfusion reaction resolution; component processing and storage; and selection for therapy. Emphasis is placed on specimen processing, laboratory techniques, and generation and evaluation of diagnostic data.

**MDLS 5166. Immunology and Serology II Lecture. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Discussion of immunologic mechanisms and pathogenesis involved in autoimmune, allergic, and immunodeficient diseases. Emphasis on analysis and troubleshooting.

**MDLS 5167. Immunology and Serology II Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Supervised learning experience with emphasis on the detection, identification, and characterization of antigens and antibodies involved in autoimmune disease. Also emphasis on cells involved in cellular immunity using immunologic techniques. Emphasis is placed on specimen processing and generation and evaluation of diagnostic data and high complexity analysis and troubleshooting skills. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program. Co-requisite MDLS 5166.

**MDLS 5170. Clin Cytogenetics Lab Oper/Pra. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course is designed to acquaint students with the operations of a modern cytogenetics laboratory. Emphasis will be placed on problem-solving processes and strategies to resolve difficult cases. Issues related to the reimbursement and regulation are addressed. Course Fee \$30.

**MDLS 5174. Intro Lab Safety and Operations. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Introduction to the theories and principles of instrument operation and safety practices commonly used in the clinical laboratory. Supervised learning experience in instrument operation and troubleshooting. Course fee \$15.

**MDLS 5179. Clinical Chemistry II Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 5 Hours).**

Supervised learning experiences with emphasis on manual, semi-automated, and automated procedures for assaying metabolites, drugs, enzymes, hormones, and tumor markers. Emphasis is placed on specimen selection, processing, analyses, and evaluation of diagnostic data and on high complexity analysis and troubleshooting skills. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program. Co-requisite MDLS 5278.

**MDLS 5202. Molecular Diagnostics. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

An overview of molecular mechanisms including replication, transcription, and translation. Emphasis is placed on the principles of molecular methods and their application in diagnosis of microbiologic, immunologic, genetic, endocrine, hematopoietic, and metabolic disease.

**MDLS 5204. Clinical Correlations and Capstone Review. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Course employs an integrative approach to laboratory medicine with emphasis on the review of patient cases and appropriate utilization of laboratory tests in diagnosis and case management. A comprehensive review and assessment of the concepts in clinical laboratory medicine.

**MDLS 5206. Laboratory Management. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Designed to acquaint students with the principles of operating a clinical laboratory. Emphasis is on personnel, financial, marketing, and general administrative management. Also, the student is introduced to writing instructional objectives, constructing evaluation instruments, and planning instructional strategies and establishing a professional development program. Ethical issues in laboratory medicine are also discussed.

**MDLS 5220. Medical Genetics. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Study of human genetics including chromosome structure, principles of inheritance, anatomy and physiology of a gene, genetic expression and regulation, cytogenetics, immunogenetics, molecular genetics, with an emphasis on diagnostic testing for human genetic diseases and the genetic basis of cancer. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program.

**MDLS 5221. Immunopathology. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Principles of innate and adaptive immunity including antigen recognition, signal transduction, lymphocyte development and homeostasis of lymphocyte populations, cytokine effects, failure of host defense mechanisms such as autoimmunity, immunodeficiencies, immunoproliferative diseases, analysis of the immune response in intact and manipulated organisms, and tumor immunobiology, with emphasis on clinical induction, measurement and manipulation of the human immune response. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program.

**MDLS 5226. Hematology II Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Studies on the formation and identification of abnormal cellular blood elements are discussed. Emphasis is placed on abnormal physiology and hematologic manifestations of disease and high complexity analysis and troubleshooting. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program. Co-Requisite Course: MDLS 5125 or approval of department head.

**MDLS 5236. Medical Microbiology II Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion of antimicrobial susceptibility, anaerobic bacteria, mycobacteria, chlamydia, rickettsia, and an overview of infections by organ system. Emphasis is on epidemiology, pathogenesis, source of isolation, and conventional and molecular methods of diagnosis of human pathogenic organisms and high complexity analysis and troubleshooting. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program. Co-Requisite Course: MDLS 5137 or approval of department head.

**MDLS 5244. Applications in Molecular Diagnostics I. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion of the theory and applications of molecular testing in microbiology, immunology, and pharmacogenomics. Methods discussed to include quantitative analysis, qualitative analysis, and methods of genotypic characterization.

**MDLS 5245. Applications in Molecular Diagnostics II. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion of the theory and applications of molecular testing in oncology and genetics. Topics to include diagnosis of leukemia/lymphomas, solid tumors, hereditary cancer syndromes, and other genetic disorders.

**MDLS 5246. Immunohematology II Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion of the principles of immunohematology in relation to transfusion and transplant medicine, donor processing, and component preparation and storage and high complexity analysis and troubleshooting. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program. Co-Requisite Course: MDLS 5147.

**MDLS 5272. Clinical Laboratory Administration. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Principles and practices of administration of the clinical laboratory. Emphasis is placed on administrative issues unique to the clinical laboratory including coding, billing, reimbursement, government regulation, accreditation and information management processes. Prerequisite: MDLS 5206.

**MDLS 5278. Clinical Chemistry II Lecture. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Discussion and comparison of diagnostic methods employed in the clinical chemistry laboratory. Emphasis is placed on diagnostic metabolites, enzymology, endocrinology, tumor markers and high complexity analysis and troubleshooting. Normal physiology and biochemical manifestations of disease are discussed. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program. Co-Requisite Course: MDLS 5179.

**MDLS 5295. Clinical Cytogenetics Pract I. 2 Credit Hours (Lecture: 0 Hours, Lab: 13 Hours).**

Under the supervision and instruction of a clinical instructor in a hospital or reference laboratory setting, the student will have the opportunity to expand their knowledge of principles and techniques involved in the practice of cytogenetics that were introduced in the didactic portion of the curriculum. The student will gain experience in procedures related to karyotyping with an emphasis on peripheral blood specimens. Clinical correlations of the chromosomal findings are emphasized. Field assignment fee \$75. Grading in this course is satisfactory or unsatisfactory.

**MDLS 5296. Clinical Cytogenetics Pract II. 2 Credit Hours (Lecture: 0 Hours, Lab: 13 Hours).**

Under the supervision and instruction of a clinical instructor in a hospital or reference laboratory setting, the student will have the opportunity to expand their knowledge of principles and techniques involved in the practice of cytogenetics that were introduced in the didactic portion of the curriculum. The student will gain experience in procedures related to karyotyping with an emphasis on amniotic fluid, chorionic villi samples, bone marrow and solid tumor specimens. Clinical correlations of the chromosomal findings are emphasized. Field assignment fee \$75. Grading in this course is satisfactory or unsatisfactory.

**MDLS 5297. Clinical Cytogenetics Pract III. 2 Credit Hours (Lecture: 0 Hours, Lab: 13 Hours).**

Under the supervision and instruction of a clinical instructor in a hospital or reference laboratory setting, the student will have the opportunity to expand their knowledge of principles and techniques involved in the practice of cytogenetics that were introduced in the didactic portion of the curriculum. The student will gain experience in procedures related to karyotyping, FISH and molecular techniques. Clinical correlations of the chromosomal findings are emphasized. Field assignment fee \$75. Grading in this course is satisfactory or unsatisfactory.

**MDLS 5298. Statistical Methods for Healthcare Research. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Practical applications of general principles of descriptive and inferential statistics used in health care research. Skill development in use of statistical software as a tool to analyze health data available from national databases. Emphasis will be placed on the interpretation and communication of research results.

**MDLS 5325. Clinical Molecular Microbiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies of the genetics and physiology of microbes, including fundamental processes of gene regulation, genome structure, and protein synthesis and processing. Emphasis is placed on the clinical molecular identification of bacteria, viral, fungal and parasitic organisms including real-time PCR techniques, quality assurance practices, and interpretation of results in a clinical setting.

**MDLS 5330. Medical Biochemistry. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A review of the major biochemical processes in the human body, their physiology role and their relationship to human disease. Emphasis will be placed upon emerging diagnostic testing and clinical correlations in the areas of endocrinology, tumor biology, lipoprotein structure and function, diabetes case management, protein structure and function, and toxicology. Prerequisite: Students must be admitted into the Medical Laboratory Sciences Master of Science program.

**MDLS 5331. Molecular and Cellular Pathology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the molecular and cellular aspects of human disease. Emphasis will be placed on microarrays and other emerging diagnostic testing as applied to the regulation of the eukaryotic cell cycle, signal transduction pathways, molecular mechanisms, receptor/membrane function and their relationship to tumor biology, endocrine dysfunction, dyslipidemia and other pathophysiological conditions. Prerequisites: BIOL 5309 or MDLS 5202.

**MDLS 5336. Medical Microbiology II Lecture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussion of advanced microbiological concepts including anaerobic bacteria, mycobacterium, antimicrobial susceptibility, mycology, virology, and infections by organ system. Emphasis is on epidemiology, pathogenesis, source of isolation, and conventional and molecular methods of diagnosis of human pathogenic organisms.

**MDLS 5340. Clinical and Anatomic Pathology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Clinical and anatomic pathology is focused on the development of pathophysiologic mechanisms underlying human disease. Students are introduced to basic etiologies and pathogenesis that underlie all diseases. More detailed discussions of pathologic mechanisms including structural lesions (morphology) and functional consequences (clinical presentation) will be discussed within specific diseases of organ systems. Applications of the clinical laboratory in disease diagnosis and management will also be included.

**MDLS 5355. Clinical Cytogenetics Techniques I. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

This course introduces all aspects of the modern cytogenetics laboratory including karyotyping and probe based assays including fluorescence in-situ hybridization (FISH). Quality assurance aspects of quality laboratory practices are introduced as well as regulatory issues. Course Fee \$30 Lab Fee \$30.

**MDLS 5356. Clinical Cytogenetics Techniques II. 3 Credit Hours (Lecture: 1 Hour, Lab: 6 Hours).**

This course is a continuation of MDLS 5355 and provides more advanced practice in all aspects of the modern cytogenetics laboratory including karyotyping and fluorescence in-situ hybridization (FISH). Quality assurance aspects of quality laboratory practices are emphasized as well as regulatory issues. Lab fee \$2.

**MDLS 5378. Clinical Chemistry II Lecture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussion and comparison of diagnostic methods employed in the clinical chemistry laboratory. Emphasis is placed on diagnostic metabolites, enzymology, endocrinology, and tumor markers. Normal physiology and biochemical manifestations of disease are discussed.

**MDLS 5398. Statistical Methods Health Care Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Practical applications of general principles of descriptive and inferential statistics used in health care research. Skill development in use of statistical software as a tool to analyze health data available from national databases. Emphasis will be placed on the interpretation and communication of research results. Course Fee \$50.

**MDLS 5412. Clinical Cytogenetics. 4 Credit Hours (Lecture: 4 Hours, Lab: 0 Hours).**

This covers the history of cytogenetics, mechanisms of structural abnormalities, clinical correlation of autosomal and sex chromosome anomalies, cytogenetic syndromes, inheritance patterns and cancer genetics with a focus on correlation between the diagnosis and treatment of diseases associated with genetic abnormalities. Course Fee \$30.

**MDLS 5444. Immunohematology Lecture. 4 Credit Hours (Lecture: 4 Hours, Lab: 0 Hours).**

Discussion of the principles of immunohematology in relation to blood grouping, typing, compatibility testing, and antibody detection and identification, transfusion and transplant medicine, donor processing, and component preparation and storage.

**MDLS 5450. Molecular Diagnostics Techniques I. 4 Credit Hours (Lecture: 1 Hour, Lab: 9 Hours).**

This course provides an introduction to the basic genetic techniques used in a clinical molecular genetics laboratory. Laboratory technique instruction, skill development and practice in isolation of DNA and RNA from clinical samples, preparation of nucleic acid probes, molecular hybridization techniques, amplification techniques and hybridization analysis will be addressed. Emphasis will be placed on laboratory design issues, prevention of product contamination, quality assurance and regulatory issues, safety, and interpretation and application of test results.

**MDLS 5451. Molecular Diagnostics Techniques II. 4 Credit Hours (Lecture: 1 Hour, Lab: 9 Hours).**

This course provides a continuation of the basic genetic techniques covered in Molecular Diagnostics Techniques I, which may be used in a clinical molecular genetics laboratory. Laboratory technique instruction, skill development and practice in real-time PCR, reverse transcriptase PCR, nested PCR and single nucleotide polymorphism (SNP) detection will be emphasized. Emphasis will be placed on laboratory design issues, prevention of product contamination, quality assurance and regulatory issues, safety, and interpretation and application of test results. Prerequisite: MDLS 5450.

## Military Science

### Courses

**MLSC 1201. Introduction to the Army. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The purpose of this course is to introduce Cadets to the personal challenges and competencies that are critical for effective leadership. Cadets learn how the personal development of life skills such as critical thinking, time management, goal setting, stress management, and comprehensive fitness relate to leadership, and the Army profession.

**MLSC 1202. Foundations of Agile and Adaptive Leadership. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course expands upon the fundamentals introduced in the previous course by focusing on communications, leadership, and problem solving. 'Life skills' lessons include: problem solving, goal setting, and interpersonal communication skills. The course also provides current information about life in the Army, the organizations of the Army, employment benefits, and work experiences expected of junior officers.

**MLSC 2301. Leadership and Decision Making. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

The first semester of the MS II year is designed to develop cadet's knowledge of self, self-confidence, and individual leadership skills. Through experiential learning activities, cadets develop problem solving and critical thinking skills, and apply communication, feedback and conflict resolution skills.

**MLSC 2302. Army Doctrine and Team Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

The second semester of the MS II year focuses on self development, guided by knowledge of self and group processes. Experiential learning activities are designed to challenge cadets' current beliefs, knowledge and skills. This course also prepares enrolled students for the ROTC Advanced Course, as well as the summer Leaders Training Course.

**MLSC 3301. Training Management and the Warfighting Functions. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course is designed to enable a student with no prior military or cadet experience to quickly learn essential cadet knowledge and skills. The course introduces the principles of physical fitness, healthy lifestyles and the Leader Development Program that will be used to evaluate leadership performance and provides cadets with developmental feedback, used throughout the year. Cadets learn how to plan and conduct individual and small unit training, as well as basic tactical principles. The course conducts a four-week study of reasoning skills and the military-specified application of these skills in the form of the Army's troop leading procedures. The final four weeks examines officership. This course serves as the first and primary course of the ROTC Advanced Courses. Prerequisites: Student must have MLSC 1201, 1202, 2301, and 2302. Students must also have approval from the Professor of Military Science to take this class. Basic Training or Cadet Initial Entry Training may be used as a substitute for the MLSC prerequisite courses.

**MLSC 3302. Applied Leadership in Small Unit Operations. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course is designed to continue the development of cadets as leaders by presenting instructions in the areas of leadership, interpersonal communications, values and ethics. The leadership module expands on key leadership concepts and provides feedback for cadet leadership self-development efforts. Interpersonal communications lessons address general communication theory as well as written and spoken communication skills. The highlight of the communication module is the opportunity for cadets to present an information briefing and receive feedback from both instructor and fellow students. Prerequisites: Student must have MLSC 1201, 1202, 2301, and 2302. Students must also have approval from the Professor of Military Science to take this class. Basic Training or Cadet Initial Entry Training may be used as a substitute for the MLSC prerequisite courses.

**MLSC 3304. Basic Army Leadership Course. 3 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

Application and integration of academic study and development of skills in a field setting. The Course incorporates a wide range of training events designed to develop/assess leadership and officer potential to qualify Cadets for contracting.

**MLSC 4086. Independent Study. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

A course open to Military Science students. Topics vary according to student need. May be repeated for a maximum of 6 hours. Open to students of junior or senior classification. Prerequisite: Approval of the department head.

**MLSC 4301. The Army Officer. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

This course concentrates on Army operations and training management, communications and leadership skills and supports the beginning of the final transition from cadet to lieutenant. The course enables cadets to attain knowledge and proficiency in several critical areas needed to operate effectively as an Army officer. These subjects have the added benefit of preparing cadets to lead the cadet battalion throughout the remainder of the year. At the end of this semester, cadets possess the fundamental skills, attributes, and abilities required to operate as competent leaders in the cadet battalion. Prerequisites: Student must have MLSC 1201, 1202, 2301, and 2302. Students must also have approval from the Professor of Military Science to take this class. Basic Training or Cadet Initial Entry Training may be used as a substitute for the MLSC prerequisite courses.

**MLSC 4302. Company Grade Leadership. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

The final semester course of the MS IV year trains cadets on Military Law, task organizations, maintenance, supply management, and physical training. Cadets conduct a Capstone Practical Exercise, assuming leadership roles as a lieutenant entering a new unit. The course is designed to prepare transition and groom senior cadets to become Army Officers. Prerequisites: Student must have MLSC 1201, 1202, 2301, and 2302. Students must also have approval from the Professor of Military Science to take this class. Basic Training or Cadet Initial Entry Training may be used as a substitute for the MLSC prerequisite courses.

## Music-Applied

### Courses

**MUAP 1103. Voice Class. 1 Credit Hour (Lecture: 3 Hours, Lab: 1.5 Hour).**

Assists students in the basic elements and techniques of vocal production for singing.

**MUAP 1121. Applied Music for Minors or Non-Majors. 1 Credit Hour (Lecture: .5 Hours, Lab: 1.5 Hour).**

Applied lesson instruction in instrument or voice on the undergraduate level.

**MUAP 1122. Applied Music for Minors or Non-Majors. 1 Credit Hour (Lecture: .5 Hours, Lab: 1.5 Hour).**

Applied lesson instruction in instrument or voice on the undergraduate level.

**MUAP 1231. Applied Music for Majors. 2 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

Applied lesson instruction in instrument or voice on the undergraduate level.

**MUAP 1232. Applied Music for Majors. 2 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

Applied lesson instruction in instrument or voice on the undergraduate level.

**MUAP 2121. Applied Music for Minors or Non-Majors. 1 Credit Hour (Lecture: .5 Hours, Lab: 1.5 Hour).**

Applied lesson instruction in instrument or voice on the undergraduate level.

**MUAP 2122. Applied Music for Minors or Non-Majors. 1 Credit Hour (Lecture: .5 Hours, Lab: 1.5 Hour).**

Applied lesson instruction in instrument or voice on the undergraduate level.

**MUAP 2231. Applied Music for Majors. 2 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

Applied lesson instruction in instrument or voice on the undergraduate level.

**MUAP 2232. Applied Music for Majors. 2 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

Applied lesson instruction in instrument or voice on the undergraduate level.

**MUAP 3121. Applied Music for Minors or Non-Majors. 1 Credit Hour (Lecture: .5 Hours, Lab: 1.5 Hour).**

Applied lesson instruction in instrument or voice on the undergraduate level.

**MUAP 3122. Applied Music for Minors or Non-Majors. 1 Credit Hour (Lecture: .5 Hours, Lab: 1.5 Hour).**

Applied lesson instruction in instrument or voice on the undergraduate level.

**MUAP 3231. Applied Music for Majors. 2 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

Applied lesson instruction in instrument or voice on the undergraduate level.

**MUAP 3232. Applied Music for Majors. 2 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

Applied lesson instruction in instrument or voice on the undergraduate level.

**MUAP 3331. Applied Music for Majors - Performance. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Upper level applied Lessons designed specifically for music majors in the Bachelor of Music - Performance Degree. Lab fee: \$2.

**MUAP 3332. Applied Music for Majors - Performance. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Upper level applied Lessons designed specifically for music majors in the Bachelor of Music - Performance Degree. Lab fee: \$2.

**MUAP 4121. Applied Music for Minors or Non-Majors. 1 Credit Hour (Lecture: .5 Hours, Lab: 1.5 Hour).**

Applied lesson instruction in instrument or voice on the undergraduate level.

**MUAP 4122. Applied Music for Minors or Non-Majors. 1 Credit Hour (Lecture: .5 Hours, Lab: 1.5 Hour).**

Applied lesson instruction in instrument or voice on the undergraduate level.

**MUAP 4154. Applied Literature. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Exploration of representative solo and ensemble music. Typical literature from each period of music is studied. Through study of repertoire, the student will build a knowledge of a specific canon. Prerequisite: MUAP 3332.

**MUAP 4155. Applied Pedagogy. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

The study of teaching methods and materials for use in individual and group teaching. Prerequisite: MUAP 3332.

**MUAP 4231. Applied Music for Majors. 2 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

Applied lesson instruction in instrument or voice on the undergraduate level.

**MUAP 4232. Applied Music for Majors. 2 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

Applied lesson instruction in instrument or voice on the undergraduate level.

**MUAP 4331. Applied Music for Majors - Performance. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Upper level applied Lessons designed specifically for music majors in the Bachelor of Music - Performance Degree. Lab fee: \$2.

**MUAP 4332. Applied Music for Majors - Performance. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Upper level applied Lessons designed specifically for music majors in the Bachelor of Music - Performance Degree. Lab fee: \$2.

**MUAP 5121. Applied Music for Graduate Majors. 1 Credit Hour (Lecture: .5 Hours, Lab: 1.5 Hour).**

Applied minor lesson instruction in instrument or voice on the graduate level. Prerequisite: No Lab fee: \$2.

**MUAP 5231. Applied Music for Graduate Majors. 2 Credit Hours (Lecture: 1 Hour, Lab: 3 Hours).**

Applied instruction in instrument or voice on the graduate level. Prerequisite: Admission in the graduate program. Lab fee: \$2.

## Music Ensemble

### Courses

**MUEN 1121. Ensemble. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

PLEASE ENTER COURSE DESCRIPTION.

**MUEN 1122. Ensemble. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

PLEASE ENTER COURSE DESCRIPTION.

**MUEN 2121. Ensemble. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).****MUEN 2122. Ensemble. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).****MUEN 3121. Ensemble. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

n/a.

**MUEN 3122. Ensemble. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

n/a.

**MUEN 3123. Wind Ensemble. 1 Credit Hour (Lecture: 0 Hours, Lab: 4 Hours).**

The university's premier concert band. Rehearsal and performance of works for winds and percussion. Prerequisite: Successful completion of audition.

**MUEN 3128. Jazz Ensemble III. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Jazz Ensemble III gives students the opportunity to learn to play in a jazz style through ensemble participation. This ensemble is open to all university students. It is geared towards beginning jazz students and music education majors who would like to receive experience on a secondary instrument.

**MUEN 3129. University Band. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Rehearsal and performance of works for large concert band. Prerequisite: Successful complete of audition.

**MUEN 3130. Symphonic Band. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Rehearsal and performance of works for concert band. Prerequisite: Successful completion of audition.

**MUEN 3131. Percussion Ensemble. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Rehearsal and performance of works for percussion ensembles. Prerequisite: Successful completion of audition.

**MUEN 3132. Jazz Ensemble I. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Rehearsal and performance of works in the jazz idiom; the top jazz ensembl Prerequisite: Successful completion of audition.

**MUEN 3133. Jazz Ensemble II. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Rehearsal and performance of works in the jazz idiom; second jazz ensemble Prerequisite: Successful completion of audition.

**MUEN 3134. Jazz Combo. 1 Credit Hour (Lecture: 0 Hours, Lab: 1 Hour).**

Rehearsal and performance of works in the jazz idiom for small groups. Prerequisite: Successful completion of audition.

**MUEN 3135. Woodwind Ensemble. 1 Credit Hour (Lecture: 0 Hours, Lab: 1 Hour).**

Rehearsal and performance of works for woodwind ensemble. Prerequisite: Successful completion of audition.

**MUEN 3136. Brass Ensemble. 1 Credit Hour (Lecture: 0 Hours, Lab: 1 Hour).**

Rehearsal and performance of works for brass ensemble. Prerequisite: Successful completion of audition.

**MUEN 3137. Collaborative Piano. 1 Credit Hour (Lecture: 0 Hours, Lab: 1 Hour).**

Rehearsal and performance of works to develop piano skill in solo and ensemble accompanying Prerequisite: Successful completion of audition.

**MUEN 3138. Latin Band. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Rehearsal and performance of instrumental/vocal works in Latin styles. Prerequisite: Successful completion of audition.

**MUEN 3141. University Singers. 1 Credit Hour (Lecture: 0 Hours, Lab: 2 Hours).**

Rehearsal and performance of works for mixed chorus.

**MUEN 3151. Chamber Choir. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Rehearsal and performance of choral works for select chamber choir. Prerequisite: Successful completion of audition.

**MUEN 3152. Musical Theatre/Opera Workshop. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Rehearsal and performance of vocal and chorus works from operas and musical theatre.

**MUEN 3153. Texan Harmony. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Rehearsal and performance of works specifically written for treble chorus in the soprano and alto vocal range. Prerequisite: Successful completion of audition.

**MUEN 3154. Texan Riders. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Rehearsal and performance of works specifically written for chorus in the tenor, baritone, and bass vocal range. Prerequisite: Successful completion of audition.

**MUEN 4121. Ensemble. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).****MUEN 4122. Ensemble. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).****MUEN 5121. Graduate Music Ensemble. 1 Credit Hour (Lecture: 0 Hours, Lab: 3 Hours).**

Graduate Music Ensemble Prerequisite: Admission to the graduate program.

## Music

### Courses

**MUSI 1000. Recital Attendance. 0 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).****MUSI 1100. Transitioning to University Studies in Music. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. These skill sets are presented in the context of music disciplines.

**MUSI 1101. Marching Band. 1 Credit Hour (Lecture: 1 Hour, Lab: 4 Hours).**

Marching Band membership is open to all students of the University with approval of the director. Activities include half-time performances, pep rallies, parades, and other concerts. Prerequisites: Prior marching band experience in high school or junior college or approval of department head. Credits may substitute for required P ED and may be repeated.

**MUSI 1116. Aural Skills I. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Singing tonal music in treble, bass, alto, and tenor clefs. Aural study, including dictation, of rhythm, melody, and diatonic harmony. Lab fee: \$15.

**MUSI 1117. Aural Skills II. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Continued development of singing tonal music in treble, bass, alto, and tenor clefs. Continued aural study, including dictation, of rhythm, melody, and diatonic harmony. Prerequisite: MUSI 1116. Lab fee: \$2.

**MUSI 1160. Italian Diction. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Italian pronunciation for singers. Lab fee \$10.

**MUSI 1166. Woodwind Class I. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Instruction on basic woodwind instruments for music majors; maintenance of instruments; evaluation of materials and literature. Students develop a basic technique on specific instruments. Lab fee: \$2.

**MUSI 1167. Woodwind Class II. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Instruction on basic woodwind instruments for music majors; maintenance of instruments; evaluation of materials and literature. Students develop a basic technique on specific instruments. Lab fee: \$2.

**MUSI 1178. Brass Class I. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Performance instruction on basic brass instruments for music majors; maintenance of instruments; evaluation of materials and literature. Students develop a basic technique on two instruments. Lab fee \$15.

**MUSI 1179. Brass Class II. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Continued instruction on basic brass instruments for music majors; maintenance of instruments; evaluation of materials and literature. Students develop a basic technique on at least one low brass instrument. Lab fee \$15.

**MUSI 1181. Piano Class I. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours).**

Beginning piano class designed to develop keyboard and musicianship skills, including fundamental technique, scale playing, sight reading, harmonization of melodies, and accompaniment. The course is intended for music majors in passing the Piano Proficiency Examination. All other majors and undeclared majors must have the permission of the course instructor to register. Lab fee: \$2.

**MUSI 1182. Piano Class II. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours).**

A continuation of Piano I, designed to develop keyboard and musicianship skills, including fundamental technique, scale playing, sight reading, harmonization of melodies, and accompaniment. The course is intended for music majors in passing the Piano Proficiency Examination. All other majors and undeclared majors must have the permission of the course instructor to register. Prerequisite: MUSI 1181 Lab fee: \$2.

**MUSI 1183. Piano Class III. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours).**

Section III of the piano class sequence designed to develop keyboard and musicianship skills, including fundamental technique, scale playing, sight reading, harmonization of melodies, and accompaniment. The course is intended for music majors in passing the Piano Proficiency Examination. It is an elective for those students needing additional instruction in order to pass the proficiency. All other majors and undeclared majors must have the permission of the course instructor to register. Prerequisite: MUSI 1181, MUSI 1182.

**MUSI 1188. Percussion Class I. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours).**

Fundamental performance techniques on the most frequently used percussion instruments, both of definite and indefinite pitch; conventions of notation, instrument maintenance, evaluation of materials, and literature. For music majors. Lab fee \$10.

**MUSI 1195. Strings Class I. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours).**

Beginning string class for music majors; maintenance of instruments, evaluation of materials and literature. Students develop a basic performance technique on two instruments. Lab fee \$10.

**MUSI 1262. Diction I. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Instruction in the International Phonetic Alphabet (IPA) and its symbols used in English, German, French, and Italian vocal repertoire. Application of correct diction to German vocal literature.

**MUSI 1303. Fundamentals Of Music. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to the basic elements of music theory, including scales, intervals, keys, triads, elementary ear training, notation, meter, and rhythm. Course does not apply to a music major degree.

**MUSI 1306. Music Appreciation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides opportunities to become familiar with the basic elements of music. Emphasis is on learning to listen to music and on the role it plays within the wider contexts of history and society. Listening materials are drawn from a variety of sources: classical music, non-Western music, American popular music (particularly jazz, country, and rock), and the American folk tradition. Course fee \$10.

**MUSI 1310. Popular Music in America. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introductory study of popular music in the U.S., emphasizing the development and application of analytical skills oriented toward the popular arts. Concert attendance and/or listening requirements.

**MUSI 1311. Music Theory I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to music fundamentals, staff, clefs, key signatures, scales, time signatures and notation; meter and rhythm; chords and harmony; and melodic organization and structure.

**MUSI 1312. Music Theory II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of diatonic harmony, elementary counterpoint, and part writing; harmonization of melodies in eighteenth-century style. Prerequisite: MUSI 1311.

**MUSI 1320. Introduction to Audio Technology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Provides an introduction to the use of audio technology in making analog and digital recordings with an emphasis on musical instruments and applications, as well as live audio productions and videos to audio. Students will gain experience with studio facilities and equipment, digital audio, modern microphone technique, and modern recording processes in a variety of sound situations when applicable to recording musical instruments and performances. Lab fee: \$15.

**MUSI 1330. Introduction to Music Business. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

A survey of the various facets of the current and evolving music industry, highlighting areas where music and business intersect. Topics include an overview of key principles, terms, and practices; basic principles of marketing and promoting music; and careers in the commercial music industry. Lab fee: \$15.

**MUSI 2116. Aural Skills III. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Singing more difficult tonal music, including melodies with any diatonic leap possible and a wider variety of rhythms. Aural study, including dictation of more complex rhythm and melody. Prerequisites: MUSI 1116 and MUSI 1117. Lab fee: \$15.

**MUSI 2117. Aural Skills IV. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Singing more difficult tonal music, including chromatic, modulating and melodies; and modal melodies. Continued aural study, including dictation of more complex rhythm and melodies. Prerequisite: MUSI 1116, 1117, 2116. Lab fee: \$2.

**MUSI 2160. German Diction. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

German pronunciation for singers. Lab fee \$10.

**MUSI 2161. French Diction. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

French pronunciation for singers. Lab fee \$10.

**MUSI 2181. Piano Class III. 1 Credit Hour (Lecture: 3 Hours, Lab: 1.5 Hour).**

Section III of the piano class sequence designed to develop keyboard and musicianship skills, including fundamental technique, scale playing, sight reading, harmonization of melodies, and accompaniment. The course is intended for music majors in passing the Piano Proficiency Examination. It is an elective for those students needing additional instruction in order to pass the proficiency. All other majors and undeclared majors must have the permission of the course instructor to register. Prerequisites: MUSI 1181 and MUSI 1182 Lab fee: \$2.

**MUSI 2182. Piano Class IV. 1 Credit Hour (Lecture: 3 Hours, Lab: 0 Hours).**

This is the fourth semester of a four-semester sequence designed to develop keyboard and musicianship skills, including fundamental technique, scale playing, sight reading, harmonization of melodies, and accompaniment. The course is intended for music majors in passing the Piano Proficiency Examination. All other majors and undeclared majors must have the permission of the course instructor to register. Lab fee \$10.

**MUSI 2262. Diction II. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Continuation of studies in diction applied to vocal literature, focusing on French and Italian languages. Prerequisite: MUSI 1262.

**MUSI 2311. Music Theory III. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Continuation of the study of diatonic harmony and counterpoint; elementary modulation, an introduction to chromatic harmony, modal harmony, and extended harmony. Prerequisites: MUSI 1311 and MUSI 1312.

**MUSI 2312. Music Theory IV. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of chromatic harmony in tonal music of the late 19th century and an introduction to 20th century post-tonal practices. Prerequisites: MUSI 1311, 1312, and 2311.

**MUSI 2360. Jazz Harmony. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of jazz harmony and structure, including chord and scale construction and nomenclature. Emphasis will be placed on the spelling, naming, and aural recognition of jazz chords, scales, and basic harmonic structures. Prerequisite: MUSI 1312.

**MUSI 3000. Junior Recital. 0 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).****MUSI 3100. Marching Band. 1 Credit Hour (Lecture: 1 Hour, Lab: 4 Hours).**

Marching Band membership is open to all students of the University with approval of the director. Activities include half-time performances, pep rallies, parades, and other concerts. Prerequisites: Prior marching band experience in high school or junior college or approval of department head. Course may be repeated for credit. Lab fee \$10.

**MUSI 3116. Interdisciplinary Music Methods. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours).**

Organization, rehearsal procedures, and public performance practices of ensembles and teaching methods for vocal and instrumental music. Establishing a philosophy of music, developing effective ensemble discipline, motivation, selection of repertoire, auditions, and the professional development of the music director are emphasized.

**MUSI 3201. Digital Music and Beat Production. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

This course explores the tools and techniques needed to produce music through desktop music production. Lab fee: \$2.

**MUSI 3202. Artist and Self Management. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

This course provides an overview of the practices and requirements needed to develop, maintain, and manage an artist's/self career in today music industry. Topics include basic management principles, promotion strategies, current revenue streams, and coaching/leading artists to their career goals. Lab fee: \$2.

**MUSI 3211. Conducting I. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Introduction of conducting techniques, rehearsal procedures, development of interpretive skills in music. Lab fee: \$2.

**MUSI 3212. Conducting II. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Special emphasis on instrumental and choral conducting techniques. Lab fee: \$2.

**MUSI 3226. History of Music I. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Study of history, social setting, and style of Western art music from Greek antiquity to the end of the Renaissance period. MUSI 2311 or approval of department head.

**MUSI 3229. World Music. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Historical and analytical survey of the great variety of musical styles from around the world. Music cultures of sub-Saharan Africa, India, indigenous America, and Japan are among those explored. Emphasizes the complex interrelationships of music to culture, society, and daily life.

**MUSI 3245. Class Composition. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Advanced instruction in composition; the writing and study of small- and larger-form musical compositions employing contemporary styles and techniques. May be taken 2 times for credit. Prerequisites: approval of instructor. Lab fee \$5.

**MUSI 3249. Form and Analysis. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

The study of techniques of musical analysis as applied to different forms of music. Discussion will address (but not limited to) forms found in the Baroque, Classical, Romantic, Post-Romantic, and Contemporary eras using a variety of analysis techniques. Prerequisites: MUSI 1311, 1312, 2311, and 2312.

**MUSI 3300. Music Publishing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the creative and administrative aspects of music publishing including, but not limited to, contracts, music licensing, copyright law, and role of performance rights organizations.

**MUSI 3315. Developmental Musical Experiences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study and appraisal of music teaching techniques, elementary music literature, learning activities, curricular plans and materials essential to the sequential development of musical learning in the elementary school. Designed to provide knowledge of psychology, theory and practice of music education in the elementary schools. Emphasis is placed upon the nature, organization and maintenance of the elementary music program. Prerequisite: junior or senior-level status.

**MUSI 3325. Jazz History. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in-depth study of the recordings, history, major figures, musical forms and social importance of an original American art form. Principal styles to be covered include ragtime, blues, Dixieland, big band swing, bop, cool, hard bop, free, fusion and funk. This course fulfills the core visual and performing arts requirement.

**MUSI 3327. Music History I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Study of the history, social setting and style of western music from antiquity through the Baroque period.

**MUSI 3328. Music History II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Study of the history, social setting and style of western music during the Classical, Romantic, and Contemporary periods.

**MUSI 3330. Pro Tools I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introductory course to Pro Tools, the industry standard software for digital recording and editing. This is the most widely used application for post-production, video editing, and mixing for film, video, and multi-media. Prerequisite: MUSI 1320.

**MUSI 3331. Pro Tools II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Continuation of Pro Tools I, the industry standard software for digital recording and editing. Development of additional skills in post-production, video editing, and mixing for film, video, and multi-media. Prerequisite: MUSI 3330.

**MUSI 3335. Choral Techniques. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Choral techniques, materials and rationale for the development of superior choral ensembles to include: budgeting, acoustical considerations, music selection criteria, historical development of choral music and style, programming, public relations, sight reading, and development of a philosophy of music.

**MUSI 3351. Music Content Area Literacy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course presents essential literacy skills and examines ways in which they may be developed in K-12 music classrooms. A variety of instructional strategies for reading, writing, listening, and critical thinking will be presented to help future music educators guide K-12 students to understand and express their musical experiences. Prerequisites: ENGL 1301, ENGL 1302, and a sophomore level English.

**MUSI 3360. Jazz Improvisation I. 3 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Offers the jazz-oriented student an organized approach to learning how to improvise in the jazz idiom as expressed by musical performance. Prerequisite: MUSC 2360.

**MUSI 3361. Jazz Improvisation II. 3 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Offers the jazz-oriented student an organized approach to learning how to improvise in the jazz idiom as expressed by musical performance. This course is a continuation of MUSI 3260 Jazz Improvisation I Prerequisite: MUSI 3360.

**MUSI 4000. Marching Band. 0 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).****MUSI 4086. Music Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

A directed study of selected problems in music.

**MUSI 4133. Capstone Course in Music. 1 Credit Hour (Lecture: 1 Hour, Lab: 12 Hours).**

The capstone experience is the culmination of undergraduate music study and provides students with an opportunity to make their personal statement of preparedness for a post-college life with music. Projects may include a 50-minute solo recital, a lecture-recital, or an undergraduate thesis or research paper. In conjunction with the student's advisor, study abroad and other formats may be acceptable. Prerequisites: Senior standing. Music majors seeking education certification must take this course before the semester in which they are student teaching. Lab fee: \$2.

**MUSI 4211. Piano Literature. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course will encompass the study of piano literature from the Renaissance period to present day with emphasis given to the Classical, Romantic, and Contemporary eras. Genres include sonata, suite, concerto, and chamber works with piano of varying cultures.

**MUSI 4212. Vocal Literature. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course will encompass the study of solo vocal literature from the Renaissance period to present day. Emphasis will be given to the development of German and French art song in Europe.

**MUSI 4213. Instrumental Literature. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course will encompass the study of literature for band, jazz ensemble and orchestra, as well as solos and small ensemble groups. Students will explore and analyze significant composers and their literature in each of the historical periods through the 21st century. Prerequisite: Junior level in applied instrumental lessons or consent of the instructor.



**MUSI 4242. Band Techniques. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Introduction and materials of band techniques to include drill design and the development of the marching ensemble; the organization, administration, programming, repertoire, band literature, budgeting, and historical development of the modern concert wind ensemble; the development of a functional philosophy of music.

**MUSI 4245. Jazz Arranging. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Arranging in the jazz and commercial idioms with emphasis on large jazz ensemble (big band). Prerequisite: MUSI 2312 Lab fee: \$2.

**MUSI 4248. Scoring and Arranging for Ensembles. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

A practical study of the skill of scoring music for various instrumental and choral groups. Projects in adapting music from a variety of sources. Emphasis is placed on transcribing and arranging for elementary, junior, and senior high ensembles. Prerequisites: MUSI 2312 or consent of instructor and permission of department head.

**MUSI 4251. Piano Pedagogy. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course will encompass the study of piano pedagogy from beginner level through intermediate and advanced level piano study, including present and past techniques of piano instruction. Prerequisites: Must be at the junior level of applied piano lessons or have consent of the instructor.

**MUSI 4252. Vocal Pedagogy. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

Teaching voice majors how to teach singing. Includes physiology of the vocal mechanism and the application of various techniques appropriate in developing and correcting issues with the voice. Appropriate repertoire for varying levels and voice types will be covered as well as basic business aspects of private studio teaching. Prerequisite: Junior or Senior level music majors in applied voice who have passed the Applied Proficiency Exam. Lab fee \$5.

**MUSI 4253. Instrumental Pedagogy. 2 Credit Hours (Lecture: 2 Hours, Lab: 1 Hour).**

This course will focus on the study of instrumental pedagogy, from beginner level through advanced study, used primarily in one-on-one instruction in the studio. Lab fee \$10.

**MUSI 4301. Music Business Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An approved and supervised educational project in which the qualifying student participates in a professional music organization as an intern for a select period of time. This course is intended as the capstone experience for the Bachelor of Arts in music degree with an emphasis in music business. Prerequisites: Senior standing, the completion of required music courses and other courses in the Music Business emphasis, and the approval of intern coordinator.

**MUSI 4342. Band Techniques. 3 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).**

Introduction and materials of band techniques to include drill design and the development of the marching ensemble; the organization, administration, programming, repertoire, band literature, budgeting, and historical development of the modern concert wind ensemble; the development of a functional philosophy of music.

**MUSI 4343. Marching Band Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Marching Band Methods teaches music education majors how to administer a marching band program. Areas of administration are: show design, scheduling, programming, competition. Students will use software to learn to design marching band shows, and review other software useful in administering a marching band program.

**MUSI 4345. Curriculum Project. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The final project for students in the Master of Music Education degree that will serve as a culminating example of work performed at the master's level.

**MUSI 4385. Music Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Content varies according to the needs of students and opportunities available. When topic varies, course may be repeated for credit. Prerequisite: Junior classification or approval of department head.

**MUSI 5086. Graduate Music Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

A directed study of selected problems in the graduate study of music.

**MUSI 5330. Analytical Techniques. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In-depth analysis of common-practice repertoire through multiple techniques. Prerequisite: Admission to the graduate program.

**MUSI 5331. Advanced Scoring and Arranging. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced study of scoring music for various instrumental and choral groups. Projects in adapting music from a variety of sources. An emphasis on independent needs are also addressed as they relate to the working music educator. Prerequisite: Admission to the graduate program.

**MUSI 5340. Foundations of Music Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An investigation of historical and philosophical principles that provide the context for contemporary music education. The course focuses on developing a vision of music education for the future. Topics include philosophical principles of music education, psychological theories relevant to music teaching, and practical application of these principles through the National Standards for Music. Prerequisites: Admission to the graduate program.

**MUSI 5341. Research in Music Education I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An exploration of methods and materials of research in music, including styles of writing and proper documentation of sources with an emphasis on developing strategies for organization and information access. Prerequisite: Admission to the College of Graduate Studies.

**MUSI 5342. Research in Music Education II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Overview of music education research. Research design and methodology to include an introduction to the component parts of research and the different types of research. Prerequisite: Admission to the College of Graduate Studies.

**MUSI 5343. Advanced Elementary Music Pedagogy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A graduate course exploring multiple pedagogies in elementary music. Prerequisite: Admission to the graduate program.

**MUSI 5344. Advanced Secondary Music Pedagogy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A comprehensive overview of current methods and materials used in teaching music at the secondary level, grades 7-12. Prerequisite: Admission to the graduate program.

**MUSI 5345. Curriculum Project. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The final project for students in the Master of Music Education degree that will serve as a culminating example of work performed at the master's level. Prerequisite: Successful completion of all coursework required for the Master of Music in Music Education and/or permission from the instructor is required.

**MUSI 5346. Marching Band Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Marching Band Methods teaches music education majors how to administer a marching band program. Areas of administration are: show design, scheduling, programming, competition. Students will use software to learn to design marching band shows, and review other software useful in administering a marching band program. Prerequisite: Admission to the graduate program.

**MUSI 5350. Technology in the Music Classroom. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Development of concepts and skills related to current computer technology in music. Applications of technology in the music classroom will aid in students' acquisition of musical knowledge and skills, and will assist with time-management and organization for the music educator. Prerequisite: Admission to the College of Graduate Studies.

**MUSI 5351. Music Theory Pedagogy for the K-12 Educator. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to develop and implement strategies to incorporate music theory pedagogy in the classroom for the K-12 educator. Students will also develop a comprehensive music theory program for K-12. In addition, AP Music Theory teaching strategies will be addressed.

**MUSI 5353. Ethnomusicology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examination of the formation of the discipline of ethnomusicology through a survey of its history, theories, and methodologies. Includes basic ethnomusicological concepts, such as organology, music ritual, notation and transcription, and aspects of field research. Research and writing of papers on selected topics.

**MUSI 5354. Topics in Musicology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of selected topics within musicology with a focus on areas relevant to music educators. Course may be repeated for credit as the topic changes, for a maximum of six hours.

**MUSI 5355. Psychology of Music. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A critical examination of questions, designs, and conclusions of previous research in a variety of areas related to the acoustical and psychological aspects of music and how these areas relate to music education. Prerequisite: Admission to the graduate program.

**MUSI 5357. Seminar in Music of the United States. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Music of the United States from the colonists to the present. Selected and significant works will be studied through analysis and performance practice, and in historical context. The diversity of sources and styles include European, African American, Native American, and Spanish-Mexican.

**MUSI 5360. Measurement for Music Researchers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An exploration of statistics, measurement and evaluation in music education, and the methods and materials of research in music, organize and interpret data, and apply results of published research in music. A variety of research methodology is studied and utilized. It is recommended that students complete MUSI 5341 – Research in Music Education I and MUSI 5342 – Research in Music Education II prior to enrolling into this course.

**MUSI 5361. Acoustics of Music. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the physiological properties of sound, the ear and its perception of sounds; the effect of acoustical environment; the acoustical behavior of musical instruments; and the various applications of electronics and computers to the production, reproduction, and composition of music.

**MUSI 5363. Audio Production. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will complete coursework permitting them to test for Pro Tools 101 and 110 user certification. Topics will include techniques for recording in studio and other settings, hardware and software selection and setup, microphone selection and use, working with analog and digital audio, working with MIDI, virtual and electronic instruments, working with various audio file types, mixing and editing in post-production; enhancing audio using effects and automations; using groups and similar tools within the software; mastering; and distributing audio. Students will complete a significant individual recording project during the class and those already holding Pro Tools certification will also find it useful. This class will focus on industry-standard software, Pro Tools.

**MUSI 5388. Thesis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin thesis. No credit until thesis is completed. Prerequisites: Successful completion of all coursework required for the Master of Music in Music Education and/or permission from the instructor is required.

**MUSI 5390. Selected Tpcs in Musc Educ. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of different topics with a focus on contemporary issues in Music Education. This course may be repeated for credit as the topic changes, for a maximum of six hours. Prerequisite: Approval of Department Head.

**MUSI 5391. Music Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced study of the knowledge and skills required to administer an elementary, middle, or high school music program.

## Neuroscience

### Courses

**NRSC 2345. Biological Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introductory course in the biological and neuroscientific basis of behavior with emphasis on how the brain influences behavior. The basic chemical, electrical, and functional components of the nervous system that influence behaviors, cognition, and emotion will be examined. Prerequisite: PSYC 2301.

**NRSC 3332. Neuropsychopharmacology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the neuroscientific basis of the effects of drugs on behavior. Emphasis will be placed on major antipsychotic, antianxiety, and antidepressant drugs and their clinical use and side effects. Drug abuse such as alcohol, marijuana, and cocaine will also be reviewed. Prerequisite: PSYC 2301 AND 8 hours of lab science.

**NRSC 4303. Animal Behavior. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the major areas of animal behavior research from a psychological perspective. Research examining the development and display of behaviors will include subject samples ranging from insects to humans conducted in natural, quasi-experimental, and experimental studies. Prerequisite: PSYC 2301 AND 8 hours of lab science.

**NRSC 4312. Behavioral Neuroscience. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Surveys the biological basis of behavior. Includes an in-depth examination of the physical structure of the human body and the role of chemical and electrical operations within it and how it influences psychological functioning. Emphasis will be placed on the developmental, cognitive, affective and behavioral effects of such operations. Recent research will also be reviewed. Prerequisite: PSYC 2301, 8 hours of lab science (preferably BIOL).

## Nursing

### Courses

**NURS 1100. Transitioning to University Studies in Nursing. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from a Department of Nursing perspective.

**NURS 2150. Communication and Professional Nursing. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Introduces the pre-nursing student to the concepts and processes of communication, the language of nursing, and the interpersonal skills required for working with people. Personal evolution, beginning professional evolution and evolution of nursing as a profession are described. Prerequisites: Completion of 53 hours of general education courses including ENGL 1301, ENGL 1302, BIOL 2401, BIOL 2402, BIOL 2420, and CHEM 1407 or 1411. Acceptance to take pre-nursing courses.

**NURS 2356. Nursing Concepts and Competencies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces the pre-nursing student concepts in nursing, nursing process, competencies and nursing care. Nursing theory, core professional standards attitudes, legal and ethical nursing issues, and values fundamental to the discipline of nursing are explored. Prerequisites: Completion of 53 hours of general education courses including ENGL 1301, ENGL 1302, BIOL 2401, BIOL 2402, BIOL 2420, and CHEM 1407 or 1411. Acceptance to take pre-nursing courses.

**NURS 2370. Introduction to Nursing Pathophysiology and Pharmacology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the pathophysiologic alterations, interactions, and effects of selected diseases (exemplars) across the life span taking into consideration genetic, ethnic, and cultural variables. This course also introduces current concepts of pharmacology and their relationship to nursing practice. Included are basic principles of mechanism of drug actions, side effects for major drug classifications through discussions utilizing drug prototypes and the role of the nurse in drug therapeutics. Ethical/legal and cultural considerations are explored. Nursing concepts are approached from a cellular and multi-system perspective. Content aims at stimulating critical thinking for application to nursing practice. Prerequisites: Completion of 53 hours of general education courses including ENGL 1301, ENGL 1302, BIOL 2401, BIOL 2402, BIOL 2420, and CHEM 1407 or 1411. Acceptance to take pre-nursing courses.

**NURS 3175. Nursing Synthesis 1. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course is the synthesis and application of critical thinking in level one courses with use of the nursing process, nursing concepts, and disease processes (exemplars). Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 3230. Professional Role Transition for Licensed Nurses. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course facilitates socialization as a BSN prepared nurse. Professional standards, attitudes and values central to the profession of nursing are explored. Responsibility and accountability for role transition, professional growth, and practice are addressed. Concepts in nursing, nursing process, competencies and nursing care are explored.

**NURS 3280. Synthesis 1 for Licensed Nurses. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course is the synthesis and application of critical thinking in level one with use of the nursing process, nursing concepts, disease processes (exemplars), and other considerations for licensed nurses. Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 3305. Professional Role Transitions for RNs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course facilitates socialization as a BSN prepared nurse. Professional standards, attitudes and values central to the profession of nursing are explored. Responsibility and accountability for role transition, professional growth and practice are addressed. Prerequisite: Admission to the nursing program.

**NURS 3310. Nursing Pathophysiology and Pharmacology. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course focuses on pharmacotherapeutic aspects of nursing care and nursing concepts through exploration and support by evidenced based findings to improve client care. Emphasis is on principles of safe administration of medications and client education for major drug classifications. The impact of technology, economic, and regulatory forces, as well as collaboration with the health team are discussed. Experiences will occur within the simulation lab, lab, virtual simulation experiences, and appropriate care settings and will focus on critical thinking and client safety. Prerequisite: Admission to the nursing program.

**NURS 3314. Perioperative Nursing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Allows students to expand their understanding and skill in providing care to patients during all phases of the perioperative period. Clinical experiences include outpatient surgery and diagnostic procedure areas of hospitals as well as traditional surgical areas. Prerequisite: Completion of the Sophomore II Nursing semester. Lab fee: \$2.

**NURS 3315. Behavioral Health Nursing Care. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This courses focuses on nursing concepts, the nursing process, and exemplars of behavioral health of mentally and emotionally disabled clients and their families. Knowledge of specific psychopharmacological agents is applied to treatment outcomes. Clinical practicum provides opportunities to examine common psychopathologies, developmental disorders, and community mental health phenomena in a variety of settings.

**NURS 3320. Nursing Research, Inquiry, and Evidenced Based Decision Making. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

As a writing intensive course, this course provides an applied understanding of research methods and critical appraisal of published studies with the goal for graduates to use evidence as the foundation for practice. Course focuses on critiquing research guidelines and processes, development of clinical questions using the PICO format, and nursing informatics using electronic databases to support evidence-based nursing practice. Use of information retrieval and evaluation, appropriate citation using APA formatting in professional papers, and the legal ethical responsibilities of nursing research are included. Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 3325. Health Assessment. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course fosters the acquisition of skills and techniques used in comprehensive health assessment and further exploration of nursing concepts. Emphasis is placed on gathering detailed health history, differentiation, interpretation, and documentation of normal and abnormal findings with consideration given to developmental and cultural variations. Laboratory experiences and virtual simulations focus on norms in well clients while identifying common deviations in health status of adults. Prerequisite: Admission to the nursing program.

**NURS 3340. Nursing Care of the Older Adults and Families. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This courses focuses on nursing concepts, nursing process, and disease process (exemplars) in the older adult. Emphasis is placed on integrating assessment, data analysis, therapeutic communication, and critical thinking skills to direct culturally sensitive care of older adults and their families and caregivers. Other emphasis will be placed on generational and vulnerability issues of the older adult client, as well as role adaptability and professional boundaries of the nurse. Clinical experiences are conducted in a variety of health care settings, virtual simulation, and the simulation lab. Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 3342. Health Assessment and Clinical Skills for RNs. 3 Credit Hours (Lecture: 2.5 Hours, Lab: 1.5 Hour).**

The course fosters expansion of skills and techniques used in comprehensive health assessment of clients from infancy to older adult. Experiential learning focuses on norms in well clients while identifying common deviations in health status of clients of all ages. Prerequisite: Admission to the nursing program.

**NURS 3345. Healthcare Informatics for RNs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In this course students will examine theories and standards related to healthcare informatics. The course will explore digital literacy, protection and confidentiality of health information, and issues related to healthcare informatics and nursing care. Prerequisite: Admission to the nursing program.

**NURS 3348. Evidence Based Practice for RNs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The course is designed for students to develop skills as a consumer of research. The research process, critical appraisal of published research studies that use a variety of research designs, and the role of research in evidence-based practice are addressed. Prerequisite: Admission to the nursing program.

**NURS 3370. Introduction to Nursing Care as a Professional Nurse. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course facilitates understanding and application of nursing concepts, nursing process, and disease processes (exemplars) built on nursing fundamentals and medical surgical client experiences as a licensed nurse. Clinical experiences in a variety of healthcare and community settings, simulation lab, virtual simulation, and lab incorporates a collaborative approach in the delivery of care. Prerequisite: Admission to the nursing program.

**NURS 3417. Pathophysiology and Pharmacology for Licensed Nurses. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course focuses on the pathophysiologic alterations, interactions, and effects of selected diseases (exemplars) across the life span taking into consideration genetic, ethnic, and cultural variables. Nursing concepts are approached from a cellular and multi-system perspective. This course introduces current pharmacology and their relationship to nursing practice. Content aims at stimulating critical thinking for application to professional nursing practice for the licensed nurse. Prerequisite: Admission to the nursing program.

**NURS 3450. Nursing Care of Adults and Families for Licensed Nurses. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course expands on the nursing process and nursing concepts learned in Introduction to Nursing Care as a Professional Nurse course using additional and more complex disease processes (exemplars) in adult medical-surgical clients. Application of teaching and learning principles will occur in in the plan of care of adults and their families. Emphasis is on clinical judgment, therapeutic and professional communication, use of the nursing process, and provision of safe, compassionate, multidimensional care of adult clients and families in a variety of health care settings, lab, virtual simulation and simulation lab. Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 3460. Nursing Pathophysiology and Pharmacology for RNs. 4 Credit Hours (Lecture: 4 Hours, Lab: 0 Hours).**

This course focuses on nursing concepts, nursing process, and disease processes (exemplars) related to the pathophysiologic alterations, interactions, and effects of selected diseases (exemplars), taking into consideration genetic, ethnic, environmental, and cultural variables in pharmacologic and nursing management.

**NURS 3620. Foundations of Nursing Care. 6 Credit Hours (Lecture: 3 Hours, Lab: 9 Hours).**

This course introduces foundational nursing care. Nursing concepts, nursing process, and disease process (exemplars) based approach to teaching and learning will be emphasized as the foundation of nursing care and will build in complexity throughout the nursing program. Clinical experiences will occur within the simulation lab, lab, virtual simulation experiences, and appropriate care settings and will focus on critical thinking and client safety in the performance of direct care skills. Prerequisite: Admission to the nursing program.

**NURS 3625. Nursing Care of Adults and Families. 6 Credit Hours (Lecture: 3 Hours, Lab: 9 Hours).**

This course expands on the nursing process and nursing concepts learned in Foundations of Nursing course using additional and more complex disease processes (exemplars) in adult medical-surgical clients. Application of teaching and learning principles will occur in the plan of care of adults and their families. Emphasis is on clinical judgment, therapeutic and professional communication, use of the nursing process, and provision of safe, compassionate, multidimensional care of adult clients and families in a variety of health care settings, lab, virtual simulation and simulation lab. Prerequisite: Successful completion of junior 1 nursing courses.

**NURS 4086. Nursing Problems. 4 Credit Hours (Lecture: 0-4 Hours, Lab: 0-4 Hours).**

This course allows the student to explore a topic of special interest while working independently under the guidance of an instructor. The student formulates objectives and a plan of evaluation of the project. May be repeated for credit, subject to approval by the head of the Department of Nursing. Prerequisite: Upper-division standing in the nursing major or approval of department head.

**NURS 4245. Healthcare Informatics. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

In this course students will examine theories and standards related to healthcare informatics. The course will explore digital literacy, protection and confidentiality of health information, and issues related to healthcare informatics and nursing care. Prerequisites: Admission to the nursing program and successful completion of Level II courses.

**NURS 4250. Nursing Synthesis 2. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course is the synthesis and application of critical thinking in level one and first semester of level two courses with use of the nursing process, nursing concepts, disease processes (exemplars), and other considerations. Prerequisites: Successful completion of junior 1 and junior 2 nursing courses.

**NURS 4275. Synthesis for Professional Nursing Practice. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course is the synthesis of the nursing concepts, nursing process, disease process (exemplars), and other content taught throughout the BSN program. Prerequisites: Successful completion of Junior 1, Junior 2, and Senior 1 nursing courses.

**NURS 4280. Synthesis 2 for Licensed Nurses. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course is the synthesis and application of critical thinking in level one and 1st semester of level two with use of the nursing process, nursing concepts, disease processes (exemplars), and other considerations for licensed nurses. Prerequisites: Successful completion of Junior 1 and Junior 2 nursing courses.

**NURS 4301. Emergency Nursing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Refines the nursing process in caring for clients of all ages experiencing medical/surgical emergencies, psychosocial crises, and trauma. Clinical experiences include provision of emergency care to individuals and diverse populations in acute care facilities and rural community settings. Transcultural competencies and critical reasoning are reinforced. Pre- or corequisites: NUR 315, 321.

**NURS 4302. Transcultural Nursing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Considers assumptions about health, illness, and death that are deeply entwined within cultural, social, and religious beliefs. Alternative healing systems and practices in contemporary society will be explored, as well as differences between provider and client cultures. Clinical experiences among diverse ethnocultural populations will enhance self awareness and culturally competent care. Prerequisites: NUR 315, 321.

**NURS 4303. Nursing in the United Kingdom. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This is a study abroad course that examines nursing history, healthcare delivery, nursing practice and nursing education in the United Kingdom as compared to the United States. Study abroad is optional and at the student's expense. The course serves as an Applied Learning Experience (ALE).

**NURS 4305. Nursing Care of Maternal, Newborn and Families. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course expands on nursing concepts and nursing process in provision of culturally sensitive care to the childbearing family during ante-partum, intra-partum and postpartum periods in a variety of healthcare settings, virtual simulation, lab, and simulation. Care of the newborn through the first year of life is addressed. Health issues relating to growth and development of the first year of life are explored. Prerequisites: Successful completion of junior 1 and junior 2 nursing courses.

**NURS 4310. Nursing Care of Children and Families. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course focuses on nursing concepts, nursing process, disease process (exemplars), and other considerations in children of 1 year of age and older and the impact on their families. Clinical experiences in a variety of healthcare and community settings, simulation lab, virtual simulation, lab incorporates an interdisciplinary collaborative approach in the delivery of care. Prerequisites: Successful completion of junior 1 and junior 2 nursing courses.

**NURS 4314. Policy, Politics, and Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines political structures and social forces that shape nursing and healthcare delivery. Communication strategies, conflict resolution, ethical resource management, quality improvement outcomes, and ethical decision making are addressed. Involvement in professional and policy making organizations is encouraged. Prerequisite: Admission to the nursing program.

**NURS 4325. Community and Population Health Nursing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The course presents nursing concepts, nursing process, and theory and systems to provide health care services to communities and populations as units of care. Community and population-based assessment, program management, and resource development are addressed. Utilization of evidence-based practices to guide health teaching, health counseling, screening, outreach, disease and outbreak investigation, disaster preparedness, referral and follow-up is also emphasized. Prerequisites: Successful completion of junior 1 and junior 2 nursing courses.

**NURS 4330. Nursing Care of the Older Adult and Family for RNs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses is on risk reduction, disease prevention, and strategies for health promotion, restoration, and maintenance in a vulnerable older population. Emphasis is placed on integrating assessment, data analysis, therapeutic communication, and critical thinking skills to direct culturally sensitive care of older adults and their families.

**NURS 4460. Nursing Care Adults with Complex Needs for Licensed Nurses. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course continues to consistently reinforce the nursing process, nursing concepts, and disease process (exemplars) with focus on recognition and care of adult experiencing major and complex alterations in health for licensed nurses. Clinical experiences occur in the healthcare setting, virtual simulation, lab and simulation. Prerequisites: Completion of junior 1, junior 2, and senior 1 nursing courses.

**NURS 4465. Leadership for Professional Nursing Practice. 4 Credit Hours (Lecture: 3.25 Hours, Lab: 2.25 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course explores organizational practices and strategies, leadership theories and societal trends with implications for decision making in healthcare. Emphasizes leadership theories with practical application to issues in nursing leadership positions and healthcare. Clinical experiences focus on management of multiple patients in acute care and interactive observation of leaders and managers in a variety of settings.

**NURS 4470. Community and Population Health Nursing for RNs. 4 Credit Hours (Lecture: 3.5 Hours, Lab: 1.5 Hour).**

The course presents the theory and systems to provide health care services to communities and populations as units of care for RNs. Community and population-based assessment, program management, and resource development are addressed. Utilization of evidence-based practices to guide health teaching, health counseling, screening, outreach, disease and outbreak investigation, referral and follow-up is also emphasized. Experiential learning is individualized.

**NURS 4498. Transition to Professional Nursing Practice. 4 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Course fosters synthesis of the curricular concepts of communication, professionalism, critical thinking, patient centered care, diversity, and leadership as experientially gained in prior semesters. Immersion experience to promote transition to practice is facilitated. Prerequisites: Admission to the nursing program and successful completion of Level III courses.

**NURS 4550. Nursing Care of Adults with Complex Needs. 5 Credit Hours (Lecture: 3 Hours, Lab: 6 Hours).**

This course continues to consistently reinforce the nursing process, nursing concepts, and disease process (exemplars) with focus on recognition and care of adult experiencing major and complex alterations in health. Clinical experiences occur in the healthcare setting, virtual simulation, lab and simulation. Prerequisites: Successful Completion of Junior 1, Junior 2, and Senior 1 nursing courses.

**NURS 4698. Leadership and Transitions for Professional Nursing. 6 Credit Hours (Lecture: 3 Hours, Lab: 9 Hours).**

This course explores organizational practices and strategies, professional leadership and societal trends with implications for decision making in healthcare. Course fosters communication, professionalism, critical thinking, client centered care, diversity, and leadership as experientially gained in prior semesters. Immersion experience to promote transition and leadership in practice is facilitated. Prerequisites: Successful Completion of Junior 1, Junior 2, and Senior 1 nursing courses.

**NURS 5086. Problems in Nursing. 6 Credit Hours (Lecture: 0-6 Hours, Lab: 0-6 Hours).**

Independent study focused on an area in nursing. Together with the faculty, the student formulates learning objectives and a plan for the course. May be repeated for credit as topics vary. Prerequisites: Admission to the MSN program and approval of the Department Head.

**NURS 5300. Nursing Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explores the relationships among theory, knowledge, science, and evidence-based nursing practice. The student will develop an appreciation of the process of theory development in nursing, compare and contrast various theoretical perspectives, and apply nursing theory. Course Fee \$50.

**NURS 5301. Organizational Behavior and Human Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course explores organizational behavior by investigating characteristics of employees, leaders, groups (including teams), and culture. Practical strategies to manage human resources are identified, investigated, and discussed. Opportunities for self-exploration are present. Prerequisite: Admission to the MSN program.

**NURS 5303. Advanced Nursing Role Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Course introduces development in the areas of healthcare policy, politics, and issues; leadership; team building; and written and oral communication. Self-awareness and communication techniques will be emphasized. Students are expected to incorporate the values of lifelong learning and professional development. Prerequisite: Admission to the MSN program.

**NURS 5306. Nursing Informatics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explores nursing informatics, its value, impact, and application to nursing practice, research, and education. Advances in information technology, healthcare information systems, and tele-health are expanded.

**NURS 5310. Leadership Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will examine the dimensions of the leadership role; identification of attributes, knowledge and skill required to fulfill the role; and the distinctions between management and leadership. Opportunities for self-awareness are provided in the course. Leadership is explored through the process of developing oneself as a leader. Prerequisite: Admission to the MSN program.

**NURS 5312. Advanced Health Assessment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on enhancing previously learned nursing skills and techniques used in comprehensive health assessment. Facilitates the development of critical thinking and advanced communication skills using various modalities. Course Fee \$50.

**NURS 5314. Advanced Pharmacology and Pathophysiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Dual focus on the role of the nurse in management of pharmacotherapeutics across the lifespan and the analysis and evaluation of physiologic and pathologic changes.

**NURS 5320. Healthcare Finance. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Offers an introduction to decision making in healthcare settings using accounting and finance theories, principles, concepts and techniques most important to managers. Course Fee \$50.

**NURS 5322. Healthcare Change and Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines change theory, team building, negotiation, and managing conflict in the healthcare habitat. Also addresses foundational principles of strategic planning. Evidence-based communication processes and orchestrating change in complex healthcare systems will be discussed. Course Fee \$50.

**NURS 5324. Outcomes & Eval Healthcare. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on healthcare outcomes management and planning using the biopsychosocial spiritual approach of healthcare delivery. The course will also examine a number of different measuring methodologies and their strengths and weaknesses as they apply to healthcare outcomes management and planning.

**NURS 5328. Administrator Role I. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Course is an applied synthesis of concepts, theories, processes, and roles learned in previous and concurrent core and administration courses. Students are actively engaged with faculty and practicum preceptor to plan experiences to meet course objectives. Students will gain firsthand experience with the operational, administrative, and strategic issues of concern to middle management. 60 hour practicum experience with preceptor. Prerequisite: Admission to the MSN Program.

**NURS 5329. Administrator Role II. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Continuation course of applied synthesis of concepts, theories, processes, and roles learned in previous and concurrent core and administration courses. Students are actively engaged with faculty and practicum preceptor to plan experiences to meet course objectives. Students will gain firsthand experience with the operational, administrative, and strategic issues of concern to executive management. 60 hour practicum experience with preceptor. Prerequisite: Admission to the MSN Program.

**NURS 5330. Instructional Methods and Strategies for Adult Learners. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focus is on teaching and learning theories, characteristics of the learner and instructor, and diverse learning designs and environments. Legal and ethical aspects will be covered. Prerequisite: Admission to the MSN Program.

**NURS 5332. Curriculum Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on curriculum development in nursing education and practice settings. Includes curriculum leader, faculty, and staff development, assessment of contextual factors, and curriculum design and process. Course Fee \$50.

**NURS 5334. Outcomes and Evaluation Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Course describes assessment, outcomes, and evaluation in nursing education; the process for collecting data and making decisions; and how to construct meaningful evaluation instruments. Social, ethical, and legal responsibilities and implications of decisions are presented. Course Fee \$50.

**NURS 5338. Clinical Focus Role. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Course begins with a discussion between the student and faculty and then student and preceptor to design an individualized experience to meet the course objectives. During this supervised practicum experience, the student will integrate advanced nursing knowledge to implement nursing interventions that influence healthcare outcomes for individuals, populations or systems. 60 hour practicum experience with preceptor. Prerequisite: Admission to the MSN Program.

**NURS 5339. Educator Role. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

Course is an applied synthesis of concepts, theories, processes, and roles learned in prior and concurrent education and core courses. Students are actively engaged with faculty and practicum preceptor to plan experiences to meet course objectives. 60 hour practicum experience with preceptor. Prerequisite: Admission to the MSN Program.

**NURS 5373. Nursing Administration Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students are expected to synthesize the concepts, theories principles, roles, and skills earned in this graduate program. Focus is on development of a scholarly product for dissemination. Course must be completed in one semester.

**NURS 5380. Completion Project. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focus is implementation of approved project proposal. Students are expected to synthesize the concepts, theories, principles, roles, and skills learned in this graduate program. Course must be repeated for project completion. Student will receive pass/fail credit in the course during the semester the project is completed.

**NURS 5383. Nursing Education Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students are expected to synthesize the concepts, theories principles, roles, and skills earned in this graduate program. Focus is on development of a scholarly product for dissemination. Course must be completed in one semester.

**NURS 5388. Thesis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin thesis. No credit until thesis is complete. Thesis will be completed following the guidelines from the College of Graduate Studies. Prerequisites: NURS 5398 and approval of Thesis Chair or Department Head.

**NURS 5398. Nursing Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Prepares students to explore, appraise, synthesize, and utilize appropriate research findings to address nursing problems and improve outcomes. Introduces research and knowledge generation in nursing. Course Fee \$50.

## Nutrition

### Courses

**NUTR 1307. Concepts in Food and Nutrition. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles of food studies and exploration of the role food narratives and exposés play in the consumer's perception of the current food supply. Foundation for understanding the connections among food production, ecology, ethics, cuisine, nutrition and health within the framework of sustainability.

**NUTR 1316. Principles of Food Preparation. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Study of food, food composition, and scientific principles involved in food preparation. Can receive credit for either NUTR 1316 or FDSC 1316.

**NUTR 3321. Life Cycle Nutrition. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explores in depth the contribution that diet and nutrition make to support growth and the development process throughout the life cycle. Examines the distinct set of nutritional priorities for each stage of the life cycle with a focus on health promotion and disease prevention as underlying lifetime goals. Prerequisite: WSES 1322 or HECO 1322.

**NUTR 3325. Advanced Meal Management. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Fundamentals of nutrition and food preparation in all types of meal service. Special emphasis is on time and money management. Credit will be given for only one of the following: WSES 3325, FDSC 3325, or NUTR 3325.

**NUTR 3339. Introduction to Medical Nutrition Therapy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaaffairs/>)]**

Physiological basis and application of medical nutrition therapy using the nutrition care process as related to specific health conditions. Medical terminology, nutrition assessment techniques and case studies. Prerequisite: HECO 1322.

**NUTR 4080. Seminar in Nutrition Science. 2-4 Credit Hours (Lecture: 2 Hours, Lab: 4 Hours).**

Comprehensive and integrated application of knowledge and skills acquired in the food and nutrition program in a practical setting. Designed to provide students with skills of synthesizing and presenting the results of lower-division work. Prerequisite: Approval of instructor.

**NUTR 4305. Food Service Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles of management applied to food service systems including restaurants and institutions.

**NUTR 4309. Community Nutrition. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Overview of techniques and procedures for collecting, recording, analyzing and interpreting data for nutritional assessment; program development and presentation techniques for application to individuals and community groups. Prerequisite: HECO 1322.

**NUTR 4315. Medical Nutrition Therapy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Physiological basis and application of medical nutrition therapy using the nutrition care process as related to specific health conditions. Medical terminology, nutrition assessment techniques and case studies. May receive credit for either WSES 4315 or NUTR 4315. Prerequisite: HECO 1322.

**NUTR 4325. Nutrition Counseling. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Nutrition counseling and interventions in the nutrition care process; communication skills and application for prevention and treatment of nutrition-related disease states. Prerequisite: NUTR 4315.

**NUTR 4339. Advanced Nutrition. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Metabolic processes that involve essential dietary components and methods of evaluating nutrition status. Prerequisites: NUTR 4315 and CHEM 4374 with minimum grade of C or instructor approval.

**NUTR 4349. Medical Nutrition Therapy I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of the physiological basis and application of medical nutrition therapy using the nutrition care process to nutrition support, metabolic stress, disorders of energy imbalance, hypertension, cardiovascular disease, and a variety of gastrointestinal disorders encountered in the clinical setting. Prerequisites: NUTR 4315, BIOL 2401 and 2402; MATH 1342 or PBHL 3320.

**NUTR 4379. Medical Nutrition Therapy II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of the physiological basis and application of medical nutrition therapy using the nutrition care process to diabetes, renal disease, liver disease, cancer, and HIV as encountered in the clinical setting. Prerequisite: NUTR 4349.

## Public Health

### Courses

**PBHL 1310. Health and Society: An Introduction to Public Health. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the structure of the United States health care system and major issues in the delivery of quality health care. The course focus is upon the interaction of individual, societal, and policy aspects of health care in a changing health care delivery system.

**PBHL 2310. Introduction to Epidemiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to introduce the public health student to the methodology used to study incidence, prevalence and risk factors associated with human disease. Students will develop practical skills used in public health to design and interpret epidemiologic studies and an understanding of the application of evidence-based medicine to increase quality of medical care.

**PBHL 2320. Medical Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides a foundation of ethical issues in both medical practice and public health administration. A foundation consisting of concepts from philosophy and political science will be provided in the context of both historical and current events.

**PBHL 3310. Principles of Health Promotion and Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview of the types of programs in the field of health education and health promotion and techniques utilized in a variety of community settings. Discussion includes social behavior in individual health decisions and the role of the educator to provide motivational tools that lead to healthy lifestyles. Ethical issues and measures of success in health interventions are also considered.

**PBHL 3320. Statistics for Health Care. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

Practical applications of general principles of descriptive and inferential statistics used in health care research. Topics include statistical principles, descriptive statistics, regression analysis, study design, vital statistics and reportable diseases or conditions. Mastery of basic methods in statistical analysis will be enhanced by the utilization of statistical software. Prerequisites: PBHL 2310.

**PBHL 4085. Seminar and Internship in Public Health. 1-4 Credit Hours (Lecture: 1-4 Hours, Lab: 0 Hours).**

Comprehensive and integrated application of knowledge and skills acquired in the Public Health program in a practical setting. Success will depend upon the ability to demonstrate professional competence in public health practice. The 3 credit hour course is available for Public Health Concentrations I and III and the 4 credit hour course is available for Concentration II only. The 2 hour course is available for Concentration IV only. Prerequisites: Approval of Program Director or major in Public Health.

**PBHL 4285. Seminar in Nutrition Science. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Comprehensive and integrated application of knowledge and skills acquired in the food and nutrition program in a practical setting. Designed to provide students with skills of synthesizing and presenting the results of lower-division work.

**PBHL 4305. Issues and Trends in Health Care. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaaffairs/>)]**

This course is designed to explore and discuss concepts and issues that are pertinent to allied health care professionals including legal and regulatory issues, health service reform and cost containment, workforce development, and quality assurance practices. Credit for both HPTC 4305 and PBHL 4305 will not be awarded.

**PBHL 4310. Introduction to Health Management and Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaaffairs/>)]**

Examines the structure of health care systems and policies that impact health programs and financing of health services. Emphasis is placed upon planning and management issues in various health care delivery organizations.

**PBHL 4320. Public Health Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Introduction to laws and regulations governing health care professionals and medical institutions. Class discussions examine the balance between individual rights and health care providers' activities with public health powers and community health needs. The course includes bioethical principles underlying public health and health care practice.

**PBHL 4350. Pathophysiology for the Health Professionals. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will focus on presentation of interrelationships between normal body functioning and the physiologic changes that participate in disease production, and occur as a result of disease. Emphasis on major disorders and other selected disorders provides a concise, easy-to-understand introduction to the fundamentals.

**PBHL 4385. Seminar in Community Health Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Comprehensive and integrated application of knowledge and skills acquired in the Public Health program in a practical setting. Success will depend upon the ability to demonstrate professional competence in public health practice. Prerequisite: Approval of Program Director or major in Public Health.

**PBHL 4485. Seminar in Pre-Graduate Public Health. 4 Credit Hours (Lecture: 4 Hours, Lab: 0 Hours).**

Comprehensive and integrated application of knowledge and skills acquired in the Public Health program in a practical setting. Success will depend upon the ability to demonstrate professional competence in public health practice. Prerequisite: Approval of Program Director or major in Public Health.

## Philosophy

### Courses

**PHIL 1301. Introduction to Philosophy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the writings of major philosophical authors.

**PHIL 2303. Introduction to Logic. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will introduce the student to the basic principles and concepts of formal logic, formal and informal fallacies, deductive and inductive reasoning, truth tables, symbolic notation, Venn diagrams, and the logic of scientific method. It will also include consideration of the philosophical foundations of logic.

**PHIL 3301. Ethics in the Professions. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will consider both the responsibilities inherent in a profession as such and some of the specific ethical dilemmas that arise in particular professions: business, science, engineering, military, education, medicine, etc. Prerequisite: Junior classification.

**PHIL 3304. World Religions. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the philosophical, ethical, and social dimensions of the religions of the world. Focuses on major religions but lesser known ones may be included. The course will emphasize the diversity of religious experience and traditions. Credit for both PHIL 3304 and RELI 3304 will not be awarded.

**PHIL 3309. History of Christianity and Christian Thought to the Reformation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaaffairs/>)]**

An overview of the history of Christianity and Christian thought from founding to the beginnings of the Reformation with particular attention to major themes, movements, events, leaders, and developments within their social, cultural and political contexts. The course also offers an introduction to the central ideas and debates that have shaped the historical development of Christian theologies, practices, and institutions. Credit for PHIL, RELI, and HIST 3309 will not be awarded.

**PHIL 3311. Political Philosophy I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Philosophical ideas concerning basic political problems from the Classical Period through the Renaissance. Credit for both PHIL 3311 and POLS 3311 will not be awarded. Prerequisite: PHIL 1301 or GOVT 2305 or POLS 2304 or approval of the instructor.

**PHIL 3312. Political Philosophy II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Philosophical ideas concerning basic political problems since the Early Modern period. Credit for both PHIL 3311 and POLS 3312 will not be awarded. Prerequisite: PHIL 1301 or GOVT 2305 or POLS 2304 or approval of the instructor.

**PHIL 4086. Problems in Philosophy. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Independent reading, research, and discussion. Entry into this course will be arranged with the instructor and department head.

**PHIL 4305. Environmental Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An inquiry into how humans ought to relate to nature, including questions about the moral standing of animals and other non-human beings, environmental justice, and what we may owe to future generations. In addition to exploring universal ethical issues concerning our relationships with the environment, the course will also consider exemplary American and Texan nature writers.

**PHIL 4385. Philosophy Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of major philosophical issues and theories. May be repeated for credit as topic varies. Prerequisite: Junior classification or approval of department head.

**PHIL 5305. Environmental Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An inquiry into how humans ought to relate to nature, including questions about the moral standing of animals and other non-human beings, environmental justice, and what we may owe to future generations. In addition to exploring universal ethical issues concerning our relationships with the environment, the course will also consider exemplary American and Texan nature writers.

**PHIL 5385. Philosophy Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Content varies according to the needs and desires of students. When topic varies, course may be taken for credit more than once.

## Physics

### Courses

**PHYS 1302. Essential Elements of Physics. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

This course introduces fundamental physics and astronomy concepts to students planning to become elementary and middle school teachers. Students are expected to design and conduct inquiry based experiments including the development of hypothesis, collection and analysis of data, and the use of appropriate laboratory equipment. Topics include motion, forces, energy, waves, light, electricity, magnetism, stellar and planetary evolution, and the atom. Enrollment in this course is restricted to Interdisciplinary Studies majors. Prerequisite: MATH 1314. Lab fee: \$2.

