

EXERCISE SCIENCE (EXS)

EXS-1800 Responding to Emergencies (2 semester hours)

This course is designed to provide students with the knowledge and skills necessary to recognize and respond appropriately to cardiac, breathing and first aid emergencies. The course content and activities will prepare students to provide care to a suddenly injured or ill person until more advanced medical personnel arrive and take over. Upon completion of this course, students who qualify will be certified by the American Red Cross in Responding to Emergencies First Aid, CPR for the Professional Rescuer and Health Care Provider, Blood borne Pathogens, Asthma Inhaler, and Epinephrine Administration.

Additional fee required

EXS-2230 Olympic Style Weightlifting I (1 semester hours)

This course is designed to improve health and fitness through Olympic style weightlifting. Progressions through Olympic lifts will allow athletes to enhance performance and develop technique. The methodology of training will address: mode or type of exercise, frequency, intensity, and volume. Course content will prepare students to sit for the USA Weightlifting Level I Sports Performance Coach Certification.

EXS-2235 Olympic Style Weightlifting II (1 semester hours)

This course is designed to improve health and fitness through Olympic style weightlifting. Implementation of advanced training methods will allow athletes to enhance performance and further develop technique in Olympic lifts. The methodology of training will highlight: triphasic training, biometric training, and complex training. Course content will further prepare students to sit for the USA Weightlifting Level I Sports Performance Coach Certification through a deeper understanding of advanced program design.

Prerequisite(s): PED-2230 or EXS-2230.

EXS-2500 Prevention and Care of Athletic Injuries and Illness (4 semester hours)

This course addresses the recognition, first aid, prevention and care of acute injuries. This course is designed to provide future fitness professionals, athletic trainers and coaches a basic knowledge and understanding of injury prevention and acute injury care. Emphasis will be on understanding the care and prevention of athletic injuries and basic concepts of athletic training.

Additional fee required

EXS-3215 Kinesiology (4 semester hours)

The purpose of this course is to study the human body from both the musculoskeletal anatomy and biomechanical perspectives. The first half of the course is designated to the anatomical components of human movement, including bones, joints and muscles. The second half of the course is the analysis of human motion through the use of biomechanical principles and the application of proper technique, with an emphasis on proper analysis to recognize errors in those techniques and prescribe corrections, developing training techniques for movement effectiveness, and for injury prevention. Students will be more prepared to teach and coach athletes on proper technique to improve performance and prevent injury. Finally, students will be introduced to the proper kinesiology analysis method of movement, analyzing a broad range of movements throughout the course of the semester.

Prerequisite(s): BIO-1060 or BIO-2650 or BIO-2660.

EXS-3230/HED-3230 Physiology of Exercise (4 semester hours)

Students will investigate the relationship between human energy and physical activity, inclusive of energy transfer and expenditure, at rest and during exercise. The roles of the pulmonary, cardiovascular and neuromuscular systems will be studied as support systems to physical training and its application to the athletic training, fitness, sports performance, and health science field. Exercise training and functional capacity will be addressed in relation to the muscles, and the anaerobic and aerobic energy systems. Laboratory experiences exploring neuromuscular, metabolic, and cardiorespiratory responses to acute exercise will be introduced.

Prerequisite(s): BIO-1060 or BIO-2650 or BIO-2660.

Additional fee required

EXS-3240 Biomechanics (4 semester hours)

This course will provide students with greater insight into the biomechanical design of human skeletal muscles and their interactions with the skeletal system. Biomechanics emphasizes the investigation and application of mechanical principles to the study of human motion and the motion of sport objects. Students will learn systematic approaches for the qualitative and quantitative analysis of the human body as it engages in motor activities. This course begins by developing the students' knowledge in several topics related to physics of motion as it relates to sports movement.

Prerequisite(s): PED-3215 or PED-3210 or EXS-3215.

EXS-3250 Fitness Assessment and Program Design (4 semester hours)

This is an in-depth course addressing application of exercise principles, assessment tools and technology. Students will be exposed and apply appropriate guidelines for laboratory testing used in a health and fitness setting and for exercise programming both in healthy populations and in populations with special needs. Students will cover the American College of Sports Medicine (ACSM) Job Task Analysis (JTAs) designated for this course and to develop instructional skills by demonstrating proficiency in lab experiences. Successful completion of the JTA's is required.

Prerequisite(s): PED-3230 or EXS-3230.

EXS-3350 Advanced Sports Performance and Program Design (4 semester hours)

The focus of the class will include the concepts and theory of program design for athletes, general population and special populations. A thorough examination of the theory and methodology of training will be used to design exercise programs for improvement of muscular system and cardiovascular system. Topics will include program design, functional movement screening, corrective strategies, and periodization. