Undergraduate Exercise Physiology

EXPH 1301. Introduction to Applied Exercise and Sport Physiology. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).
This foundational course provides an overview of the field of exercise science, covering key concepts in anatomy, physiology, biomechanics, and nutrition as they relate to human movement and physical activity. Students will explore career opportunities within the field, including fitness training, rehabilitation, and sports performance. The course also introduces basic principles of exercise testing, program design, and the role of physical activity in health promotion and disease prevention.

EXPH 3170. Exercise Physiology Lab. 1 Credit Hour (Lecture: 0 Hours, Lab: 1 Hour).
This lab-based course provides hands-on experience in assessing physiological responses to exercise. Students will learn to measure and analyze variables such as heart rate, blood pressure, oxygen consumption, and lactate levels during exercise testing. The course emphasizes practical skills in exercise testing protocols, data collection, and interpretation, supporting theoretical concepts from exercise physiology lectures. Corequisite: KINE 3370.

EXPH 3331. Motor Control. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).
This course explores the neuromuscular processes that govern human movement, focusing on how the brain and body coordinate to produce skilled actions. Topics include the principles of motor learning, control systems in movement, sensorimotor integration, and adaptations following injury or training. Students will apply these principles to sports performance, rehabilitation, and skill acquisition.

EXPH 3345. Bioenergetics & Supplementation. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).
This course covers the bioenergetic processes that supply energy for physical activity, from cellular respiration to metabolic pathways. Students will explore how different forms of exercise influence energy systems and how dietary supplementation can enhance performance and recovery. The course also reviews the efficacy and safety of common supplements used by athletes.

EXPH 3360. Essentials of Strength Training & Conditioning. 3 Credit Hours (Lecture: 2 Hours, Lab: 2 Hours).
This course provides an in-depth exploration of strength training and conditioning principles. Students will study methods for developing muscular strength, endurance, power, speed, agility, and flexibility. The course integrates evidence-based practices in program design, exercise technique, and training progression, with an emphasis on safety, performance enhancement, and injury prevention.

EXPH 4184. Internship in Applied Exercise and Sport Physiology. 1 Credit Hour (Lecture: 1 Hour, Lab: 0 Hours).
Designed to provide students with practical, hands-on experience in the application of exercise science principles. The main goal is to bridge the gap between theoretical knowledge gained in the classroom and real-world application in clinical, athletic, or fitness settings. Key components of the internship may include: Clinical Exercise Testing and Prescription, Exercise Program Development, Performance Analysis, Research and Data Analysis, and/or Communication and Collaboration.

EXPH 4360. Sport & Performance Analytics. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).
This course introduces the use of data analytics in sports performance. Students will learn to collect, analyze, and interpret performance data using modern technology and statistical methods. Topics include performance monitoring, athlete tracking, load management, and data-driven decision-making for performance optimization in individual and team sports.

EXPH 4380. Programming & Periodization. 3 Credit Hours (Lecture: 3 Hours, Lab: 0 Hours).
This course focuses on designing and implementing exercise training programs for athletes and fitness enthusiasts. Students will learn the principles of periodization, including how to structure training cycles to optimize performance while minimizing injury risk. Topics include strength, power, endurance, and recovery protocols, with emphasis on individualized program design based on specific goals.

EXPH 4395. Applied Biomechanics. 3 Credit Hours (Lecture: 3 Hours, Lab: 1 Hour).
Explores the mechanical principles underlying human movement and how these principles apply to physical activities and athletic performance. This course provides students with an in-depth understanding of the forces, motion, and structure of the human body during movement. Topics covered include: Kinematics and Kinetics, Musculoskeletal Mechanics, Movement Analysis, Injury Prevention and Rehabilitation, Sports Performance. Prerequisite: KINE 4390.