**PHYS 1401. College Physics I. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An introduction to mechanics, heat, and wave motion. This course is a trigonometry-based physics course. A student cannot get credit for PHYS 1401 if credit has been previously received for PHYS 2425. Prerequisite: MATH 1316, MATH 2412, MATH 2413 or concurrent enrollment. Lab fee: \$2.

**PHYS 1402. College Physics II. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An introduction to electricity and magnetism, light, and modern physics. This is a trigonometry-based physics course. Prerequisite: PHYS 1401. A student cannot get credit for PHYS 1402 if credit has previously been received for PHYS 2426. Lab fee: \$2.

**PHYS 1403. Stars and Galaxies. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A laboratory science course of study in topics of astronomy and astrophysics, including the sun and its source of energy, stellar formation and evolution, black holes, galaxies, cosmology, and the creation and evolution of the universe. Prerequisite: two semesters of high school algebra or MATH 0304. Lab fee: \$2.

**PHYS 1410. Great Ideas of Physics. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Great Ideas of Physics is a laboratory science course designed to introduce the student to the concepts of physics in an elementary mathematical setting, and to discuss their significance to science, technology, and society. Topics will be drawn from both classical and contemporary physics. Prerequisite: Two semesters of high school algebra or MATH 0304. This course cannot be used for credit toward a degree in physics or mathematics. Lab fee: \$2.

**PHYS 1411. Introductory Astronomy I. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

A laboratory science course of study in the topics of astronomy and astrophysics, including the history of astronomy, Kepler's laws, gravitation, formation of the solar system, asteroids, comets, meteors, a detailed survey of the planets and their evolution, and discussion on the possibility of extraterrestrial life in the universe. Prerequisite: Two semesters of high school algebra or MATH 0304. Lab fee: \$2.

**PHYS 2425. University Physics I. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This is an introduction to mechanics, heat, and wave motion. This is a calculus-based physics course. Prerequisite: MATH 2413 or concurrent registration. Lab fee: \$2.

**PHYS 2426. University Physics II. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This is an introduction to electricity, magnetism, optics, and modern physics. Prerequisites: PHYS 2425 and MATH 2414 or concurrent registration. Lab fee: \$2.

**PHYS 3331. Mechanics I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Particle dynamics in one, two, and three dimensions; conservation laws; dynamics of a system of particles; motion of rigid bodies; central force problems. Prerequisites: PHYS 2426; MATH 3306 and MATH 3433 or concurrent registrations.

**PHYS 3332. Electromagnetic Field Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Electrostatics; Laplace's equation; the theory of dielectrics; magnetostatic fields; electromagnetic induction; magnetic fields of currents; Maxwell's equations. Credit for both ELEN 3332 and PHYS 3332 will not be awarded. Prerequisites: PHYS 2426, MATH 3306 and MATH 3433, or concurrent registrations.

**PHYS 3333. Thermodynamics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Concept of temperature, equations of state; the first and the second law of thermodynamics; entropy; change of phase; the thermodynamics functions. Prerequisites: PHYS 2426 (Prerequisite); MATH 3433 (Co-requisite).

**PHYS 3334. Modern Physics I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Foundations of the atomic theory of matter; kinetic theory; elementary particles; radiations; atomic model; atomic structure; atomic spectra and energy levels; quantum theory of radiation; x-rays; special theory of relativity. Prerequisites: PHYS 2426 (Prerequisite); MATH 3433 or MATH 3306 (Corequisite).

**PHYS 3350. Medical Physics I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course will provide an introduction to the physics of human physiological processes as well as the physics used in the design of medical diagnostic tools and techniques. Prerequisite: PHYS 2426 or consent of the instructor.

**PHYS 4086. Special Problems. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

This course is designed to develop the theoretical or experimental capabilities, or both, of individual senior physics majors. Prerequisites: Senior classification and approval of department head.

**PHYS 4161. Physics Research Project. 1 Credit Hour (Lecture: 1 Hour, Lab: 2 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Literature survey and preparation for, and initiation of, a research project agreed to between the student and a faculty advisor, to be completed and reported on in the Research Seminar course. Prerequisites: PHYS 3334.

**PHYS 4162. Physics Research Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An experimental or theoretical project will be continued by the student and the results reported in a seminar. Students who have not yet taken the ETS Physics field test are required to do so while enrolled in Seminar. Prerequisites: PHYS 4161.

**PHYS 4303. Astronomy and Astrophysics. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

A laboratory science course of study in the topics of astronomy and astrophysics, including Planetary Astronomy, Stellar Astrophysics, Galactic Astronomy, Cosmology and Astrobiology. Prerequisites: MATH 2413, PHYS 2425. Lab fee \$8.

**PHYS 4330. Mathematical Methods for Physicists and Engineers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Mathematical techniques from the following areas: infinite series; integral transforming; applications of complex variables; vectors, matrices, and tensors; special functions; partial differential equations; Green's functions; perturbation theory; integral equations; calculus of variations; and groups and group representatives. Credit for both ENPH 4330 and PHYS 4330 will not be awarded. Prerequisite: MATH 3306, 3433.

**PHYS 4332. Optics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Huygen's principle applied to geometric optics; interference; diffraction; polarization; crystal optics; electromagnetic theory of light; interaction of light with matter. Prerequisites: PHYS 2442 and MATH 3306.

**PHYS 4334. Modern Physics II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The constitution of the atomic nucleus; natural radioactivity; artificially induced nuclear transmutations; alpha, beta, and gamma decay; nuclear reactions; nuclear structure and nuclear forces; nuclear fission; neutron physics. Prerequisites: PHYS 3334 and MATH 3306 or concurrent registration.

**PHYS 4335. Quantum Physics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The Schrodinger equation; one dimensional systems; the Heisenberg uncertainty principle; magnetic moments and angular momentum; two and three dimensional systems; approximation methods; scattering theory. Prerequisite: PHYS 3334 (Prerequisite); MATH 3306 or MATH 3433 (Co-requisite).



**PHYS 4336. Solid State Physics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The basic ideas of physics are applied to the understanding of the properties of crystalline materials to include the definition of such materials, electrical and thermal conductivity, heat capacity, crystalline binding, the nature of metals, insulators, and semiconductors, dielectric properties, and magnetic properties. Credit for both ELEN 4336 and PHYS 4336 will not be awarded. Prerequisite: PHYS 3334; MATH 3306 or concurrent registration.

**PHYS 4337. Nuclear Physics and Techniques. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

The study of nuclear phenomena and properties including mass, stability, magnetic moment, radioactive decay processes and angular momentum. The use of nuclear techniques to analyze problems in other fields of engineering with a special emphasis on the characterization of electronic materials. Prerequisite Course: PHYS 3334.

**PHYS 4340. Advanced Physics Laboratory. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A laboratory course focusing on advanced techniques and experiments drawn from the full range of physics classes. The student will understand the role of experimental design, advanced data analysis and reduction, error analysis, and the use of computers while investigating physical phenomena. Prerequisites: Corequisite: PHYS 3334. Lab fee: \$30.

**PHYS 4350. Medical Physics II. 3 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

The course covers the physics of ionizing radiation and its application in areas of medical physics, radiation safety, and manufacturing. Prerequisite: PHYS 3334 or consent of instructor. Lab fee \$8.

**PHYS 440. Advanced Physics Laboratory. 3 Credit Hours (Lecture: 1 Hour, Lab: 4 Hours).**

A laboratory course focusing on advanced techniques and experiments drawn from the full range of physics classes. The student will understand the role of experimental design, advanced data analysis and reduction, error analysis, and the use of computers while investigating physical phenomena. Co-requisite: PHYS 334.

**PHYS 5303. Astronomy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected topics in astronomy appropriate for public school teachers. Course may be repeated when topic changes.

## Political Science

### Courses

**POLS 2304. Introduction to Political Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the discipline of political science, with particular emphasis devoted to its development in the modern era. Topics include degree concentrations available in the program, types of political institutions, uses of political science, participation by political scientists in public affairs and public policy, an introduction to research and writing in the discipline, political theory and other discipline theories, and career options available to political science majors. Prerequisites: ENGL 1301 or approval of the instructor.

**POLS 3301. Political Economy of Globalization. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This class introduces students to the political system that manages the global economy. The class looks at theoretical approaches to economic conflict and cooperation, global trade, and global finance. Students will also study problems associated with the global economic system including poverty, inequality, and environmental externalities. Prerequisite: GOVT 2305 or GOVT 2306 or POLS 2304 or ECON 1301 or ECON 2301 or ECON 2302 or approval of the instructor.

**POLS 3302. Elections and Political Parties. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the electoral process in American national, state, and local political systems. Emphasis will be placed on the evolution of the structure and functions of political parties, interest groups, the news media, and other participants in the electoral process. Prerequisite: GOVT 2305 or approval of the instructor.

**POLS 3303. Comparative State and Local Government and Politics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Variations and similarities in the practice of politics and in the administration of government in the states. Particular attention is given to local government and state-national relations. Prerequisite: GOVT 2306 or approval of the instructor.

**POLS 3304. The Executive. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the organization of executive power in American national, state, and local systems. Emphasis will be placed on the evolution of the structure and functions of the Presidency of the United States and national, state, and local bureaucracies, and the role of parties, legislatures, courts, interest groups, and other participants in the executive process. Prerequisite: GOVT 2305 or approval of the instructor.

**POLS 3305. Legislation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the legislative process in American national, state, and local political systems. Emphasis will be placed on the evolution of the structure and functions of the Congress and the state legislatures, and the role of executives, courts, parties, interest groups, and other participants in the legislative process. Prerequisite: GOVT 2305 or approval of the instructor.

**POLS 3307. Public Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the concepts and practices of American public administration. Prerequisite: GOVT 2305 or approval of the instructor.

**POLS 3308. International Politics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to concepts and theories of international politics. It covers the evolution of the contemporary nation-state system, the role of international governmental institutions, and conflict and cooperation among states. Prerequisites: POLS 2304 or Junior standing or approval of the instructor.

**POLS 3309. The Judiciary. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the organization of the judiciary in American national, state, and local systems. Emphasis will be placed on the structure and function of the courts, plus the roles of the executive and legislative branches in selecting judges and checking the power of the courts, and the roles played by interest groups and others in influencing the courts. Prerequisite: GOVT 2305 or approval of the instructor.

**POLS 3310. Environmental Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An introduction to the politics of environmental protection in America. The focus of the course is upon domestic environmental policy with particular attention paid to traditional media - air, water, and hazardous waste. Prerequisite: GOVT 2305.

**POLS 3311. Political Philosophy I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Philosophical ideas concerning basic political problems from the Classical period to the Renaissance. Credit for both PHIL 3311 and POLS 3311 will not be awarded. Prerequisite: PHIL 1301 or GOVT 2305 or POLS 2304 or approval of instructor.

**POLS 3312. Political Philosophy II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Philosophical ideas concerning basic political problems since the Early Modern period. Credit for both PHIL 3312 and POLS 3312 will not be awarded. Prerequisite: PHIL 1301 or GOVT 2305 or POLS 2304 or approval of instructor.

**POLS 3314. Comparative Politics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to the politics of several nations in Europe, Africa, Latin America, and the Middle east. The course focuses on the analysis of major political developments in the post- World War II era leading to the present. Topics discussed include: the legacy of the past, governing structures and processes, and contemporary political debates. Prerequisites: POLS 2304 or Junior standing or approval of the instructor.

**POLS 3315. Sustainability. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explore the varied perspectives of sustainability and analyze factors that contribute to or decrease system sustainability. Investigation of the social, economic, and environmental barriers to achieving sustainable systems and options for overcoming these barriers. Credit will be awarded only for POLS 3315, ENVS 3315, or WSES 3315. Prerequisites: GOVT 2305 or GOVT 2306 or POLS 2304 or approval of the instructor.

**POLS 3316. Political Science Research Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course introduces students to the process of conducting research in the social sciences. Material will focus on developing research questions and extrapolating hypotheses from them, correctly and accurately reviewing prior relevant literature and how/when to cite it, applying qualitative and quantitative methods, finding sources of data and developing a case study, understanding the IRB process, and preparing a research proposal that can be reviewed and refined in preparation for a Capstone project. Prerequisites: POLS 2304 (Political Science majors) or Junior standing (all other majors) or approval of the instructor.

**POLS 3323. Political Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Analysis of political campaigns in modern society, including history, design and effects of campaigns. Students will study the uses of different media for campaign purposes, working in teams to achieve common goals.

**POLS 4084. Internship. 3-6 Credit Hours (Lecture: 0 Hours, Lab: 16-30 Hours).**

Application and integration of academic study and development of skills in a field setting. Field projects include direction of a political campaign, internship in a city or county administrative office, or in a not-for-profit organization for analyzing or carrying out governmental policy. Minimum of 200 hours of work required for 3 hours of credit. Prerequisites: 2.5 overall grade point average, advanced standing, and approval of department head. Field experience fee \$50.

**POLS 4086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Independent reading, research and discussion. Entry into this course will be arranged with the political science counselor.

**POLS 4301. Constitutional Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An introduction to the principles of American constitutionalism, specifically, the prerogatives of American political institutions. The subject is approached by close study of the documents which outline these principles, the four Organic Laws of the United States, Supreme Court cases, and political speeches. Prerequisites: GOVT 2305, HIST 1301, and HIST 1302; or approval of the instructor.

**POLS 4302. Constitutional Law II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

The origin and development of constitutional prohibitions as shown by leading U.S. Supreme Court decisions on civil rights, contracts, due process, economic regulation, eminent domain, labor relations, obscenity, political utterance, and religion. Prerequisite: POLS 4301.

**POLS 4306. European Politics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Comparative examination of European politics and government, with particular attention to the European Union and policy processes at the nation-state and EU levels. This course may be conducted either as a regular seminar on campus or as part of a study-abroad opportunity. Students who take the course on campus may repeat it once for credit as a study-abroad opportunity, or vice versa. Prerequisites: POLS 2304 or Junior standing or approval of the instructor.

**POLS 4307. Nationalism. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examination of theories of nationalism and national identity, origins of ethno-centric conflict, and impacts of national identity on political issues. Prerequisite: POLS 2304 or Junior standing or approval of the instructor.

**POLS 4308. Politics of Latin America. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an analysis of contemporary political issues, economic development, militarism, and democratization in Latin America. In attempting to explain these phenomena, the course will focus on the shaping influences of such key factors as religion, gender, race, ethnicity, and the impact of external powers in shaping political events in the region. Prerequisites: POLS 2304 or Junior standing or approval of the instructor.

**POLS 4309. Politics of the Middle East. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the history and politics of the Middle East in the 20th century. Specifically, this course will analyze such critical political, social, intellectual, and economic themes as colonialism, Arab nationalism, secular modernism, military conflict, the rise of political Islam, the status of women, and the oil revolution. Prerequisites: POLS 2304 or Junior standing or approval of the instructor.

**POLS 4310. International Environmental Issues. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An introduction to environmental politics and policy at the international level. The focus of this course is upon global environmental policy with particular attention paid to the processes that create and shape global environmental policy. Prerequisites: POLS 2304 or Junior standing or approval of the instructor.

**POLS 4311. Environmental Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Focuses on US environmental law and regulations including administrative law and common law. Major laws dealing with air, water, and hazardous waste will be assessed, including citizen participation within the legal process Prerequisite: GOVT 2305 or GOVT 2306 or POLS 2304 or approval of the instructor.

**POLS 4312. Religion and Politics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An examination of the major theories of the relationship of religion and politics and a survey of this relationship in the United States with a focus on religious liberty, church-state relations, and religious advocacy. Additional focus on Christian-majority states in Europe and the Americas and Muslim-majority states and the relationship of Islam and government, as well as critical contemporary issues. Students cannot receive credit for both POLS 4312 and RELI 4312. Prerequisites: POLS 2304 or PHIL 3304 or RELI 3304 or Junior standing or approval of the instructor.

**POLS 4313. East and South Asian Politics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Government organization and functions, political processes, and major developments in the political systems of Japan, China, Korea, India, Pakistan, and other states in East and South Asia from the 20th century to the present. Prerequisites: POLS 2304 or Junior standing or approval of the instructor.

**POLS 4314. African Politics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course introduces students to the major political issues and dynamics in sub-Saharan Africa, including traditional political systems, the effects of colonialism, political culture, public policy, the role of the military, domestic conflict, corruption, institutionalization, democratization, development, foreign aid, and regional integration. Prerequisite: Junior or Senior status or POLS 2304.

**POLS 4315. Foreign Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of America's role in the modern world. Particular emphasis is placed on the policy makers, for example, the President, Congress, the State Department, and the Department of Defense, and on external factors such as other nations. Prerequisite: GOVT 2305 or POLS 3308 or approval of the instructor.

**POLS 4340. US Public Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an overview of the development of public policy in the United States and offers students the opportunity to understand this process in relation to their research interests. A major research project on a specific policy issue is developed over the course of the term. Credit will not be awarded for both POLS 4340 and POLS 5340. Prerequisite: GOVT 2305 or approval of the instructor.

**POLS 4385. Political Science Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Independent reading, research, discussion, and paper writing, under personal direction of instructor. Prerequisite: POLS 2304 or GOVT 2305 or approval of the instructor. May be taken more than once for credit.

**POLS 4390. Political Science Capstone Course. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course requires students to integrate and use fundamental concepts learned in previous political science courses to research and analyze real-world political phenomena and problems. Students will present oral and written reports on their research, supplemented by appropriate internet and multimedia materials, as well as portfolios documenting their research. Prerequisite: POLS 3316 or SOCI 4302 or permission of the instructor.

**POLS 5086. Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Conference course. Independent reading, research, discussion, under supervision of senior professor.

**POLS 5310. International Environmental Issues. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to environmental politics and policy at the international level. The focus of this course is upon global environmental policy with particular attention paid to the processes that create and shape global environmental policy.

**POLS 5311. Environmental Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focuses on US environmental law and regulations including administrative law and common law. Major laws dealing with air, water, and hazardous waste will be assessed, including citizen participation within the legal process.

**POLS 5320. Sustainability Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This class focuses on the world movement towards sustainability, urban sustainability, corporate leadership in sustainability, and the use of sustainability benchmarks. This class will also focus on rationales on creating sustainability reports, public policy analysis using sustainability reports, and creation of sustainability reports.

**POLS 5330. Public Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The practical application of theories of public administration, the study of problems of administrative management in public organizations, and the use of law for administrative decision-making.

**POLS 5340. US Public Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an opportunity to review theory and elements of the development of public policy in the United States and to analyze this process in relation to research interests. A major research project on a specific policy issue is developed over the course of the term. Credit will not be awarded for both POLS 4340 and POLS 5340. Prerequisites: GOVT 2305 and GOVT 2306.

**POLS 5360. Political Culture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of political culture as it forms and is formed by public policy. Examples may include the culture of environmental policy, bureaucratic policy, foreign policy, and others.

**POLS 5361. Politics of Education. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the relationship between politics and education in America including K-12 and post-secondary systems.

**POLS 5362. Environmental Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the politics of the natural environment with emphasis on the role of government in environmental protection.

**POLS 5385. Political Science Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Contents vary according to the needs and desires of students. Independent reading, research, discussion, and writing under personal direction of instructor. May be repeated once for credit when topic varies.

**POLS 5388. Thesis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Scheduled when student is ready to begin thesis. No credit until thesis is accepted.

**POLS 5399. Practicum, Field Problem, or Internship. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Supervised professional activities in school administration, counseling, supervision, college or public school teaching, or other public service professions. Major emphasis is placed on the student's involvement in successful practices in the area of professional interest. May be repeated once for credit. Field experience fee \$50.

## Psychology

### Courses

**PSYC 1100. Transitioning to University Studies in Psychology. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, and in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. Also included will be the development of skills to promote physical and mental health.

**PSYC 2301. General Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview of psychology, the scientific study of human behavior and mental processes and the variables that influence these processes. Topics covered in the course include motivation, emotions, intelligence, sensory processes, perception, learning, thinking, mental health, and psychotherapy. All psychology majors must earn a C or better in the course.

**PSYC 2308. Child Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of children from infancy through adolescence with emphasis on the analysis of behavior based on experimental evidence and contemporary theory.

**PSYC 2314. Life Span Growth & Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A lifespan study of the development of human beings from conception to death. The growth and developmental patterns of the eight age groups are studied with attention directed to experimental evidence, case studies, and contemporary theories. May not be counted as part of the professional education component for teacher certification.

**PSYC 2315. Psychology of Adjustment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of human behavioral and mental processes that permit us to adjust or to meet the demands of a changing physical or psychological environment with an emphasis upon effective personal-social adjustment. Topics covered include social influence, stress, psychological factors and physical health, health-enhancing behaviors, addictive behaviors, methods of coping, gender roles and differences, and interpersonal attraction.

**PSYC 2317. Statistical Methods in Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of statistical methods used in psychological research, assessment, and testing. Includes the study of measures of central tendency and variability, statistical inference (including analysis of variance), and correlation and regression as these apply to psychology. All psychology majors must earn a C or better in the course. Prerequisites: PSYC 2301 and either MATH 1314, MATH 1316, MATH 1332, MATH 1324, MATH 1325, MATH 1342, MATH 2412, or MATH 2413.

**PSYC 2319. Social Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the theories and topics of social psychology. This course emphasizes the effect of social variables upon the behavior of individuals. Topics covered include socialization, language and communication, prejudice, social attitudes, attitude change, aggression, prosocial behavior, and group behavior. Prerequisite(s): PSYC 2301 or approval of the department head. Prerequisite: PSYC 2301 or approval of the department head.

**PSYC 2320. Abnormal Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An overview of the history, causes, and treatments of deviant behavior. Psychological, social, and physiological factors as they relate to the development of abnormal behavior and its subsequent treatment. Prerequisite: PSYC 2301 or approval of the department head.

**PSYC 2345. Biological Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introductory course in the biological and neuroscientific basis of behavior with emphasis on how the brain influences behavior. The basic chemical, electrical, and functional components of the nervous system that influence behaviors, cognition, and emotion will be examined. Prerequisite: PSYC 2301.

**PSYC 3301. Psychology of Learning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An investigation into the major theoretical approaches, concepts and principles, and experimental methods of learning. All psychology majors must earn a C or better in the course. Prerequisites: PSYC 2301 - must pass this course with a C or better, or approval of the department head.

**PSYC 3303. Educational Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the psychology of learning within educational settings. Topics include theories and research on human development, cognition, learning, and motivation, and their application to the processes of teaching and learning. Issues such as cultural diversity, standardized testing, individual differences, exceptionalities, and the learning environment are also considered.

**PSYC 3305. Human Cognitive Processes. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of human cognition and information processing, including perception, attention, memory, reasoning, and problem solving. Also included are the experimental methods and current theories of human cognition. Prerequisite: PSYC 2301 or approval of the department head.

**PSYC 3307. The Human Lifespan. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Surveys development from conception through adulthood with emphasis on social adaptation of individuals and roles in families, groups, and communities. Cognitive, social, personal and biological factors of the stages of development are included.

**PSYC 3309. Writing in Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

The study of advanced technical communication in psychology. Involves learning and using the current edition of the Publication Manual of the American Psychological Association for formal research reports, literature reviews, grant proposals, and professional articles. Also involves learning to write professional psychological reports. Psychology majors must pass the course with a C or better. Prerequisite: PSYC 2301 with a C or better.

**PSYC 3311. Behavior Analysis and Behavior Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines the basic principles and methods of behavior analysis and behavior management techniques. Includes a systematic review of behavioral and cognitive-behavioral methodologies for dealing with human problems such as disruptive behavior, personal adjustment difficulties, behavioral deficits, phobias and fears, developmental disorders, stress and maladaptive behavior in a variety of settings. Prerequisite: PSYC 2301 or approval of the department head.

**PSYC 3320. Psycholinguistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course emphasizes the study of language, understanding languages, producing language and speech, language development, and related topics such as reading, language and the brain, linguistic diversity, and universals. Prerequisite: PSYC 2301 or approval of the department head.

**PSYC 3332. Neuropsychopharmacology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the neuroscientific basis of the effects of drugs on behavior. Emphasis will be placed on major antipsychotic, antianxiety, and antidepressant drugs and their clinical use and side effects. Drug abuse such as alcohol, marijuana, and cocaine will also be reviewed. Prerequisite: PSYC 2301 AND 8 hours of lab science.

**PSYC 3340. Child Psychopathology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will cover psychological disorders affecting children, the ways in which they differ in presentation from childhood to adulthood, and the developmental impact of childhood psychological disorders. The causes, nature, identification, and treatment of behavioral and emotional disorders in children will be addressed. Prerequisite: PSYC 2301.

**PSYC 3350. Personality. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to personality, which is the unique and relatively stable patterns of behavior, thoughts, and feelings that make human beings different. Various theoretical approaches - psychodynamic, cognitive, behavioral, humanistic, and existential - will be covered and will be related to personality and personality development. Prerequisite: PSYC 2301 or approval of department head.

**PSYC 3360. Sport Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide students with an overview of the theories and research related to sport and exercise behavior. Topics to be covered include the history of sport psychology, behavioral principles, anxiety, motivation, leadership, group dynamics, gender, and personality. The course will also be designed to relate these principles to exercise and sport performance. Prerequisite: PSYC 2301 or approval of department head.

**PSYC 3435. Principles of Research for the Behavioral Sciences. 4 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

The study of various research designs used in the behavioral sciences. Includes laboratory exercises to acquaint and give students hands-on experience with experimental procedures and basic and applied research. Experiences are also provided in developing a research proposal, obtaining approval and consent to conduct research, using statistical computer applications, and writing a research report. Ethical and legal issues in conducting research are also considered. Prerequisite: PSYC 3309 with a C or better and PSYC 2317 with a C or better.

**PSYC 4086. Problems in Psychology. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Independent reading and research on various topics related to Psychology. Entry into the course will be arranged by the director of the Psychology program.

**PSYC 4301. Psychological Test and Measurement. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An introduction to the principles of psychological testing. Includes the use and critical evaluation of tests of achievement, intelligence, aptitude, and personality. Prerequisites: PSYC 2301, MATH 1314 or higher, and PSYC 2317, or approval of the department head.

**PSYC 4302. Adaptive Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A consideration of how adaptation has influenced social, cognitive and developmental processes in humans. Comparisons between humans and other species, and between different human cultures will be included. Prerequisite: PSYC 2301 or approval of the department head.

**PSYC 4303. Animal Behavior. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the major areas of animal behavior research from a psychological perspective. Research examining the development and display of behaviors will include subject samples ranging from insects to humans conducted in natural, quasi-experimental, and experimental studies. Prerequisite: PSYC 2301 AND 8 hours of lab science.

**PSYC 4310. Industrial/Organizational Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the basic theories and practices of Industrial/Organizational psychology including selection testing, job analysis, performance appraisal training, employment motivation, job satisfaction, leadership and group processes within organizations. Prerequisite: PSYC 2301 or approval of department head.

**PSYC 4312. Behavioral Neuroscience. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Surveys the biological basis of behavior. Includes an in-depth examination of the physical structure of the human body and the role of chemical and electrical operations within it and how it influences psychological functioning. Emphasis will be placed on the developmental, cognitive, affective and behavioral effects of such operations. Recent research will also be reviewed. Prerequisite: PSYC 2301, 8 hours of lab science (preferably BIOL), or approval of the department head.

**PSYC 4320. History of Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Historical analysis of prescientific psychology including philosophical and physiological roots leading to the development of the early schools of psychological thought to current psychological theoretical positions. All psychology majors must earn a C or better in the course. Prerequisites: PSYC 2301 and PHIL 1301 or approval of department head.

**PSYC 4350. Senior Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

A focus on the application, integration, and demonstration of knowledge gained throughout psychology major coursework. In this course, students will be expected to demonstrate the following: knowledge base in multiple areas of psychology, knowledge of methods of scientific inquiry and critical thinking, ethical and social responsibility, effective written and oral communication, and professional development. All psychology majors must earn a C or better in the course. Prerequisites: PSYC 3435 and 90 hours completed, or permission of the department head.

**PSYC 4388. Undergraduate Research Experience. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will provide students the opportunity to engage in research with faculty. Students will have the opportunity to gain experience working in a lab setting, which may include engagement in design, collection, analyzing, interpreting, writing and presenting data. Students must be currently working in a lab and be invited by a faculty member to take this course. Prerequisite: PSYCH 2301.

**PSYC 4390. Special Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Independent reading and research on various topics related to Psychology. Prerequisite: Senior standing.

**PSYC 5048. Applied Project Capstone. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

This course requires students to design and complete an independent project that integrates what the student has learned in the program and advances the application of the scientific principles of psychology. Students will communicate the results of their project via a written report and a public presentation.

**PSYC 5086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Directed independent study or research under the supervision of a member of the psychology faculty. Prerequisites: graduate standing and approval of department head.

**PSYC 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Scheduled when the student is ready to begin the thesis. No credit until the thesis is completed. Prerequisites: Completion of all course work required by the degree and consent of the major professor.

**PSYC 5090. Special Topics. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

An examination of different topics each semester with a focus on contemporary issues in counseling. This course may be repeated for credit as the topic changes.

**PSYC 5300. Behavioral Statistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Review of descriptive statistics with emphasis on inferential statistics. Includes correlation, one-way and two-way analysis of variance, regression analysis and experimental design. Use of computer software with emphasis on experience with SPSS. Prerequisite: undergraduate statistics recommended.

**PSYC 5301. Research Methods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the scientific method of research, types of research and research design. Students are required to review, analyze and interpret research findings in their major field and develop a research project with the assistance of their instructor. Prerequisite: PSYC 5300 or equivalent graduate statistics course. Lab fee assessed.

**PSYC 5302. Social Psychological Processes. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in-depth examination of the individual in a social and cultural context. Topics include: the behavior of groups, the roles of individuals within groups, and the influence of groups on an individual's perceptions, attitudes, emotions, and behavior. Major theories and supporting research are covered. Includes a selected emphasis on specific topics, with individual or team projects and/or original research.

**PSYC 5303. Theories of Learning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of major theories of learning, factors which influence the process of learning, and application of these theories and processes to general and special populations. Prerequisite: Admission to Graduate School or approval of department head.

**PSYC 5304. Human Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A lifespan survey of the development of human beings from conception to death. Topics included will be research and theory into physical, cognitive, social, and personality development in each of the different age groups: prenatal, infancy, childhood, adolescence, and adulthood.

**PSYC 5315. Physiological Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the biological basis of behavior with an emphasis on the structure and biochemistry of the human nervous system. Includes an exploration of the interactive relationships between biological processes, psychopharmacology, genetics, neurological disorders, normal growth and maturation, perception, memory, emotion, stress, mental disorders, consciousness, and communication. Contemporary theories and research are investigated and critiqued.

**PSYC 5316. Advanced Quantitative Methods and Experimental Design. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides an overview of advanced statistical techniques to analyze quantitative data resulting from experimental and quasi-experimental research designs. This course is a continuation of PSYC 5300 and 5301 and requires students to demonstrate proficiency in the use of SPSS for data analysis. The course reviews One-Way and Two-Factor ANOVA. Other topics include ANCOVA, MANOVA, MANCOVA, multiple regression, logistic regression, data reduction techniques (factor analysis and principal components analysis), and non-parametric analyses appropriate for two- and multi-group designs. The course emphasizes the integration of multivariate and advanced statistical design with applicable research paradigms.

**PSYC 5320. History and Systems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Historical analysis of the development of the science of psychology from early philosophical theories through the establishment of psychology as a science to modern theoretical positions.

**PSYC 5321. Evolutionary Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

In-depth evaluation of the current theories of adaptation with a large focus on how adaptation has influenced social, cognitive and developmental processes in humans. Evidence from cross-cultural studies as well as cross species studies will be reviewed and discussed.

**PSYC 5322. Psychometrics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Systematic treatment of the logic of measurement, including such topics as scaling models, validity, variance and covariance, reliability, theories of measurement error and test construction.

**PSYC 5340. Psychopathology and Assessment of Children. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to provide an overview of emotional and behavioral disorders of children and adolescents and theoretical foundations and applications of psychological assessment with this population.

**PSYC 5361. Teaching of Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of pedagogical theories, styles, and strategies as they apply to college-level teaching of psychology. Students will explore a range of techniques for teaching of psychology courses, including presentation of course material, learning assessment tools, test construction, and grading.

**PSYC 5362. Teaching of Psychology Practicum. 3 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

The Teaching of Psychology Practicum is designed to give students supervised practical application related to teaching experience within the realm of Psychology. Students will be paired with a current faculty member teaching, but not limited to, PSYC 2301 General Psychology and PSYC 1100 Transitioning to University Studies in Psychology courses. Prerequisite: Admission to Graduate School.

**PSYC 5379. Advanced Psycholinguistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course emphasizes linguistic principles, the perception of language, the mental lexicon, sentence and discourse comprehension, the production of speech and language, conversational interaction, first and second language acquisition, biological foundations of language, and related topics, such as reading, linguistic diversity, and cultural influences. Course is cross-listed with READ 5379. Credit will not be awarded for both READ 5379 and PSYC 5379.

**PSYC 5381. Assessment and Evaluation Fundamentals. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the nature and development of standardized tests, with emphasis on ethical standards, psychometric theory, test standards and test construction. Selection criteria and utilization of standardized and other instruments in various environments are considered. Includes evaluations and critiques of published tests and experiential exposure to different types of psychological tests.

# Reading

## Courses

**READ 0303. Basic Reading. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of ways a student may enhance existing reading and writing skills; evaluate and examine new theories of learning in relation to individual needs; develop problem solving abilities and critical thinking; acquire individual capacities for understanding oneself in relation to college expectations. The class will use relevant, pertinent materials designed to enrich a student's background knowledge.

**READ 3301. Introduction to Children's Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of literature for children grades EC – 8 focusing on the use of classic and contemporary texts to promote interest, motivation, and critical reading skills for self-selected reading. Credit will not be granted for READ 3301 and ENGL 3350. Prerequisites: ENGL 1301, 1302, and 3 hours of SOPH level ENGL.

**READ 3311. Literacy for the Early Years. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of research-based competencies essential for effective literacy instruction in the early years. Prerequisites: ENGL 1301, 1302, 3 hours SOPH ENGL and concurrent enrollment in READ 3321.

**READ 3321. Early Childhood Literacy Field Implementation. 3 Credit Hours (Lecture: 1 Hour, Lab: 9 Hours).**

This course is designed to give students field-based experiences in the early childhood classroom. Students will develop practical lessons and activities to be used in the literacy classroom and apply knowledge and skills about instructional strategies, materials, and best-practices in the early grades classroom. Prerequisite: Concurrent enrollment in EDUC 3320 or EDUC 3321.

**READ 3351. Content Area Literacy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course provides an understanding of factors which influence learning from content text and teaches specific instructional strategies which promote comprehension, vocabulary development, effective study strategies, and test-taking skills. Prerequisites: ENGL 1301, ENGL 1302 and a Sophomore level English.

**READ 3356. Content Area Literacy for Interdisciplinary Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course provides an understanding of factors which influence learning from content texts. The course includes specific instructional strategies that promote comprehension, vocabulary development, effective study and test-taking skills, and ways to modify text for diverse learners including English Language Learners, Gifted and Talented, Special Education and other cultural groups. Attention is given to the principles of research-based reading instruction for EC-6 and 4-8 pre-service teachers. Prerequisites: ENGL 1301, ENGL 1302 and a Sophomore level English.

**READ 3384. Literacy for the Middle Years. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A field-based course surveying research-based competencies essential for effective literacy instruction in the middle years. Prerequisites: READ 3311, Concurrent enrollment in EDUC 3330.

**READ 4086. Reading Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A course featuring independent research, reading, application and discussion under personal direction of instructor. Topics vary according to student need. Open to students of junior or senior classification who have been admitted to the Teacher Education Program and with approval of the instructor and department head.

**READ 4309. Reading and Writing Across the Curriculum. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course focuses on theory and instructional strategies for teaching and assess literacy learning with EC-6 and 4-8 learners in a school setting. It includes the writing process, genres of children's literature and writing genres, evaluation of children's literature, teaching with mini-lessons using children's literature as mentor texts to teach writing, stages of writing in relation to early literacy, state and national standards for writing, high stakes writing tests and writing to learn. Prerequisites: READ 3311 and acceptance into the Teacher Education Program.

**READ 4310. Concepts of Literacy Classrooms. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of literacy initiatives and concepts for grades EC – 8. Prerequisites: Admission to the Tarleton Teacher Education Program and concurrent enrollment in EDUC 4315 or EDUC 4330.

**READ 4331. Assessment Field Implementation. 3 Credit Hours (Lecture: 1 Hour, Lab: 9 Hours).**

This course is designed to give students field-based experiences in the use of assessment to analyze students' strengths and needs, evaluate teacher effectiveness, and guide instructional planning for individuals and groups. The focus of this course will include the application of technology-based and traditional assessment models to enhance students' literacy achievement, including ELLs and students with special needs. Prerequisite: READ 3321. Admission to the Teacher Education Program.

**READ 4384. Literacy and Reading Problems Assessment for the Middle Years. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course is a field-based course surveying the characteristics of the middle to upper elementary learner and methods of assessment and instruction in all aspects of literacy including comprehension, vocabulary, and word identification in the context of state learning standards. The course also includes an examination of normal reading development, reading difficulties, including dyslexia, and strategies for assessing/addressing reading differences including diverse learner reading processes and development of literacy of English Language Learners. Prerequisite: READ 3311, Acceptance in the Teacher Education Program.

**READ 5086. Reading Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Directed study of selected problems in reading. Prerequisite: Approval of department head.

**READ 5197. Literacy Practicum I. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course provides students with opportunities to apply content and use materials and strategies from READ 5375 Reading Assessment and Intervention in their own school setting. Concurrent enrollment in READ 5375 Reading Assessment and Intervention is required. Prerequisite: READ 5373 or 9 hours of undergraduate reading courses or approval of department head. Concurrent enrollment in READ 5375 Reading Assessment and Intervention is required.

**READ 5299. Literacy Practicum II. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

This course provides students with opportunities to apply content and use materials and strategies from READ 5376 Organization and Administration of Reading Programs in their own school setting. Concurrent enrollment in READ 5376 Organization and Administration of Reading Programs is required. Prerequisite: READ 5373 or 9 hours of undergraduate reading courses or approval of department head. Concurrent enrollment in READ 5376 Organization and Administration of Reading Programs is required.

**READ 5370. Literacy Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Models of the reading and writing processes. Includes characteristics of emergent, early, transitional and fluent literacy; instructional strategies in reading and writing; phonics instruction and strategies for teaching English language learners; the essential knowledge and skills in the language arts curriculum. Prerequisite: admission to the alternative teacher certification program at Tarleton.

**READ 5372. Language Arts for Today's Learner. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines research and strategies for implementing the reading/writing process in classrooms. Examines integrated curriculum, use of children's literature, classroom management and organization, evaluation, working with diverse learners, and developing support networks. Prerequisites: READ 5373 or 9 hours of undergraduate reading courses or approval of department head.

**READ 5373. Foundations of Reading. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines theoretical models of reading processes, historical perspectives on reading instruction, and their relationship to instructional practices. This course also focuses on instructional strategies and relationships between the components of reading: oral language, phonological and phonemic awareness, concepts of print, alphabetic principle, word identification, comprehension, vocabulary, and written language. Prerequisite: Elementary, secondary, or all-level certification or approval of department head.

**READ 5374. Reading Resources and Materials. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course researches, identifies, and evaluates a variety of print and non-print materials, including content area textbooks, trade books, and computer software. This course also focuses on development of comprehension through a variety of reading and writing strategies. Prerequisite: READ 5373 or 9 hours of undergraduate reading courses or approval of department head.

**READ 5375. Reading Assessment and Intervention. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines methods and techniques related to reading assessment and intervention for the components of reading. This course explores informal and formal reading assessment procedures, including the documentation and analysis of assessment data; using data analysis to design interventions for students with reading difficulties, dyslexia, and reading disabilities; and monitoring and evaluating the effectiveness of interventions. Concurrent enrollment in Literacy Practicum I is required. Prerequisites: READ 5373 or 9 hours of undergraduate reading courses or approval of department head. Concurrent enrollment in READ 5197 Literacy Practicum I is required.

**READ 5376. Organization and Administration of Reading Programs. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course surveys state and federal requirements, standards, trends, and issues related to the administration of reading programs. Students will examine instructional issues and reading programs for Pre-K through adult learners. Additional course topics include literacy instruction for English Language Learners, use of assessment results to plan instruction, flexible grouping strategies, textbook/test adoption procedures, roles and responsibilities of personnel in the reading programs, staff professional development, and facilitation of positive change strategies. Concurrent enrollment in Literacy Practicum II is required. Prerequisites: READ 5373 or 9 hours of undergraduate reading courses or approval of department head. Concurrent enrollment in READ 5299 Literacy Practicum II is required.

**READ 5377. Digital Literacy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Surveys digital technology, communication tools, and multiple forms of media to locate, evaluate, use, and create information in the 21st century reading classroom. Examines the appropriate use of technology paired with best practices to scaffold reading instruction for diverse populations. Prerequisites: READ 5373 or 9 hours of undergraduate reading courses or approval of department head.

**READ 5378. Adult Literacy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An analysis of theoretical and practical applications of adult literacy development. Topics will include a current and historical understanding of literacy, English Language Learners, adult technology literacy needs and skills, and future directions for adult education and literacy. Implications for program development and implementation of successful adult literacy programs will also be discussed. Prerequisite: READ 5373 or 9 hours of undergraduate reading or approval of department head.

**READ 5379. Advanced Psycholinguistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course emphasizes linguistic principles, the perception of language, the mental lexicon, sentence and discourse comprehension, the production of speech and language, conversational interaction, first and second language acquisition, biological foundations of language, and related topics, such as reading, linguistic diversity, and cultural influences. Credit for both READ 5379 and PSYC 5379 will not be awarded.

**READ 5380. Critical Literacy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course offers an introduction to the critical and analytical study of literature and its application to the modern classroom. Taking a critical perspective, students will examine the underlying messages in literature and explore topics of gender, race, power, and other complex social issues through multiple genres and texts. These topics will be situated in the context of literacy education.

**READ 5399. Reading Specialist Practicum. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of READ 5399 is to provide supervised professional activities in the areas of literacy resources, literacy instruction, literacy assessment, research, and professional leadership. The university field supervisor will support reading specialist candidates' development and demonstration of competencies of professional knowledge, skills, and responsibilities according to state standards and the Science of Teaching Reading. As the culminating experience in the Reading Specialist Program, students must complete an action research project. Note: Reading Specialist candidates will also need to pass the state reading specialist certification assessment in order to apply for the Reading Specialist Standard Certification. Additionally, practicum students must be employed in an educational setting during the entirety of the course. Prerequisites: Admission to the Reading Specialist Program, completion of 18 hours of READ specialist coursework, and concurrent enrollment in READ 5376 (or department head approval).

## Real Estate

### Courses

**REST 4084. Internship. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-20 Hours).**

Preapproved and supervised work experience in a Real Estate related position with a public or private business organization. May be repeated for a total of 6 hours credit. Prerequisite: Approval of department head.

**REST 4086. Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A directed study of selected problems in Real Estate. May be repeated with approval of the head of the Department. Prerequisite: Approval of department head.

**REST 4090. Special Topics in Real Estate. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

An examination of current topics in real estate. Readings required from current real estate publications and other related periodicals. May be repeated for credit when topics vary. Prerequisite: 9 hours of REST.

**REST 4303. Texas Real Estate Agency Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of agency concepts, basic agency relationships, disclosure and duties to client, disclosure and duties to third parties, creation and termination of the agency relationship, seller agency, subagency, buyer agency, representing more than one party in a transaction, dual agency, intermediary brokerage, single agency, clarifying agency relationships, employment issues, Deceptive Trade Practices and Consumer Protection Act, selected statutes and TREC rules, ethical and legal responsibilities.

**REST 4304. Principles of Real Estate I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of licensing as a real estate broker and salesperson, distinctions between real and personal property, the real estate market, concepts of home ownership, real estate brokerage and the law of agency, fair housing laws and ethical practices, Real Estate License Act, interests in real estate, how ownership is held, legal descriptions, encumbrances and liens.

**REST 4305. Principles of Real Estate II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of licensing as a real estate broker and salesperson, ethics of practice, titles to the conveyancing of real estate, legal descriptions, law of agency, deeds, encumbrances and liens, distinctions between personal and real property, contracts, appraisal, finance and regulations, closing procedures, and real estate mathematics.

**REST 4306. Texas Real Estate Contracts. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the Texas Real Estate License Act (TRELA) and the Rules of the Texas Real Estate Commission, the contract and other promulgated contracts and associated forms, obtaining a real estate loan, property descriptions, estimating seller net and buyer move-in.

**REST 4307. Real Estate Law. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of legal concepts of real estate, land description, real property rights and estates in land, contracts, conveyances, encumbrances, foreclosures, recording procedures, and evidence of titles.

**REST 4308. Real Estate Brokerage. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of real estate brokerage office, planning and organization, operational policies and procedures, law of agency, recruiting, selection and training of personnel records and control, real estate firm analysis and expansion criteria.

**REST 4309. Real Estate Appraisal. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the central purposes and functions of an appraisal, social and economic determinant of value, appraisal of case studies, cost, market data and income approaches to value estimates, final correlations, and reporting.

**REST 4385. Seminar in Real Estate. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of selected topics dealing with problems or unique needs of Real Estate. May be repeated for credit as topics vary. Prerequisite: Approval from department head.

## Range and Ranch Mngmt

### Courses

**RNRM 3300. Rangeland and Forest Plants. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Comprehensive study of native and naturalized North American plants used for range, habitat, and wood products. Major domesticated pasture plants. Detailed treatment of systematics, nomenclature, morphological features, and ecology with emphasis on economically important range, lumber-pulp, and watershed species. Prerequisites: BIOL 1406. Lab fee \$2.

**RNRM 3301. Principles of Range Management. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Principles and practices for managing native grazing lands. Use of the Cardinal Principles for conservation of range resources. Sustained forage, animal, water, etc., production and ranching profitability. Application of ecology and plant physiology to grazing management. Land-vegetation manipulations to restore deteriorated ranges and watersheds. Prerequisites: WSES 1305 or AGRI 1307, and either BIOL 1406 or BIOL 1407. Lab fee: \$2.

**RNRM 3315. Range Ecology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Introduction of the physical and biological components of rangeland ecosystems and their influence on plant and animal growth. Field study of range ecosystems in the Cross Timbers area with emphasis on dynamics, interactions, and manipulation. Prerequisites: WSES 1305 or AGRI 1307, AGRI 1419, and RNRM 3300. Lab fee: \$2.

**RNRM 4086. Problems in Range Management. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

Individualized or small group studies of current topics applicable to the management of rangeland with emphasis on the student's specific major and interests. Prerequisites: Senior classification and advance approval by instructor of record.

**RNRM 4088. Undergraduate Research. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

Fundamental research methods will be addressed through a faculty-directed project. Participation in an abbreviated lecture series may be required. Project components may include a literature review, data collection and analysis, testing, planning, project design, and/or computer modeling. The student is required to prepare a final report and produce a presentation. No credit is awarded until the report and presentation are submitted. Only one undergraduate research experience will be counted toward degree requirements. Prerequisites: Junior Standing, completion of 12 hours in AGRN and/or RNRM, and approval of department head.

**RNRM 4090. Special Topics. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Special Topics. (Credit-variable) Deals with selected topics in agriculture or range management. May be repeated for credit when topics vary, with a maximum of six hours counting towards the degree. Prerequisite Course(s): Approval of department head.

**RNRM 4301. Perspectives and Practices in Grazing Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Concepts of management related to grazing livestock on improved pasture and rangeland. Grazing effects on the environmental system, manipulation of grazing selectivity and distribution, an overview of herbivore nutritive, grazing behavior and intake measures, and systems to manage for intensity or extensiveness of grazing. Credit given only for RNRM 4301 or RNRM 5301. Prerequisites: RNRM 3301, and either WSES 1305 or AGRI 1307.

**RNRM 4312. Range Improvement and Development. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Principles and practices associated with the development of rangelands for livestock and wildlife production. Study of grazing systems, facilities development, brush control, reseeding, fertilization, and burning to improve rangeland productivity. Prerequisite: RNRM 3301 or consent of instructor. Lab fee \$2.

**RNRM 4384. Internship. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 1-3 Hours).**

An approved, supervised, comprehensive work experience consisting of a minimum of 240 hours (6 weeks) for career preparation in a public, commercial, or private range-related enterprise or ranching operation. Prerequisites: Senior or junior classification and approval of academic advisor and department head.

**RNRM 5086. Range Management Problems. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Advanced independent or group study of selected range management problems or topics. Credit hours dependent on scope and depth of study. Enrollment must be approved in advance by supervising instructor.

**RNRM 5301. Advanced Grazing Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Concepts of management related to grazing livestock on improved pasture and rangeland. Grazing effects on the environmental system, manipulation of grazing selectivity and distribution, an overview of herbivore nutritive, grazing behavior and intake measures, and systems to manage for intensity or extensiveness of grazing. Prior knowledge in range management and agronomic principles recommended. Credit will not be given for both RNRM 4301 and RNRM 5301.

**RNRM 5315. Rangeland Ecosystems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Specialized study of rangeland ecosystems with emphasis on herbivory as an ecological process. An in-depth review of assessment methodology, trends in research, and current ecological issues. Prerequisites: RNRM 3315 and graduate classification.

## Religion Studies

### Courses

**RELI 1301. Survey of the Old Testament. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the historical background and basic teachings of the Old Testament and its influence in the ancient world.

**RELI 1302. Survey of the New Testament. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of the historical background and basic teachings of the New Testament and its influence in the ancient world.

**RELI 3304. World Religions. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the philosophical, ethical, and social dimensions of the religions of the world. Focuses on major religions but lesser known ones may be included. The course will emphasize the diversity of religious experience and traditions. Credit for both PHIL 3304 and RELI 3304 will not be awarded.



**RELI 3309. History of Christianity and Christian Thought to the Reformation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An overview of the history of Christianity and Christian thought from founding to the beginnings of the Reformation with particular attention to major themes, movements, events, leaders, and developments within their social, cultural and political contexts. The course also offers an introduction to the central ideas and debates that have shaped the historical development of Christian theologies, practices, and institutions. Credit will not be awarded for more than one of the following courses: PHIL 3309, HIST 3309, and RELI 3309.

**RELI 4312. Religion and Politics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

An examination of the major theories of the relationship of religion and politics and a survey of this relationship in the United States with a focus on religious liberty, church-state relations, and religious advocacy. Additional focus on Christian-majority states in Europe and the Americas and Muslim-majority states and the relationship of Islam and government, as well as critical contemporary issues. Students cannot receive credit for both POLS 4312 and RELI 4312. Prerequisites: GOVT 2305 and GOVT 2306.

## Sciences and Mathematics

### Courses

**SCMA 1100. Transitioning to University Studies in Sciences & Mathematics. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual discipline perspective. These skill sets are presented in the context of sciences and mathematics disciplines.

## Sociology

### Courses

**SOCI 1301. Introductory Sociology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A general introduction to the concepts and elementary methods used in the study of society. Special attention is given to social organization, social stratification, social institutions, formal organizations, small groups, and social change.

**SOCI 1306. Social Problems. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Application of sociological principles and theoretical perspectives to major social problems in contemporary society such as inequality, crime and violence, substance abuse, environmental issues, deviance, or family problems.

**SOCI 2300. Hispanics in the United States. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The goal of the course is to introduce students to sociology while exploring Latin American societies. The course will start with a general presentation of both sociology and Latin America, followed by a discussion of what sociology is and the different ways of studying societies. The course will focus on Latin American studies and their particularities. The course will approach Latin America through the lens of politics, often from a comparative and historical perspective. Drawing on examples from various countries in Latin America, the course will examine the development of political structures, cultures, and practices in Latin America. Students will therefore be introduced to a range of important sociological issues. Relying on the historical background of different Latin American societies, students will explore sociological concepts such as race, gender, class, social violence, religion, sports, and culture. The course will examine the sociology of Latino people living in Texas and in the United States.

**SOCI 2303. Race and Ethnic Relations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course includes an analysis of relations between dominant groups and minority groups within the United States. Theories of prejudice and discrimination, the origins of the idea of race and ethnicity, the social historical foundations of the system of race and ethnic relations within the United States, systems of social stratification, and process of social change are emphasized.

**SOCI 3301. Sociology of the Family. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A comparative study of the family as a social institution with emphasis on formation, functions, maintenance, child rearing, and family disorganization. Prerequisites: Junior classification and SOCI 1301 or approval of the department head.

**SOCI 3304. Medical Sociology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course explores how the sociology of health and illness are affected by social structure and cultural factors, including how these influence health and illness and people's perceptions of the same. Additionally, this course explores the concrete organizations that make up medical systems and how that system reflects the interests of doctors, insurance companies, pharmaceutical industries, hospitals, researchers, the government, and the consumer. Prerequisite: SOCI 1301 or approval of department head.

**SOCI 3305. Criminology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theories of criminology and significant research on causes, extent, cost and ecology of crime; police, criminal, and juvenile courts; and prisons and reformatories. Course also focuses on prevention and rehabilitation. Credit for both CRJ 3305 and SOCI 3305 will not be awarded. Prerequisite: SOCI 1301 or approval of instructor.

**SOCI 3306. Urban Sociology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Urban Sociology presents a detailed analysis of "the city." In this course, students will learn about varying factors associated with urbanization, while examining local neighborhood issues. Topics include the history of urbanization; ethnography and other methods for studying urban social phenomena; theories about how cities are socially and spatially organized, how social and spatial organization are related; how urban living affects social interaction, race, class stratification, crime, and violence. Special emphasis will be placed on New Urbanism, Food Deserts, the Urban Health Penalty, and Environment (In)Justice issues. The effects of suburbanization will also be investigated.

**SOCI 3307. Rural Sociology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Adaptations of families to rural environments, farming, and other occupations; organizations, agencies, and institutions serving rural people; problems in delivering services to the country; and rural development and change. Prerequisites: Junior classification and SOCI 1301 or instructor approval.

**SOCI 3308. Deviant Behavior. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the factors and conditions leading to behaviors that violate and deviate from fundamental social values. The relationship of personal and social maladjustment is addressed in relation to the various theories of deviant behavior. Prerequisite: SOCI 1301.

**SOCI 3310. Sociology of Aging. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of the reciprocal relationship between society and those considered aged by society, utilizing concepts and theoretical frameworks applicable to that population group. The course also examines the social forces that impinge on the aging process, including socially constructed images of the aged, and patterns of inequality of gender, race, and economics. Credit for both SOCW 3310 and SOCI 3310 will not be awarded. Prerequisite: SOCI 1301.

**SOCI 3312. Environmental Sociology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines relationships and interactions between society and the environment. Also examines how the natural world and its degradation influence the way societies are organized by studying human communities as part of natural ecosystems. Prerequisite: SOCI 1301.

**SOCI 3315. Sociology of Sport and Leisure. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the mechanisms through which sport and leisure institutions and practices are created, maintained, and transformed. Particular attention is paid to the relationship between sport and leisure institutions and other social systems such as the family, religion, politics, and economics. Topics considered include violence, discrimination, power, globalization, and the role of the media. This course places a strong emphasis on exploring the ways in gender, race, and class intersect with sport and leisure institutions.

**SOCI 3320. Social Stratification and Inequality. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The study of social inequality in human society, with emphasis on the social class structure of the United States, its origins, development, and consequences for the society and the individual. Prerequisite: SOCI 1301 or approval of instructor.

**SOCI 3330. Social Science Statistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Surveys the application of elementary forms of statistical processes, including central tendency, variation, the normal curve and Z scores, analysis of variance, regression analysis, and correlations, to social science data. The application of statistics will be made to the following areas: social work, sociology, criminal justice, political science, and gerontology. SPSS will be utilized for data analysis.

**SOCI 3338. Sociology of Superheroes. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the ways that the idea of the superhero functions as a cultural force within society. It examines the reciprocal influence between the idea of the superhero and ideas of morality, authority, power, gender, race, nationalism, community and other social-cultural forces.

**SOCI 3368. Social Movements. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the major theoretical ideas about how social movements are created, organized, and maintained. Particular attention will be paid towards analyzing the strategies, techniques, and tactics that have been employed by social movements and the ways in which opponents have attempted to nullify these practices.

**SOCI 4085. Sociology Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Independent reading, research, discussion, and paper writing under personal direction of instructor. Prerequisite: Senior classification or approval of department head. May be taken more than once for credit if topics vary.

**SOCI 4086. Problems in Sociology. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Independent reading, research and discussion. Entry into this course will be arranged with the sociology counselor.

**SOCI 4301. Sociology of Conspiracy Theories. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the ways that groups form conspiratorial meaning systems. The course discusses how social, cultural, and economic forces have served to shape conspiratorial thinking in the past and how these forces are working to shape these relations today and the larger social-cultural impact of such conspiratorial thinking.

**SOCI 4302. Methods of Social Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Principles and methods of social research, including research design, methods of observation, questionnaires, interviews, and other sources of social data; qualitative and quantitative techniques of inference; analysis and research report writing. Limited research studies and projects will be undertaken by the students. Prerequisite: Junior classification, SOCI 1301, or approval of department head.

**SOCI 4303. Sociological Theory. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course examines the major schools of sociological thought, including perspectives from both classic and contemporary sociological theory. Prerequisites: Junior classification, SOCI 1301 or approval of department head.

**SOCI 4304. Sociology of Religion. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of the basic principles of religion, religious belief, and practice as a sociological concept. Attention will be given to the relationship of religion to the progress and stability of the social order. Prerequisite: SOCI 1301 or approval of department head.

**SOCI 4305. Social Psychology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The scientific study of the influence of society, groups, culture, and other persons on the attitudes, behavior, and experiences of the individual. An examination of the total person as he or she functions in relation to the social environment. Prerequisite: Junior classification, SOCI 1301, or approval of department head.

**SOCI 4306. Water Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course offers an interdisciplinary exploration on "water policies" -- that is, the political dimensions of human manipulation of water, wetlands and watersheds. While the substantive focus is water, the course is design to provide a broader introduction to social-scientific theorizing about human-environment relations. A central objective of the course will be examining Texas environmental laws regarding water policy; while employing a range of geographically diverse case studies that examine major topics on water politics, including: large-scale hydro-development and grassroots resistance thereto as a subset of the contentious history of international development policy more broadly the governance of common-pool resources; the emergence of participatory and community-based water management policies; the "neoliberalization" of water resources through privatization, marketization and commodification; and conflict and cooperation in the governance of trans-boundary waters. Our examination is guided analytically themes central to the environmental social sciences, including: power, institutions, political economy, and the social embeddedness of science. Credit for SOCI 4306, WSES 4306, and SOCI 5306 will not be awarded. Prerequisite: SOCI 1301.

**SOCI 4311. Sociology of Sex. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Biological, psychological, social, and cultural dimensions of human sexuality will be examined. The human sexual experience as a tool for self-awareness, understanding, and acceptance will be discussed. Topics include male and female sexual anatomy, physiology, sexuality over the life span, variations in sexual behavior, sexual dysfunctions, and related therapies. Prerequisite: SOCI 1301 or approval of department head.

**SOCI 4312. Gender in Society. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Socialization to sex roles; male/female differences in family, work, and political behavior; male/female inequality; effects of gender in education and religion; and current changes in sex role definitions. Prerequisite: SOCI 1301 and junior standing.

**SOCI 4313. Globalization. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on social processes and social problems as they are contained in the highly interdependent world system. Social change and development stresses historical, comparative, and critical perspectives, and addresses the problem of how and why societies and cultures around the world change and whether those changes promote justice, equity, democracy, and development of human potential. Prerequisites: Junior standing and SOCI 1301, or department head approval.

**SOCI 4314. Medical and Health Care Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Intensive study of current trends and issues related to professional health care practice, service delivery, and populations at risk. Provides an opportunity to explore the many ways in which issues related to health, illness, and disability policies including cultural factors impact clients, families, and society. Appropriate ways for health care professionals to understand and intervene in these areas will be discussed.

**SOCI 4321. Death and Dying. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The ramifications of death, including the experiences and rights of the dying and the significance to those who mourn. Using major sociology theories, focuses on the meaning to society of the reality and symbolism of death. Credit for both SOCW 4321 and SOCI 4321 will not be awarded. Prerequisite: SOCI 1301.

**SOCI 4322. Age and Ethnic Stratification. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Studies aging as a process and life stage as affected by health, economic status, and stratification in this society and in other industrialized countries. Addresses culture, ethnicity, and race as key dimensions in understanding aging and health as delivered to diverse populations. Prerequisite: SOCI 3310.

**SOCI 4340. Sociology of Contemporary Japan. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course covers a wide range of topics regarding contemporary Japanese society, such as a brief history of contemporary Japan, family, workplace, gender, economics, politics, and popular culture. This course is intended to recognize multiple dimensions of Japan which go beyond the stereotypical image of Japan. Prerequisite: SOCI 1301 or ANTH 2351 or approval of instructor.

**SOCI 4341. Migration and Society. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The United States is a nation built on the backs of immigrants. Millions of people leave their homelands escaping from religious/ political persecution, and/or extreme poverty with the hope of finding freedom and economic prosperity. The roles that immigrants play are very significant. Often they are praised for enriching the U.S. culture and for fueling economic growth. At the same time, they are condemned for burdening taxpayers and/or they are seen to be unwilling to assimilate in the host country. This course will address some of the key issues on international immigration to the United States. Prerequisites: SOCI 1301 or ANTH 2351 or approval of instructor.

**SOCI 4399. Sociology Internship/Capstone. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Serving as a required, capstone course, students assist the faculty supervisor with their placements in a social science related agency. The field experience, coupled with textbook materials and weekly class seminars, provides students the opportunity to integrate sociological theory with practical experience. At the agency, students will work 120 hours, acquiring professional skills while earning college credit. Students will also keep a journal of internship experiences and write a final paper that applies sociology to the field experience. Prerequisites: major in sociology, senior standing, and approval of the undergraduate advisor. Field experience fee \$50.

**SOCI 5302. Methods of Social Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles and methods of social research, including research design, methods of observation, questionnaires, interviews, and other sources of social data; qualitative and quantitative techniques of inference; analysis and research report writing. Research studies and projects will be undertaken by the students appropriate for graduate level coursework.

**SOCI 5306. Water Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course offers an interdisciplinary exploration on "water policies" -- that is, the political dimensions of human manipulation of water, wetlands and watersheds. While the substantive focus is water, the course is designed to provide a broader introduction to social-scientific theorizing about human-environment relations. A central objective of the course will be examining Texas environmental laws regarding water policy; while employing a range of geographically diverse case studies that examine major topics on water politics, including: large-scale hydro-development and grassroots resistance thereto as a subset of the contentious history of international development policy more broadly the governance of common-pool resources; the emergence of participatory and community-based water management policies; the "neoliberalization" of water resources through privatization, marketization and commodification; and conflict and cooperation in the governance of trans-boundary waters. Our examination is guided analytically themes central to the environmental social sciences, including: power, institutions, political economy, and the social embeddedness of science. Credit for SOCI 4306, WSES 4306, and SOCI 5306 will not be awarded.

**SOCI 5312. Environmental Sociology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines relationships and interactions between society and the environment. Also examines how the natural world and its degradation influence the way societies are organized by studying human communities as part of natural ecosystems.

**SOCI 5386. Problems in Sociology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Independent reading, research, and discussion under the supervision of an instructor. May be repeated as topic varies for up to six hours of credit.

**SOCI 5390. Special Topics in Sociology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Selected topics in an identified area of sociology. May be repeated as topics vary.

## Soil Science

### Courses

**SOIL 2112. Soil Morphology. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Soil morphology, characterizations of soil, and judging of soils for various uses by field-based assessment. May receive credit for WSES 2112 or SOIL 2112.

**SOIL 2375. Soil as the Basis for Society. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The underpinnings of the scientific principles of soils, how people have harmed them, and why everyone should be concerned with how we treat them. This course may not be used to fulfill the degree requirements for wildlife or ecosystem sciences.

**SOIL 3101. Soil Science Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 4 Hours).**

Basic laboratory techniques used to analyze soil chemical, physical, and biological properties. Hands on examples will demonstrate core soil science principles. Prerequisites: ENVS 3301 or SOIL 3301 (or concurrent enrollment); and CHEM 1411, CHEM 1407, or CHEM 1409.

**SOIL 3301. Soil Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Basic principles of soil science, including physical, biological, and chemical properties. Discussion will include soils applications in wildland, cropland, and developed environments. This course does not include a laboratory section. Credit will not be awarded for both this course and WSES 3401. Prerequisite: CHEM 1411, CHEM 1407, or CHEM 1409.

**SOIL 3302. Soils, Land Use, and The Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Interactions among soil physical, chemical, and biological processes affecting soil, water, and environmental quality. Addressed in relation to land use management practices such as erosion control, soil conservation, soil reclamation, riparian buffers, bioswales, and artificial wetlands. Land use planning tools, including WebSoil Survey and GIS will be used. Prerequisites: WSES/ENVS 3401; or WSES/SOIL 3301 and WSES/SOIL 3101.

**SOIL 3319. Composting. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The art and science of composting of agricultural, municipal, foodservice and household wastes to include composting techniques, waste products and feedstocks, aerobic vs. anaerobic processes, evaluation of composted products and their beneficial uses. Biological processes used to decompose organic materials will be studied. Prerequisites: Junior standing or permission of the instructor.

**SOIL 3412. Soil Genesis, Morphology, and Classification. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Soil development, classification, and mapping. Laboratory work will consist of field-based study of the morphological features of the soil profile and mapping of designated areas using standardized methods. Student may receive credit for either WSES 3412 or SOIL 3412. Prerequisites: SOIL 3301 and SOIL 3101.

**SOIL 4212. Soil Ecology. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Characterizations of organisms in the soil food web, analyses of interrelationships among soil organisms, and assessments of interactions between soil organisms and their environmental conditions. Credit will only be given for WSES 4212 or SOIL 4212. Prerequisites: WSES 2405, SOIL 3301, and SOIL 3101.

**SOIL 4213. Soil Physical Properties. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

Soil physical characteristics and their relationship to soil management. Methods of measuring soil and soil conservation. Soil phases, soil water properties, particle size, clay and clay mineralogy, and environmental impacts. Credit will only be given for WSES 4213 or SOIL 4213. Prerequisites: SOIL 3301 and SOIL 3101.

**SOIL 4450. Soil Nutrient Cycling. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Plant nutrition, soil nutrient cycling, and nutrient management. Biological, physical, and chemical soil properties and implications for nutrient availability to crops and nutrient fate in the environment. Plant nutrition and soil fertility problems and corrective action, soil and nutrient management. Credit will only be given for WSES 4450 or SOIL 4450. Prerequisites: SOIL 3301 and SOIL 3101.

# Spanish

## Courses

### **SPAN 1100. Transitioning to University Studies in Spanish. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to introduce Spanish majors to university life and to the career possibilities available for these majors. Students will develop skills for academic success, development of personal growth and responsibility, and will engage in active involvement in the learning process from an individual college perspective.

### **SPAN 1303. Basic Spanish for Vocations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Instruction and practice in understanding and speaking basic colloquial Spanish encountered in a particular occupational context such as farming, ranching, or law enforcement. May be taken for elective credit and may also satisfy specified program requirements.

### **SPAN 1411. Beginning Spanish I. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Introduction to the Spanish language for communication following the American Council on Teaching Foreign Languages (ACTFL) guidelines at the novice mid-level. Applies the four-skills approach of reading, writing, listening, and speaking. Integrated classroom instruction and electronic language lab. Lab fee: \$2.

### **SPAN 1412. Beginning Spanish II. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Continuation of four-skills introduction to the Spanish language for communication following the American Council on Teaching Foreign Languages (ACTFL) guidelines at the novice-high level. Applies the four-skills approach of reading, writing, listening, and speaking. Integrated classroom instruction and electronic language lab. Prerequisite: SPAN 1411 or equivalent as approved by department head. Lab fee: \$2.

### **SPAN 2311. Intermediate Spanish I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Continuation of four-skills introduction to the Spanish language for communication following the American Council on Teaching Foreign Languages (ACTFL) guidelines at the intermediate-mid level. Applies the four-skills approach of reading, writing, listening, and speaking. Prerequisite: SPAN 1412.

### **SPAN 2312. Intermediate Spanish II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Continuation of four-skills introduction to the Spanish language for communication following the American Council on Teaching Foreign Languages (ACTFL) guidelines at the intermediate-high level. Applies the four-skills approach of reading, writing, listening, and speaking. Prerequisite: SPAN 2311.

### **SPAN 3300. Hispanic Culture Study Abroad. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of modern day cultural manifestations and practices; study of representative art works, including architectural ones. Cultural immersion experience in Spain or Latin America, wherever Spanish study abroad is conducted.

### **SPAN 3301. Oral Proficiency in Spanish. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Discussions of relevant cultural and social issues in Spanish, with increased emphasis on understanding native Spanish and responding to it. Either SPAN 3301 or SPAN 3302 will be counted toward degree, not both. Prerequisites: SPAN 2312 or equivalent and approval of program coordinator.

### **SPAN 3302. Spanish for Heritage or Native Speakers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Study of writing skills for heritage or native speakers, addressing spelling, structure, and the differentiation of colloquial Spanish from formal or standard Spanish. Either SPAN 3301 or SPAN 3302 will be counted toward degree, not both. Prerequisites: SPAN 2312 or equivalent and approval of program coordinator.

### **SPAN 3303. Spanish Grammar for Composition. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Development of writing skills in Spanish and analysis of key elements of Spanish grammar as a tool for efficient writing. Prerequisite: SPAN 2312.

### **SPAN 4086. Spanish Problems. 1-3 Credit Hours (Lecture: 0 Hours, Lab: 1-3 Hours).**

A course featuring independent reading, research, and discussion under personal direction of the instructor. Topics vary according to student needs. Prerequisites: Either SPAN 3301 or SPAN 3302; and 3303, and approval of department head.

### **SPAN 4300. Foundation in Literary Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Introduction to the study of Hispanic Literature and to the study of narrative, poetic and dramatic genres. Overview of literary movements in Spanish and Latin American Literature and to textual commentary and analysis. Prerequisite: SPAN 3301 or SPAN 3302 and SPAN 3303; or approval of instructor.

### **SPAN 4301. Survey of Peninsular Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An overview of the literature and literary movements of Spain. Commentary and analysis of Spanish texts from the "Poema del Mio Cid" to the 20th century.

### **SPAN 4302. Survey of Spanish-America Literature. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

An overview of the literature and literary movements of Spanish America. Commentary and analysis of Spanish American texts from the chronicles of the conquistadors to the 20th century. Pre-requisite: SPAN 4300 or approval of instructor.

### **SPAN 4304. The Caribbean Experience. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course studies the Hispanic Caribbean: Cuba, The Dominican Republic and Puerto Rico, in its many cultural dimensions. We will survey the historic background of these three Caribbean islands and study a sample of their literary production. Prerequisites: SPAN 4300.

### **SPAN 4305. Modernismo. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course studies Spanish American Modernismo as a literary generation and as a product of the end of the nineteenth century. Included in the study will be poetry, fiction, and essays from various Modernista writers. Prerequisites: SPAN 4300.

### **SPAN 4306. Culture and Civilization of Spain and Latin America. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An historical and cultural overview of Spain and Latin America. Major historical events and manifestations that have shaped the Spanish and Latin American culture and civilizations are studied. This course is an introduction to the cultural, historical, and sociopolitical realities of Spain and Latin America. Prerequisites: SPAN 3303 and either SPAN 3301 or SPAN 3302; or approval of instructor or department head.

### **SPAN 4307. Advanced Oral and Writing Skills. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course provides practice of both speaking and writing in the Spanish language, building on the skills acquired in SPAN 3303 and 3306. The language functions will be practiced at the advanced level required for the Texas Oral Proficiency Test (TOPT). Prerequisites: SPAN 3303 and either SPAN 3301 or SPAN 3302.

### **SPAN 4308. The Short Latin American Novel. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

This course studies some important short Latin American novels, with a main focus in the 20th century. To have a better understanding of these narratives, the historical background of some Latin American countries during this time period will be discussed. Prerequisite: 4300 or approval of instructor.

### **SPAN 4309. Spanish Language Pedagogy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The course provides a theoretical background on the current methods of teaching Spanish as a second language. The course presents the basic concepts of second language acquisition. Prerequisite: SPAN 4307.

## Social Work

### Courses

**SOCW 1100. Transitioning to University Studies in Social Work. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, and in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process from an individual college perspective. Also included will be the development of skills in the learning process from a Department of Social Work perspective.

**SOCW 2361. Introduction to Social Work. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This introductory course focuses on the profession of social work: historical development, values, ethics, and various aspects of practice with an emphasis on the generalist perspective and populations at risk.

**SOCW 2362. Social Welfare in America. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course offers a historical and contemporary examination of legislation and resulting programs, policies, and services in the context of the social welfare system in the United States. Special attention is given to the political, economic, environmental, and social conditions that prompted the development of legislation to meet the needs of vulnerable populations. Societal responses to legislation are also considered.

**SOCW 3300. Methods and Skills of Interviewing. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This pre-professional course will introduce students to the generalist practice skills. Beginning social work skills introduced include the principles of conducting the helping interview, initial client contact, attending, and listening, empathetic responses, exploration and elaboration, questioning, gaining cooperation, self-disclosure, and termination issues. Issues of problem solving with diverse populations and persons from different cultural backgrounds as well as ethical issues of helping relationships are explored. Prerequisites: Social Work majors must complete or concurrently enroll in SOCW 2361 with a grade of "C" or higher, and SOCW 2362 with a grade of "C" or higher.

**SOCW 3303. Social Work with Diverse Populations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will familiarize the student with their cultural roots as well as cultural roots of other ethnic groups that make up American society, tracing the process of acculturation that characterizes their American experience.

**SOCW 3306. Social Welfare Policy. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

This course helps students gain the knowledge and skills necessary to effectively advocate for policy changes that promote social justice and to analyze policy to determine its effect on client populations and agency programs and services. Prerequisite: Completion of SOCW 2362 with a C or higher.

**SOCW 3310. Social Work with Aging Populations. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will use a competency-based approach to preparing students to engage in social work practice with aging populations. The focus will be on the four domains of geriatric competencies adopted by the Hartford Geriatric Social Work Initiative. The four domains are: 1) values, ethics, and theoretical perspectives; 2) assessment; 3) intervention; 4) aging services, programs, and policies. Prerequisite: Junior classification.

**SOCW 3311. Social Issues. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Uses major theoretical perspectives from sociology to explore causes and consequences of contemporary social issues in American society such as alienation, family stresses, poverty, unemployment and technological change.

**SOCW 3314. Methods of Social Work Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).** [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]

Principles of the scientific method for building knowledge of and evaluating practice. Topics include: ethical and cultural issues in research; research design and methodology; quantitative and qualitative research strategies; evaluation of practice; critical evaluation of published research; and completion and reporting of research projects. All students must successfully complete ALE requirements to pass the course. The ALE assignment is a major percentage of the student's overall grade. Prerequisite: Completion of SOCW 3320 with a grade of C or higher.

**SOCW 3315. Statistical Methods & Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces quantitative and qualitative research methods, the research process, and the role of research in social work. Students are introduced to the concepts and skills underlying a systematic approach to social work research, including but not limited to, the roles of concepts and theory, hypothesis formulation, operationalization, research design, data collection, data processing, statistical analysis, computer skills, and research report writing. All students must successfully complete ALE requirements to pass the course. The ALE assignment is a major percentage of the student's overall grade. Upon successful completion of the ALE requirements and the course requirements, students will receive 1 ALE in the category of Research. Prerequisites: Must have completed SOCW 3320 and SOCW 3314 with a C or higher.

**SOCW 3316. Practice I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focus is on theories and methodologies needed for generalist social work practice with individuals and small groups. Critical evaluation of the value base of the social work profession and basic practice concepts for understanding a variety of intervention models in diverse settings will be explored. Prerequisite: Admission to the Social Work Program and completion of SOCW 3300 with a grade of "C" or higher, and concurrent enrollment or completion of SOCW 3329 with a grade of "C" or higher.

**SOCW 3320. Service Learning. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students identify and respond to a community/neighborhood challenge through volunteer, service learning work with a non-profit community agency and/or under direct supervision of the instructor. Projects may be based in the student's home neighborhood or community. Students engage in supervised service activities and have the opportunity to reflect on the responses to the identified challenges. This course is an ALE course. All students must pass the ALE portion of the course to pass the course. Upon successful completion of the ALE requirements and the course requirements, students will receive 1 ALE in the category of Service Learning. Prerequisites: Completion of SOCW 2361 with a C or above and/or completion of or concurrent enrollment in SOCW 2362.

**SOCW 3329. Human Behavior and Social Environment I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Using an ecological/systems, developmental, and strengths framework, this course provides an integrated look at the bio-psycho-social spiritual factors influencing human development focusing on human functioning from conception through middle childhood. Students will be exposed to theories and knowledge for practice across all system levels (individual, family, group, community, and society) of generalist practice. Cultural factors affecting human functioning, as well as implications for social work practice are explored. Prerequisites: Completion of SOCW 2361 with a grade of "C" or higher, SOCW 2362 with a grade of "C" or higher, completion of or concurrent enrollment in SOCW 3300 with a grade of "C" or higher, and SOCI 1306.

**SOCW 3339. Human Behavior and Social Environment II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a continuation of Human Behavior and the Social Environment I with an emphasis on theories and knowledge about human functioning from middle childhood through the end of life. Additionally, this course provides an integrated look at the bio-psycho-social-spiritual factors influencing human development using an ecological/systems, developmental, and strengths framework. Students will be exposed to theories and knowledge for practice across all system levels (individual, family, group, community, and society) of generalist practice. Values and ethical issues are included. Prerequisite: Completion of SOCW 3329 with a C or higher.

**SOCW 3377. Alcohol and Drug Abuse. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focus on psychoactive substances of use and abuse including: alcohol, legal/illegal drugs, and their impact on individuals, families, and society. Models of addiction, society's attitudes, and services for persons and families are explored.

**SOCW 4059. International Social Work. 3-6 Credit Hours (Lecture: 3-6 Hours, Lab: 0 Hours).**

Provides students with an understanding of social work practice and social welfare policies from an international perspective. The implications of globalization and its impact on social welfare policies and social work practice will be examined. Strategies for inter-cultural social work practice and methods of combating discrimination also will be examined. Students may have the opportunity to travel outside the U.S. in order to become familiar with social welfare policies and programs from an international perspective.

**SOCW 4085. Social Work Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Intensive studies of current trends and issues related to professional social work practice, social service delivery, and populations at risk. May repeated for credit when topics vary. Prerequisite: Junior classification or approval of the Social Work Program Director.

**SOCW 4086. Problems in Social Work. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Independent reading and research on various social work-related topics. Entry into the course will be arranged by the faculty member with approval from the Department Head if needed.

**SOCW 4090. Special Topics. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

Intensive studies of current trends and issues related to professional social work practice, social service delivery, and populations at risk. May repeated for credit when topics vary. Prerequisite: Junior Classification.

**SOCW 4311. Child Welfare. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the practice of social work in a child welfare context. This course is designed to introduce students to a variety of social work practice settings in child welfare. Past and present child welfare policies and programs will be examined. This course is a required course for students pursuing the Child Welfare concentration.

**SOCW 4312. Practice II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Focus is on integrating theoretical concepts and frameworks with the practice of social change at community, society, and global levels. Models of community organization--community development, social action, and social planning will be emphasized including methods of resource delivery and redistribution and student will apply to final macro project. Prerequisites: Student must be admitted to the Social Work Program and must have completed SOCW 3315 with a grade of C or higher and SOCW 3316 with a grade of C or higher.

**SOCW 4313. Human Rights. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Using the United Nations Declaration on Human Rights as a foundation, this course examines human rights and human rights violations using a global perspective.

**SOCW 4315. Social Work Values and Ethics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The focus of this course is to encourage and assist students in the development of an ethical framework for social work practice. This framework requires students to develop a better understanding of and the ability to manage the ethical issues and dilemmas they will encounter in social work practice. The course integrates concepts related to social values and ethics, diversity, promotion of social and economic justice, and empowerment of human beings. Additionally, the course allows students to apply the NASW Code of Ethics and the Code of Ethics of the Texas State Conduct of Social Work Examiners to multi-faceted ethical dilemmas.

**SOCW 4318. Adoptions & Custody. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The focus of this course is on understanding the family court processes of adoption and child custody and the social worker/ mental health professional's role in these processes. Students will obtain the assessment and writing skills to complete reports for family court.

**SOCW 4321. Death and Dying. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The ramifications of death, including the experiences and rights of the dying and the significance to those who mourn. Using major sociology theories, focuses on the meaning to society of the reality and symbolism of death. Credit for both SOCW 4321 and SOCI 4321 will not be awarded. Prerequisite: SOCI 1301.

**SOCW 4324. Trauma & Debriefing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines a practical approach to understanding trauma and provides empowering interventions to apply to practice with childhood and adult survivors of physical, sexual and other forms of abuse and trauma.

**SOCW 4342. Disaster & Response. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The purpose of this class is to prepare social workers, and other helping professionals to understand the emergency management systems and to respond with a defined skill set that offers emotional support for persons during disaster incidents. It will also train participants in how to partner with public health, emergency management, hospitals, police, fire, and EMS agencies. Students will be trained to integrate with response partners during major disaster emergencies such as mass casualty/fatality incidents, natural disasters, and the outbreaks of epidemic and pandemic diseases, where there was a need for psychosocial support.

**SOCW 4352. Women's Issues. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Examines the role of women from a global perspective. Focuses on specific issues that affect the everyday lives of women. Special attention is given to the differential and unequal treatment of women based on age, race, social class, and cultural differences.

**SOCW 4355. Grief, Loss & Bereavement. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is an introduction to concepts surrounding the nature of loss, suffering, grief, and issues of death and dying. Historical, current, cultural, spiritual, and religious perspectives will be examined with attention to ethical and moral issues. Theoretical foundations will be explored as related to death and dying, as well as other types of loss to include divorce, adoption, foster care, palliative care, transitions and symbolic loss and how it impacts children and families.

**SOCW 4622. Field Placement I. 6 Credit Hours (Lecture: 3 Hours, Lab: 16 Hours).**

This course is designed to provide application and integration of academic learning and development of skills within a field setting. Agency placement is arranged by the Director of Field. A seminar is scheduled along with agency placement. Students are expected to be at the agency approximately 16 hours a week for the duration of the semester. Students must complete 225 hours of placement. Prerequisites: Must be a senior and permission of Field Director.

**SOCW 4623. Field Placement II. 6 Credit Hours (Lecture: 3 Hours, Lab: 16 Hours).**

This course requires the application and integration of academic learning and development of skills within a field setting. Placement is arranged with social work field faculty. A seminar is scheduled along with agency placement. A total of 450 hours (225 each semester) is required in the field agency. Prerequisite: Completion of SOCW 4622 with a grade of "C" or higher.

**SOCW 4632. Child Welfare Practicum. 12 Credit Hours (Lecture: 3 Hours, Lab: 27 Hours).**

A practicum limited to students in the Title IV-E Child Welfare Program. Provides students with an opportunity to integrate theory and develop practice skills in a child welfare setting. Requires a minimum of 450 hours be completed in a professionally supervised State of Texas Child Protective Services setting. Prerequisites: Acceptance to the Title IV-E Child Welfare Program, completion of all required social work courses.

**SOCW 5059. International Social Work. 3-6 Credit Hours (Lecture: 3-6 Hours, Lab: 0 Hours).**

Provides students with an understanding of social work practice and social welfare policies from an international perspective. The implications of globalization and its impact on social welfare policies and social work practice will be examined. Strategies for inter-cultural social work practice and methods of combating discrimination also will be examined. Students may have the opportunity to travel outside the U.S. in order to become familiar with social welfare policies and programs from an international perspective. Course is repeatable if focus of course or travel is different.

**SOCW 5086. Problems in Social Work. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Independent reading and research on various social work-related topics. Entry into the course will be arranged by Social Work Program Director.

**SOCW 5305. Foundations of Community & Organization Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides a review of community organization theory and practice at both the macro and micro levels. Basic models of community organization theory and practice are highlighted, including locality development, social planning, and social action as well as major policy issues that relate to communities. Special attention is given to the historical base of community organization in America, citizen/consumer participation, volunteerism, assessment of community needs, impact of racism, and community work and intervention techniques. Students will examine the range of social work roles and functioning in community organization practice from the personal individual participant perspective to the social worker/ professional organizer perspective, and as a policy-maker.

**SOCW 5306. Integrative Capstone Seminar. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The capstone is an integrative seminar at the end of the MSW program that will provide students the opportunity to demonstrate social work competencies at an advanced level in their area of concentration. Building on their application of advanced social work values, knowledge, and skills from coursework and internships, students will develop a professional paper that will reflect competency in the major themes, goals, and objectives of the social work program. Prerequisite: Completion of SOCW 5362 with a "B" or higher.

**SOCW 5310. Direct Practice – Individuals, Families, & Groups. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Theory for social work practice is studied, using an integrated social systems and biopsychosocial-spiritual model. The student is introduced to the profession through its history, its conceptual development and through an examination of the values, knowledge and skills which characterize it. The course content focuses on the worker/client relationship and development of assessment, intervention and evaluation skills used in interventions with individual clients, families, and small groups. Appropriate worker intervention in individualized treatment planning and implementation and the dynamics of small group process are also examined.

**SOCW 5315. Social Policy & Policy Analysis. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Foundation course on social policy, policy practice and practice in communities and organizations. Surveys historical evolution of social welfare policy and contemporary provision of social welfare services, including the role of values in policy formulation and principles of social and economic justice. Introduces the social work role as change agent in legislative, community and organizational arenas.

**SOCW 5316. Advanced Social Policy: Advocacy, Analysis & Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides students with the theoretical and practical knowledge base and skills to analyze, formulate, and advocate for social policies that promote social justice and facilitate social change at multiple levels, including mezzo and macro. Students will gain an understanding of policy practice, theories, and skills as they relate to social, economic, political, and organizational systems and will apply this knowledge to facilitate change at the agency, community, and societal level. Content will focus on social, distributive, political, and economic justice.

**SOCW 5321. Foundations of Social Work. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides students a foundation in social work practice, including social work roles, functions, and tasks that social workers perform across settings. The course will also introduce social work values and ethics, theories, the generalist intervention model (GIM), diversity and inclusion, and licensing issues.

**SOCW 5322. Foundation Field Placement I. 3 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

This course the first foundation field course designed to provide application and integration of academic learning and development of skills within a field setting. Placement is arranged with the MSW Field Director prior to the beginning of the spring semester. A weekly integrative seminar is scheduled along with an agency placement. The total number of hours performed by the end of the semester for this foundation field course is 200 hours, completed over 15 weeks of field setting placement. The total number of hours for the graduate foundation field placement required by the Council on Social Work Education (CSWE) is 400 hours; this first course covers the first 200 of those required hours.

**SOCW 5323. Foundation Field Placement II. 3 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

This course the second foundation field course designed to provide application and integration of academic learning and development of skills within a field setting. Placement is arranged with the MSW Field Director prior to the beginning of the spring semester. A weekly integrative seminar is scheduled along with an agency placement. The total number of hours performed by the end of the semester for this foundation field course is 200 hours, completed over 15 weeks of field setting placement. The total number of hours for the graduate foundation field placement required by the Council on Social Work Education (CSWE) is 400 hours; this second course covers the final 200 of those required hours. Prerequisite: SOCW 5322.

**SOCW 5325. Research I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on foundation content in research design and methodology that can be used by social work practitioners to evaluate their individual practice, evaluate social programs, and advance practice knowledge. The major goals of the course are to enable students to develop a scientific perspective, to acquire an understanding of different research viewpoints that can be used to evaluate practice, and to incorporate that perspective and understanding into a broader conceptual base for social work practice. The course aids students in thinking critically about the methods and limitations of various systems of inquiry, and about society, people, and their problems.

**SOCW 5330. Human Behavior in the Social Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the life cycle of the individual from in utero through old age and death from a biopsychosocial-spiritual perspective via multiple theoretical frameworks. Individual growth and development is studied in the context of culture, race, ethnicity, social class, gender, families and other social systems. Attention is also given to the impact of trauma, loss, and environmental stressors on the individual and the family.

**SOCW 5340. Social Justice & Disparities. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will introduce students to the importance of operating from a lens of equity by familiarizing students with culture and diversity within and between groups. Students will learn and apply an integral framework of equity using generalist practice skills at the micro, mezzo, and macro level to address social justice and disparity issues in society. Various diverse areas of age, gender, sexual orientation, race, religion, spirituality, physical and mental ability are explored with specific attention to the historical aspects of oppression and discrimination of each area. Students will also engage in critical self-exploration and self-awareness as it relates to each of the diverse areas taught in this course to advance his/her own self-identity.

**SOCW 5341. Perspectives on Loss & Grief. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Perspectives on Loss and Grief acquaints students with the issues surrounding loss and grief. Theoretical foundations will be explored as related to death and dying, but also other types of loss including divorce, adoption and foster care, symbolic loss, etc. Students will explore various counseling techniques, and will learn about developmental issues that impact grief reactions.

**SOCW 5342. Environmental Justice, Sustainability and Social Work Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on environmental justice and sustainability and the relationship to social justice within the context of social work practice. The course incorporates multiple environmental issues such as clean energy, single-use plastics, consumption and environmental issues with a focus on becoming more globally and environmentally competent.

**SOCW 5360. Administrative & Leadership Practice. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course teaches theories and strategies for effective leadership in organizations and communities. The course examines strategies to combat marginalization and institutional oppression, as well as those that promote social and economic justice in organizations and community environments. Students will develop leadership skills in a variety of settings in both formal and informal capacities. Prerequisites: All Foundation courses or Admission to Advanced Standing Program.

**SOCW 5362. Advanced Field Placement I. 3 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

This course is the first advanced field course designed to provide application and integration of academic learning and development of skills within a field setting. Placement is arranged with the MSW Field Director prior to the beginning of the academic year. A weekly integrative seminar is scheduled along with an agency placement. The total number of hours performed by the end of the semester for this advanced field course is 250 hours, completed over 15 weeks of field setting placement. The total number of hours for the graduate advanced field placement required by the Council on Social Work Education (CSWE) is 500 hours; this first course covers the first 250 of those required hours.

**SOCW 5363. Advanced Field Placement II. 3 Credit Hours (Lecture: 0 Hours, Lab: 3 Hours).**

This course is the second advanced field course designed to provide application and integration of academic learning and development of skills within a field setting. Placement should be continued from the first field practicum course. A weekly integrative seminar is scheduled along with students completing hours in an agency placement. The total number of hours performed by the end of the semester for this advanced field course is 250 hours, completed over 15 weeks of field setting placement. The total number of hours for the graduate advanced field placement required by the Council on Social Work Education (CSWE) is 500 hours; this first course covers the second 250 of those required hours. Prerequisite: Completion of SOCW 5362 with a "B" or higher.

**SOCW 5365. Community Organizing & Engagement. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course examines the challenges and benefits of constructively engaging diverse community groups toward a solution that encompasses the voices of relevant stakeholders. The course proposes that working toward social and economic justice means addressing root causes of social issues, such as poverty, and working to end oppression, rather than creating mechanisms that institutionalize marginalization. Students learn how to build communities by enhancing their capacity to solve problems and implement solutions through strategic partnerships that engage stakeholders in meaningful partnerships, mutual learning, shared responsibility, and collective action. Prerequisite: All Foundation courses or Admission to Advanced Standing Program.

**SOCW 5370. Community & Evaluation Research. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on the ability to use research to address community and organizational problems. Both quantitative and qualitative methods will be taught and students will learn to develop community plans, develop programs, and submit grants based on research findings. The course includes content in advanced research design, implementation, methodology, and data analysis. The course will also explore time studies and policy research. Student will prepare a research proposal to be implemented in the Research Practicum. Prerequisite:..

**SOCW 5371. Advanced Direct Practice I. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course focuses on critical analysis of traditional and emerging social work practice approaches, emphasizing the application of advanced theory and practice principles. Content focuses on providing competency in assessment and intervention strategies relevant to current social work practice with diverse populations in varied contexts. This course expands and builds upon the generalist practice model using evidence-based practices.

**SOCW 5372. Advanced Direct Practice II. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course emphasizes the application of practice models in complex situations, particularly those involving populations at risk and diverse clients, including behaviors, strengths, needs and values. Specific advanced intervention models will be introduced with emphasis on theoretical knowledge as well as implications within each student's field of practice. Content focuses on building competency in intervention strategies and evaluation techniques that promote optimal functioning relevant to current social work practice with diverse populations in varied contexts. This course provides simulated opportunities for students to engage in critical thinking and practice that will prepare them for competent practice as they enter the workforce. Prerequisite: SOCW 5371.

**SOCW 5373. DSM for Social Workers. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course introduces students to various diagnostic codes of emotional and mental disorders categorized in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5 or the latest version) often experienced by individuals and families to help build students' knowledge about mental illness and its role in advanced social work practice. Through the use of various assessment tools, students will learn how to utilize assessments as part of the process for interventions with children and families. The pathology of persons suffering from the most common disorders is also explored with specific emphasis on documentation skills of assessment, interviewing, and treatment planning of clinical social workers.

**SOCW 5374. Practice and Program Evaluation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Practice and Program Evaluation is an in-depth research course highlighting the quantitative and qualitative evaluation of practice. Primary areas of focus include integrating research skills related to single subject research design, data collection, data analysis, measurement, and reporting. Practice informed research and research informed practice application is emphasized along with assessing student's critical consciousness and scholarly application of standardized and self-constructed measurement instruments as it relates to various modes of practice.

**SOCW 5375. Grant Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to provide students with knowledge and skills in program development, proposal writing and grant development. Prerequisite: All Foundation courses or Admission to Advanced Standing Program.

**SOCW 5376. Program Development/Intro to Grant Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides Advanced MSW students with the knowledge and skills to develop social service programs within existing agencies, with an emphasis on programs to serve vulnerable populations. Students will be introduced to grant writing, including how to search for grants and the basic foundations of writing a grant. Students will be introduced to Logic Models.

**SOCW 5385. Research Practicum. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is the second part of SOCW 5370 Community & Evaluation Research. Students will use the proposal developed in that course to implement their research plan, analyze results, and develop recommendations and program/ grant ideas based on the research findings. This course focuses on the ability to use research to address community and organizational problems and the research will be conducted in the community and a professional presentation of results is expected in a community venue. Students will learn to write up results using scientific language. Students will also be encouraged to consider writing for publication and/ or presenting findings at professional conferences. Prerequisite: All Foundation courses or Admission to Advanced Standing Program and completion of SOCW 5370.

**SOCW 5386. Group Work. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course builds on the foundational courses of practice skills and relates those skills to group work, group development, and group types (psychoeducational, support, task-oriented, therapeutic). Students will learn and apply the facilitation of groups in various agency and community based settings with culturally diverse groups and situations. The course will also provide additional knowledge about assessment of group dynamics to assist students in determining appropriate intervention skills within groups.

**SOCW 5390. Special Topics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An examination of different topics each semester with a focus on contemporary issues in Social Work. This course may be repeated for credit as the topic changes.

## Early Childhood Education

### Courses

**TECA 1303. Families, School, & Community. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A study of the child, family, community, and schools, including parent education and involvement, family and community lifestyles, child abuse, and current family life issues. Course content must be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards and coincide with the National Association for the Education of Young Children position statement related to developmentally appropriate practices for children from birth through age eight. Requires students to participate in field experiences with children from infancy through age 12 in a variety of settings with varied and diverse populations. The course includes a minimum of 16 hours of field experiences.

**TECA 1311. Introduction to Early Childhood Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).**

(TCCNS = TECA 1311) An introduction to the profession of early childhood education, focusing on developmentally appropriate practices, types of programs, historical perspectives, ethics, and current issues. One-hour lab per week in child development laboratory, to include directed observation of young children and teaching experiences.

**TECA 1318. Wellness of the Young Child. 3 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).**

(TCCNS = TECA 1318) A study of nutrition, health, and safety for the child. Skill development in management of issues, guidelines, and practices in nutrition, as well as community health, hygiene, safety, and legal implications will be addressed. Integration of these principles applied to a variety of settings.



**TECA 1354. Child Growth and Development. 3 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).**

(TCCNS = TECA 1354) Emphasis is on the child from conception through younger years with a study of growth and development in the family setting. Directed observation in approved settings is required.

## University Studies

### Courses

**UNIV 0010. Academic Strategies. 0 Credit Hours (Lecture: 0 Hours, Lab: 0 Hours).**

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**UNIV 0100. Academic Strategies. 1 Credit Hour (Lecture: 0 Hours, Lab: 0 Hours).**

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**UNIV 0200. College Success. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course is a college readiness course. The goal of this course will be to increase student success in college by developing self-esteem, personal responsibility, self-motivation, resource management, study skills, and academic and career planning.

**UNIV 0204. University College Studies. 2 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The goal of this course will be to strengthen academic skills among students to better ensure success in college-level coursework. Students will develop an individualized education plan that reinforces skills needed for success in the academic classroom and workplace.

**UNIV 0301. Integrated Reading/Writing. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

skills. The focus of the course will be on applying critical reading skills for organizing, analyzing, and retaining material and developing written work appropriate to the audience, purpose, situation, and length of the assignment. The course integrates preparation in basic academic reading skills with basic skills in writing a variety of academic essays. This is a course with a required lab. The course fulfills TSI requirements for reading and/or writing.

**UNIV 0314. Foundations of College Algebra. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An intensive study of fundamental concepts and skills that support the processes in College Algebra. Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**UNIV 0324. Foundations of Math for Business & Social Sciences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An intensive study of the fundamental concepts and skills that support the mathematical processes in Math for Business & Social Science.

**UNIV 0332. Foundations of Contemporary Mathematics 1. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An intensive study of the fundamental concepts and skills that support the mathematical processes in finance, probability, statistics, and geometry. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**UNIV 0342. Foundations of Statistics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An intensive study of fundamental concepts and skills that support the processes in statistics and probability. Prerequisites: Enrollment in this course will be in accordance with the Mathematics Placement and Continuing Enrollment Rules.

**UNIV 0350. NCBO - ESOL - Reading and Vocabulary. 3 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Develops English reading proficiency and vocabulary for academic, career, or personal purposes in speakers of languages other than English and prepares them to function in a multicultural, multilingual society.

**UNIV 1100. Transitioning to University Studies-Alternative First Year Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in the development of skills for academic success, promote personal growth and responsibility, and encourage active involvement in the learning process.

**UNIV 1102. Learning Frameworks I. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

A study of the 1) research and theory in the psychology of learning, cognition, and motivation; 2) factors that impact learning; and application of learning strategies. Theoretical models of strategic learning, cognition and motivation serve as the conceptual basis for the introduction of college-level student academic strategies. Students use assessment instruments (e.g., learning inventories) to help them identify their own strengths and weaknesses as strategic learners. Students are ultimately expected to integrate and apply the learning skills discussed across their own academic programs and become effective and efficient learners. Students developing these skills should be able to continually draw from the theoretical models they have learned.

**UNIV 1201. Learning Frameworks II. 2 Credit Hours (Lecture: 2 Hours, Lab: 0 Hours).**

A study of the 1) research and theory in the psychology of learning, cognition, and motivation; 2) factors that impact learning; and application of learning strategies. Theoretical models of strategic learning, cognition and motivation serve as the conceptual basis for the introduction of college-level student academic strategies. Students use assessment instruments (e.g., learning inventories) to help them identify their own strengths and weaknesses as strategic learners. Students are ultimately expected to integrate and apply the learning skills discussed across their own academic programs and become effective and efficient learners. Students developing these skills should be able to continually draw from the theoretical models they have learned.

## Wildlife, Sustainability and Ecosystem Sciences

### Courses

**WSES 1100. Transitioning to University Studies in the Natural Resource Sciences. 1 Credit Hour (Lecture: 1 Hour, Lab: 1 Hour).**

Practical study designed to prepare the student for university life, aid in development of skills for academic success, promote personal growth and responsibility, encourage active involvement in the learning process from an individual college perspective, and introduce students to the field of wildlife, sustainability, and ecosystem sciences. Prerequisites: Major in WSES or approval of the instructor.

**WSES 1119. Natural Resource Competition I. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course provides an introduction to various natural resource-based competitive events. Competition rules, conduct, and etiquette are discussed. The students are introduced to basic facts regarding their chosen field of study. Prerequisites: Approval of the instructor.

**WSES 1301. Society, Natural Resources, and the Environment. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course provides a broad overview of the role of the environment and natural resources in human society, with particular emphasis on Texas and the United States. A history of the environmental movement is presented. Students study the importance of natural resources in providing basic human necessities, and how these resources are managed. Various careers in environmental science, natural resource management, and wildlife conservation are also discussed.

**WSES 1307. Concepts and Controversies in Food Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles of food studies and exploration of the role food narratives and exposés play in the consumer's perception of the current food supply. Foundation for understanding the connections among food production, ecology, ethics, cuisine, nutrition and health within the framework of sustainability. Can receive credit for either FDSC 1307 or WSES 1307.

**WSES 2119. Natural Resource Competition II. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Intended for students with basic understanding of the conduct of their chosen natural resource event, this course provides more advanced study of the topic. Students expand upon the introductory material discussed in Natural Resource Competition I to include a wider array of natural resource science related facts and concepts. Prerequisites: WSES 1119 or approval of the instructor.

**WSES 2301. General Entomology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Principal orders of insects; the relation of anatomy and physiology of insects to control methods; insecticides and their uses; development, habits, and economic importance of more common insects with control methods for the injurious species. Prerequisite: C or better in BIOL 1406 or BIOL 1407.

**WSES 2322. Principles of Wildlife Conservation and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An in-depth treatment of the fundamental principles of wildlife conservation and management, stressing the application of ecological principles to achieve wildlife management objectives. Topics include conservation, management, and restoration of wildlife habitats; wildlife population assessment and management; human dimensions and human-wildlife interactions; management of wildlife in agricultural, range, and forested ecosystems; and wildlife policy at the local, state, national, and international level. Provides knowledge and understanding required for advancing in the wildlife and natural resource conservation disciplines. Satisfies requirements for Wildlife Science majors. Prerequisite for advanced wildlife science courses. Prerequisites: Grade of C or better in BIOL 1406 and BIOL 1407; grade of C or better in MATH 1316 or MATH 2412; and grade of C or better in WSES 2405, RNRM 3315, or BIOL 4401.

**WSES 2375. Soil as the Basis for Society. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

The underpinnings of the scientific principles of soils, how people have harmed them, and why everyone should be concerned with how we treat them. This course may not be used to fulfill the degree requirements for wildlife or ecosystem sciences.

**WSES 2405. Ecology for Natural Resource Managers. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

A study of the interactions of plants, animals, and the environment and how these interactions respond to human influence. Emphasis will be placed on terrestrial ecosystems (rangelands, grasslands, deserts, wetlands, and forests), and specific interactions among species which can be manipulated to achieve management outcomes. The laboratory will have a significant outdoor field component. Credit will not be awarded for both WSES 2405 and WSES 3103. Prerequisite: Grade of C or better in BIOL 1406 OR BIOL 1407.

**WSES 2451. Introduction to Geographic Information Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 2 Hours).**

Basic concepts of design, planning and implementation of geographic information systems. Students will learn how to create, manipulate, project, and interpret geographic information. Students are encouraged to take GEOG 1451: Pre-GIS before this course. Can receive credit for either WSES 2451, GEOG 2451, EASC 2451 or ENVS 2451. Lab fee: \$2.

**WSES 3103. Ecological Field Methods Laboratory. 1 Credit Hour (Lecture: 0 Hours, Lab: 4 Hours).**

Field methodologies used in the investigation of ecological systems including terrestrial plant, terrestrial animal, and aquatic systems. For students who have completed an introductory ecology or environmental biology course with no laboratory component. Credit will not be offered for both WSES 3103 and WSES 2405. Prerequisites: Grade of C or better in an approved 1000- or 2000-level ecology or environmental biology course; and a grade of C or better in BIOL 1406; and a grade of C or better in either BIOL 1407 or GEOL 1407; or approval of the department head.

**WSES 3119. Natural Resource Competition III. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course is a more advanced treatment of the student's chosen natural resource event. It is intended for students with experience in the competition, having participated in at least one competitive event. Prerequisite: WSES 2119 and approval of the instructor.

**WSES 3303. Veterinary Entomology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Classification, biology, and control of arthropods associated with livestock and wildlife. Identification will be emphasized in the laboratory. Prerequisites: BIOL 1406 and BIOL 1407, or approval of the instructor.

**WSES 3304. Food Processing. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

The world food supply, trends and traditions in diet and food sanitation, safety, security, and biotechnology, and impact of processing on diet quality. Lab fee: \$2.

**WSES 3305. GIS for Natural Resource Scientists. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An intermediate course on the use of geographic information systems (GIS) in natural resource management. Builds on concepts learned in introductory GIS course. Laboratory exercises will apply knowledge learned in lectures to solve real world problems in natural resource management using GIS software. Prerequisite: WSES 2451 or GEOG 2451 Lab fee \$2.

**WSES 3307. Systems Thinking. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course focuses on the examination and analysis of complex systems, particularly in the environmental, natural resources, and sustainability fields. Major topics will include system structure, system behavior, feedback loops, stock and flow models, non-linear and emergent properties, self-organization, and the application of systems thinking to problem-solving. A significant component of the course will be development and analysis of computer models of complex systems. Prerequisite: C or better in MATH 1314 or equivalent, or approval of the instructor. Lab fee: 2.

**WSES 3308. Analysis of Natural Resource Data. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Application of statistical principles to the analysis of natural resource science data. Methods of designing studies, managing and analyzing data, and interpreting results. Descriptive statistics, estimation, inference, tests of significance, measurements of relationship and correlation, and non-parametric analyses. Prerequisite: Grade of C or better in MATH 1342 or MATH 3450.

**WSES 3309. Aquaponics. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Students will examine the pros and cons of various aquaponics methods like raft, nutrient film, vertical towers, and media filled beds and their applications for growing fish and plants sustainably for a family/community or for profit. Students will construct a backyard aquaponics system, establish/harvest plants, and prepare a meal in laboratory. Topics covered are plant and fish choices and recommendations; planting/growing techniques; fish biology, stocking rates, and feeds; plant/fish care and health; water quality; system design, filtration and plumbing components; daily operation; greenhouse management/seasonal adjustments; system start up; food preparation; economics and business considerations.

**WSES 3310. Wildlife Management Techniques. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Field and laboratory techniques used in wildlife management and research. Determining age and food habits, population analysis, habitat analysis, and introduction to research. Modest cost of field trips will be borne by student. Prerequisites: Grades of C or better in WSES 2322, and either MATH 1316 or MATH 2412.

**WSES 3311. Wildlife Diseases. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Basic mechanisms of disease as they occur in wildlife populations; interplay of environmental conditions, individual physiological requirements, and disease agents of various wildlife species. Epidemiology and management of infectious and non-infectious diseases. Prerequisites: Grade of C or better in WSES 2322 or approval of instructor.

**WSES 3313. Plant Diversity and Conservation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Patterns and distribution of plant diversity and threats to plant diversity. Plant communities found in a variety of range, forests, and other systems. Strategies and approaches used in plant conservation will be discussed. Prerequisite: Grade of C or better in WSES 2405, RNRM 3315, or BIOL 4401.

**WSES 3314. Pollinator Ecology and Conservation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Plant-insect interactions concerning floral resources and the conservation of pollinator insects. Floral morphology, coevolution of plant and pollinator, insect ecology and behavior, management of honeybees for commercial purposes, managing pollinators in urban and suburban settings, and conservation of pollinator habitat. Identifications of major pollinator insect groups, and techniques to monitor native pollinators and floral resources. Prerequisites: Grade of C or better in WSES 2405 or BIOL 4401; and ENTO 3312.

**WSES 3315. Sustainability. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Explore the varied perspectives of sustainability and analyze factors that contribute to or decrease system sustainability. Investigation of the social, economic, and environmental barriers to achieving sustainable systems and options for overcoming these barriers. Credit will be awarded only for POLS 3315, ENVS 3315, or WSES 3315. Prerequisite: GOVT 2305 or GOVT 2306 or POLS 2304 or approval of the instructor.

**WSES 3319. Composting. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

The art and science of composting of agricultural, municipal, foodservice and household wastes to include composting techniques, waste products and feedstocks, aerobic vs. anaerobic processes, evaluation of composted products and their beneficial uses. Biological processes used to decompose organic materials will be studied. Prerequisites: Junior standing or permission of the instructor.

**WSES 3320. Watershed Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Management and planning of range or forest land watersheds for maintenance or improvement of water and soil resources. Effects of vegetation and land management practices on water quality and quantity, erosion, and sedimentation. Prerequisite: Grade of C or better in WSES 2405, RNRM 3315, or BIOL 4401.

**WSES 3323. Ethical Issues in Agriculture and the Natural Resources. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students will examine the several major ethical issues facing agriculture and natural resources sciences in our current society. Readings, discussions and lectures will focus on the scientific, capitalistic, and philosophical motivation in common ethical issues. Upon completion of the course, students will be able to construct and dissect ethical arguments and hopefully become more aware of the ethical dilemmas we all face each day.

**WSES 3340. Fisheries Conservation and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Fundamentals of fisheries management population estimation and management, harvest management, habitat management, applicable state and federal laws, invasive species management, and human dimensions. Prerequisites: Grade of C or better in WSES 2322.

**WSES 3350. Writing for the Natural Resource and Environmental Sciences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Use of appropriate strategies to produce written professional and interpretive documents for wildlife and natural resource audiences. Prerequisites: ENGL 1301 and 1302.

**WSES 3375. Population, Pollution, and Resource Depletion. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Principles and philosophies associated with the development, management, and use of natural resources are studied in the relationship to the ecological and social implications inherent in management alternatives involving the natural environmental and the use of renewable natural resources. Can receive credit for either ENVS 3375 or WSES 3375. Prerequisite: junior classification.

**WSES 3380. Integrated Pest Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Biology and environmentally compatible management of pest insects in agricultural and domestic settings. Pesticide modes of action, applications, toxicology, and social concerns. Prerequisite: CHEM 1411.

**WSES 3385. Fish and Wildlife Laws and Administration. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

A review and analysis of state and federal laws and international treaties and conventions affecting fish and wildlife; their application and administration. The organizational structure of state, federal and international agencies; their objectives, policies and practices. Prerequisite: Grade of C or better in WSES 2322.

**WSES 3386. Human Dimensions of Fish and Wildlife Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Today's natural resource scientist must interact with diverse publics and stakeholders to achieve conservation goals. Few professionals receive training to navigate the murky waters of human dimensions of natural resources management. This course will give students an understanding of ways in which elements of human psychology and society shape our perceptions and management of wildlife and fisheries resources, and how to interact with these stakeholders to achieve ecologically-sound management and conservation. Prerequisite: Grade of C or better in WSES 2322.

**WSES 3387. Natural Resource Conservation Outreach and Interpretation. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Survey of the history, principles, and content of the Texas Master Naturalist Program as an example of education, public outreach, volunteerism, and interpretation in natural resource conservation and management. Classroom and field instructional modules of foundational concepts and regional specifics about biotic and abiotic natural resources. Principles of interpretation and written analysis of observed teaching and interpretive activities by resource specialists. Students who co-register with the Prairie Oaks Chapter of the Texas Master Naturalist program and complete all class activities can satisfy a portion of the requirements for certification as a Texas Master Naturalist. Attendance at occasional weekend field trips required.

**WSES 3403. Natural History of the Vertebrates. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Survey of vertebrate taxa, including systematics, taxonomy, anatomy, physiology, and ecology. Identification in laboratory and field. Students required to handle preserved and live specimens. Students required to bear the cost of multiple overnight and multi-day field trips. Prerequisites: Grade of C or better in BIOL 1406 and BIOL 1407.

**WSES 3406. Wildland Plant Identification and Ecology. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Identification and classification of grasses and other herbaceous plants in the North America, with emphasis on distribution, ecology, and economic value of species found in rangeland, forest, grassland, desert, and wetland systems in Texas. Proficiency in the use of a dichotomous key to identify plant species will be emphasized. Prerequisite: WSES 2405, RNRM 3315, or BIOL 4401.

**WSES 3408. Dendrology and Woody Plant Identification. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Study of woody plants, including trees, shrubs, and vines. Morphological, ecological and phenological traits will be used in field identification. The distribution, habitat, ecology, and importance of these species to wildlife and people will be explored, including community dynamics and the effects of disturbance and succession. Proficiency in the use of a dichotomous key to identify plant species will be stressed. Prerequisite: WSES 2405, RNRM 3315, or BIOL 4401.

**WSES 4084. Internship in the Natural Resource Sciences. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Formally arranged and approved on-the-job training with a cooperating sponsor in government or private sector of the natural resources or environmental field. A minimum of 75 hours of training is required for each hour of academic credit. A maximum of six hours of credit may be earned. Oral and written reports of the experience are required. Prerequisite: Approval of the instructor. Lab fee: \$2.

**WSES 4086. Problems in Natural Resource Sciences. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Individualized study of current topics in wildlife, natural resources, environmental science, or related discipline. Specific content and credit depend upon student's interests, needs, and depth of study. May be repeated as topics vary. Prerequisite: approval of instructor.

**WSES 4088. Undergraduate Research in the Natural Resource Sciences. 1-6 Credit Hours (Lecture: 0 Hours, Lab: 1-6 Hours).**

Fundamental research methods will be addressed through a faculty-directed project. Participation in an abbreviated lecture series may be required. Project components may include a literature review, data collection and analysis, testing, planning, project design, and/or computer modeling. The student may be required to prepare a final report and produce a presentation. Prerequisites: Approval of the instructor.

**WSES 4090. Special Topics in the Natural Resource Sciences. 1-6 Credit Hours (Lecture: 0-6 Hours, Lab: 0-6 Hours).**

Selected topics in wildlife, natural resources, environmental science, or related discipline. May be repeated for credit when topics vary.

**WSES 4119. Natural Resource Competition IV. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This course is intended for highly advanced students who have developed significant experience and competencies in their respective natural resource competition. Students will be expected to take a leadership role on the Tarleton State University Quiz Bowl Team and demonstrate significant ability during practice and competitive events. Prerequisite: WSES 3119 and approval of the instructor.

**WSES 4185. Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

Discussions of issues and developments in agriculture, natural resources, or environmental sciences.

**WSES 4187. Senior Capstone Seminar. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).**

This one-hour seminar is designed to provide students with skills at synthesizing and presenting the results of lower-division work, specifically applied learning experiences such as internships, undergraduate research, and study abroad. Course will include a writing and public speaking component. Prerequisites: Successful completion of WSES 4084, WSES 4088, WSES 4340, or WSES 4342, or approval of the Department Head.

**WSES 4301. Population Dynamics, Modeling, and Analysis. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

An introduction to population biology, including models of simple population growth, competition, and predator-prey interactions; demographic rates; and life tables. Prerequisites: Grade of C or better in WSES 2322; and a grade of C or better in MATH 1342 or MATH 3450; or approval of instructor.

**WSES 4302. Habitat Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Application of ecological principles to the management of native plant communities. Particular focus will be on plant ecology and physiology and their role in the conservation and management of wildlife habitat. Prerequisite: Grade of C or better in WSES 2322, or approval of the instructor.

**WSES 4303. Ecological Restoration. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Landscape-scale, process-oriented approaches to ecological restoration. Enhancing resource capture, techniques in re-vegetation, and restoration of historic vegetation. Prescribed fire and grazing as restoration and management techniques for range and forest systems. Prerequisites: BIOL 3415, RNRM 3300, WSES 3406, or WSES 3408; and a grade of C or better in WSES 2405, RNRM 3315, or BIOL 4401.

**WSES 4304. Population Genetics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An exploration of the principles of population genetics. Lecture will be a discussion of factors affecting the dynamics of allelic frequencies and the population-level consequences of manipulating these factors. Lecture topics will include the effects of selection, mutation, population size and genetic drift, neutral theory, population structure, inbreeding, and linkage disequilibrium. A significant portion of the class will be dedicated to working on problem sets to provide an empirical connection to population genetic theories. Prerequisite: BIOL 3303, BIOL 3403, or AGRI 3409.

**WSES 4305. Urban Wildlife and Fisheries. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course trains students to establish and maintain diverse, self-sustaining urban wildlife and fish populations at levels in harmony with ecological, social, and economic values of the human community and to develop optimal levels of public appreciation and use of urban wildlife and fish resources and associated habitats. Includes discussions on conservation education as a tool for furthering urban wildlife and fisheries appreciation.

**WSES 4306. Water Resources Policy and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course will present an overview of water policy, laws and regulations related to ecosystem resource management focusing on water quality, water quantity and water as habitat. Major US and Texas environmental laws regarding water will be covered including the respective agencies involved with regulations. Case studies will facilitate discussion of science-policy interactions with resource management in the implementation of these laws and regulations. Credit for SOCI 4306, WSES 4306, and SOCI 5306 will not be awarded.

**WSES 4308. Horticultural Entomology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Identification, nature of injury, life history, and control of common insects and related arthropods attacking turf grasses, landscape plants, shade, fruit, and nut trees, and greenhouse succulents. Management and control strategies utilizing chemical, cultural, and biological control agents.

**WSES 4309. Plant-Animal Interactions. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours). [WI (<http://catalog.tarleton.edu/undergrad/academicaffairs/>)]**

Arthropods and vertebrates in aquatic, terrestrial, managed, and natural systems spanning multiple scales and levels of organization. Prerequisite: Grade of C or better in WSES 2405, RNRM 3315, or BIOL 4401.

**WSES 4310. Zoo Biology and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Biology and management of zoo animals, and the management of zoos. Nutrition, reproduction, behavior, care, and welfare of confined wildlife species. Captive breeding, genetics, herd management, record keeping, and conservation biology. History of zoos and their role in conservation. Zoo exhibits and outreach, legal aspects, and ethics of confined wildlife management. Prerequisite: Grade of C or better in WSES 2322.

**WSES 4311. Fire Ecology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Ecological role of fire in natural systems, including rangelands, grasslands, shrublands, woodlands, and forests; adaptations of plants and animals to fire; long-term controls on wild fire; use of fire as an ecosystem management tool, with aspects of wildland firefighting; and prescribed burning, including fire behavior, fuels, weather, politics and policy. Hands-on prescribed burning experiences as circumstances and weather permit. Prerequisite: WSES 2405, RNRM 3315, or BIOL 4401.

**WSES 4313. Vegetation Measurement, Inventory, and Monitoring. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Vegetation sampling, measurement, monitoring, inventory, study design, and quantitative and statistical analysis. Assessment of range condition and forest health based on understanding ecological processes. Hands-on, field-based laboratory. Prerequisite: WSES 3406 or WSES 3408.

**WSES 4316. Pesticides. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A survey of chemical pesticides. Emphasis will be on the chemistry, mode of action, and safe use of insecticides, herbicides, and fungicides. Less common pesticides (rodenticides, piscicides, avicides, etc.) will also be reviewed. The use of chemical pesticides as a part of an integrated pest management program will be discussed. Student's successfully completing the course will be prepared to apply for the Texas Department of Agriculture pesticide applicator's license. Prerequisite: CHEM 1411.

**WSES 4324. Organic Agriculture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Organic agriculture will examine a brief history of the industry development, changes in the structure and industry, USDA NOP rules and regulations, and certification to provide a scope of understanding for the course. The majority of the course will focus on the mechanics of crop and vegetable production in an organic system including seed sources, planting considerations, environment, soil fertility, plant nutrition, soil preparation, weed control methods, insect and disease prevention, rules in applications, harvest issues, and marketing.

**WSES 4325. Crop Production and Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Current concepts and practices in field crop production with emphasis on the applications of technology. Recognition and discussion of cultural practices, fertilization, irrigation, weed and pest control from economic and environmental perspectives. Review of crop improvement strategies and bio-engineering. Prerequisites: SOIL 3301, SOIL 3101, AGRI 1307, and AGRI 1107.

**WSES 4326. Big Game Ecology and Management. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Survey of the distributions and life histories of North American big game species. Detailed examination of the biology and habitat relationships of several big game species, especially as they relate to management. Other topics include population dynamics, diet, economic significance, and conservation strategies. Modest cost of field trips will be borne by the student. Prerequisite: A grade of C or better in WSES 2322, or approval of the instructor.

**WSES 4327. Avian Ecology and Management. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

A study of major wild bird groups, their interactions with their environment, and how these interactions can be manipulated to achieve management objectives. Course emphasis will be on species of conservation significance, including game, nongame, and vulnerable species. Major topics will include population management of migratory and non-migratory birds, habitat management, and wildlife policy consideration unique to bird conservation. Modest cost of field trips will be borne by the student. Prerequisite: A grade of C or better in WSES 2322, or approval of the instructor.

**WSES 4335. Food and Culture. 3 Credit Hours (Lecture: 2 Hours, Lab: 3 Hours).**

A study of the food beliefs and practices of the major ethnic and religious groups in the U. S. and the nutritional implications of these food practices, a cultural analysis of American food trends; ethnic issues and dietary changes; and research methods in food habits. Lab fee: \$25.

**WSES 4340. Natural Resource Field Studies. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A field course in which students capture, measure, and mark animals; collect descriptive measures of vegetation that characterizes wildlife habitat; and record field observations using a journal. This course requires one or more extended field trips at student's expense. Prerequisite: Grade of C or better in WSES 2322.

**WSES 4341. Southern African Ecology and Culture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Ecology of southern Africa, including climate, soils, vegetation, and wildlife. Ecological interactions with development, agriculture, and tourism. Identification and ecology of bird and large mammal species. Conservation of rare, threatened, and endangered species. Culture, politics, and history from the pre-Colonial Period through today, with emphasis on their effects on management of natural resources. Focuses mainly on South Africa, Botswana, Zambia, and Namibia.

**WSES 4342. Study Abroad. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Conducted at various domestic and international locations for extended periods (frequently outside the United States). Hands-on activities and experiences in agriculture and natural resources. Topics will vary. Enrollment requires a significant study abroad program fee.

**WSES 4401. Ethology. 4 Credit Hours (Lecture: 3 Hours, Lab: 4 Hours).**

An introductory course in the behavior of animals, with emphasis on the natural selection, ontogeny, and function of behaviors as they relate to feeding, reproduction, predator-avoidance, and other traits. Both proximate (sensory, hormonal, genetic) and ultimate (ecological and evolutionary) mechanisms are addressed. Prerequisite: C or better in BIOL 1406 and BIOL 1407, and a C or better in either AGRI 1419 or WSES 2322. Lab fee: \$2.

**WSES 4407. Fermentation and Brewing. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course provides a basic understanding of the history of food safety, sanitation, fermentation, fermented foods, beer brewing, wine and cheese making, along with an introduction to industry organization; from commodities production, to processing, distribution, marketing, and sales. The course provides direct hands-on instruction in small-scale brewing. It combines elements of science (chemistry, biology, and physics), economics, food preparation, aesthetics, preferences, and taste. Modest cost of field trips will be borne by the student. Prerequisites: Senior classification and completion of 8 hours of BIOL and 8 hours of CHEM; or approval of the instructor. Must be 21 years of age or older on the first class day to enroll in this course.

**WSES 4408. Sustainable Food Systems. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

This course will survey issues surrounding food production and examine the environmental and social impact of current food production systems. Specific emphasis will be placed on emerging trends to increase the sustainability of food production, distribution, and consumption. This course includes a laboratory field component and will require some field work outside normal class times. Lab fee: \$2.

**WSES 4410. Genomics. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An exploration of practical applications for high throughput DNA sequencing technology. Hands-on research projects will provide experience in proper sample collection and preparation, automated robotic DNA library preparation, DNA barcoding, quality control metrics, instrument loading and run initiation, and an overview of data processing for a single instrument run generating hundreds of millions of DNA sequences. Prerequisite: BIOL 3303 or AGRI 3409 Lab fee: \$2.

**WSES 5084. Professional Practice. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

This supervised professional practice will involve the student in practical activities in the agricultural or natural resource sciences. The experience is tailored to the student's interests, and academic and career goals. Experience may include teaching, independent research, internship, or other applied learning experience. May be repeated once for credit. Prerequisite: Graduate standing.

**WSES 5085. Seminar. 1-3 Credit Hours (Lecture: 1-3 Hours, Lab: 0 Hours).**

A graduate seminar with content varying according to the needs and experiences of students and the instructor of record. May be repeated as content varies. Prerequisites: Graduate standing.

**WSES 5086. Problems in Natural Resource Sciences. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Advanced studies in wildlife, sustainability, ecosystem sciences, and the natural resources. Problems assigned according to experience, interest, and needs of the individual student. May be repeated for credit as topics vary.

**WSES 5087. Research. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Graduate students conduct original research on a variety of topics in the natural resource sciences toward a graduate thesis. Designed for students who will be conducting field research away from the Stephenville campus. Prerequisites: Graduate standing.

**WSES 5088. Thesis. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 1-6 Hours).**

Scheduled when the student is ready to begin the thesis. No credit until the thesis is completed. Prerequisites: Approved research methodology course and approval of instructor of record.

**WSES 5090. Special Topics in the Natural Resource Sciences. 1-6 Credit Hours (Lecture: 1-6 Hours, Lab: 0 Hours).**

Selected topics in wildlife, sustainability, ecosystem science, or the natural resources as needed and dependent upon department, faculty, and student interests. May be repeated as topics vary. Prerequisite: Approval of the instructor.

**WSES 5301. Principles of Research in the Natural Resource Sciences. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is a thorough treatment of the philosophy of science as it applies to the ecological, environmental, and natural resource sciences. Starting from the historical foundations of science, students will become familiar with the logical underpinnings of ecological research, including epistemology, the nature of theory, hypothesis testing, and the logic of study design. This course will provide students with a logical understanding of the scientific process, prior to enrollment in more quantitative treatments of study design and data analysis. Students will be required to prepare a complete research proposal in the course. Prerequisite: graduate classification.

**WSES 5302. Natural Resource Ecology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced relationships of ecological principles to natural resource, wildlife, and range conservation and management. Ecology's historical context; evolution; the niche; intraspecific and interspecific competition; vegetation succession; predator-prey dynamics; and spatial ecology. Previous course work in ecology highly recommended.

**WSES 5303. Graduate Field Studies in Ecology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Students explore various facets of ecology during extended field trips to various locations in Texas and the other United States. Topics may vary depending upon location. May be repeated for credit when topics vary. This course requires an extended field trip at the student's expense (in addition to the field experience fee). Prerequisite: graduate classification, and enrollment by permit only and with approval of the instructor.

**WSES 5304. Wildlife-Habitat Relationships. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced study of habitat and wildlife-habitat interactions. This is a graduate level class for individuals with a basic understanding of ecological and wildlife management concepts. Involves review and discussion of important articles on this subject. Includes advanced discussion of concepts such as plant succession, niche, carrying capacity, habitat measurements, and habitat management. Students will learn how habitat and succession may be manipulated to best manage wildlife populations; also how browsers and grazers may affect their habitats. Prerequisites: graduate standing.

**WSES 5305. Cross-cultural Natural Resource Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Designed to expand the student's understanding of natural resource management in cross-cultural settings. Prepare students in social science, agricultural, environmental, or wildlife management for careers or assignments in and outside the USA that require multi-cultural understanding. Facilitate the student's adaptation of management skills and knowledge in diverse natural, legal and cultural settings. Content and assignments are flexible so the student can focus on the natural resource and culture of greatest interest. Prerequisites: Graduate standing.

**WSES 5306. Fire Ecology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

This course will address the ecological role of fire in natural systems, rangelands, including grasslands, shrublands, woodlands, and forests; adaptations of plants and animals to fire; long-term controls on wild fire; use of fire as an ecosystem management tool, with aspects of wildland firefighting; and prescribed burning, including fire behavior, fuels, weather, politics and policy. Students will gain hands-on prescribed burning experiences as circumstances and weather permit. Lab fee: \$2.

**WSES 5307. Global Natural Resource Issues. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Exploration of the environmental, political, social, and economic factors affecting the use, management, and protection of natural resources worldwide. Impacts of colonization, migration, international development, globalization, energy use, tourism, climate change, and various political systems on natural resource use and management will be analyzed and debated. On-going class discussions to integrate and contextualize research on international natural resource issues. Prerequisites: Graduate standing.

**WSES 5308. Measuring Animal Behavior. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced course in the principles and methods of quantitative studies of behavior, with an emphasis on techniques of observation, recording, and analysis.

**WSES 5309. Plant-Animal Interactions. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Plant-animal and animal-plant interactions are the basis for many ecosystem functions. This course tailors the study of those interactions to student interests from insects to ungulates, aquatic to terrestrial, managed to natural systems, and individual species to ecosystems. Prerequisite: Graduate classification.

**WSES 5310. Presentation of Scientific Findings. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

This course is designed to teach graduate students in the natural resource sciences and allied fields the principles and practices of presenting the results of scientific research. Course focus will be on preparing and delivering oral research presentations and research posters; and the preparation, submission, and publication of scientific journal articles, technical bulletins, and research reports. Prerequisite: Admission into the Research Track of the MS Program in Agricultural and Natural Resource Sciences and a grade of B or better in BIOL 5380, or approval of the Department Head.

**WSES 5311. Integrated Pest Management. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

An advanced study of the principles of integrated pest management emphasizing the ecologically sound use of chemical, biological, cultural, and physical control tactics to manage pests. Students will concentrate on one or few commodities, of their choice, and develop a detailed best management plan. Prerequisites: Graduate standing or approval of the instructor.

**WSES 5313. Vegetation Measurement, Inventory, and Monitoring. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Advanced vegetation sampling, measurement, monitoring, inventory, study design, and quantitative and statistical analysis. Assessment of range condition and forest health based on understanding ecological processes. Hands-on, field-based laboratory.

**WSES 5314. Veterinary Entomology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced studies in the classification, biology, and management of arthropods associated with livestock and wildlife systems. Emphasis will be placed on arthropod vectors of pathogens and their role in the epidemiology and management of disease. Prerequisites: Graduate classification or approval of the instructor.

**WSES 5315. Taxonomy of Veterinary Arthropods. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advance study of the taxonomy and identification of arthropods affecting wildlife and domestic animals. Students will utilize various collecting techniques and dichotomous keys to obtain and identify arthropods associated with wildlife and domesticated animals.

**WSES 5316. Grant Writing and Funding Acquisition. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

A course in terminology and processes associated with grant writing and the acquisitions of research funds.

**WSES 5317. Population Ecology. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Advanced course in population biology, including theoretical and analytical applications focused on demographic rates, population growth, predator-prey relationships, and competition.

**WSES 5320. Advanced Topics in Ecosystem Biogeochemistry. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Multidisciplinary analysis of energy and nutrient transfers within terrestrial ecosystems. Examination of processes system interactions between the atmosphere, biosphere, lithosphere, and hydrosphere.

**WSES 5331. Professional Communication. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Advanced discussion of techniques for communicating technical information to diverse audiences. Topics covered will include written and oral communication, using numerous formats. Prerequisite: Graduate standing.

**WSES 5341. Southern African Ecology and Culture. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Ecology of southern Africa, including climate, soils, vegetation, and wildlife. Ecological interactions with development, agriculture, and tourism. Identification and ecology of bird and large mammal species. Conservation of rare, threatened, and endangered species. Culture, politics, and history from the pre-Colonial Period through today, with emphasis a focus on their effects on wildlife and ecosystem management of natural resources. Focuses mainly on South Africa, Botswana, Zambia, and Namibia.

**WSES 5342. Study Abroad. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Conducted at various domestic and international locations for extended periods (frequently outside the United States). Hands-on activities and experiences in agriculture and natural resources. Topics will vary. Enrollment in this course requires a significant study abroad program fee.

**WSES 5350. Pedology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Topics selected from studies of soil-forming processes, soil-geomorphic relations, mineral weathering, new developments in soil classification, and development of pedologic theory. Topics vary from year to year. May be repeated one time for credit.

**WSES 5360. Research Methods for Agricultural and Natural Resource Scientists. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).**

Research design, database management, application and evaluation of statistics and statistical modeling approaches, inferences, and presentation of results. Introduction to programming language for statistical computing and graphics. Applicable to students interested in research at the individual or population level, such as observational, behavioral, or experimental studies conducted in the field or laboratory. Basic understanding of statistical analyses strongly recommended.

**WSES 5380. Research Writing for Agricultural and Environmental Science. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).**

Preparation of writing samples, technical reviews, and/or professional manuscripts related to various topics in agriculture or environmental sciences.

**WSES 5405. Ecological Modeling for Natural Resource Management. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

An advanced course in the use of computer simulations to model and analyze ecological systems. Based on a firm foundation of system theory, the course addresses the conceptual design, building, evaluation, and testing of simulation models; and the use of models to answer ecological questions. Prerequisites: graduate classification.

**WSES 5410. Genomics. 4 Credit Hours (Lecture: 3 Hours, Lab: 3 Hours).**

Technological advancements in DNA sequencing are producing a much more complete picture of how diverse, ubiquitous, and important microbes are in all living systems. This course will provide students with an overview of the roles that microbes play in human health, agricultural production, and ecosystem functionality. A laboratory component will include massively parallel DNA sequencing and microbial community analysis of niche environments utilizing millions of DNA sequence tags. Prerequisite: BIOL 3407 or equivalent. Lab fee: \$2.

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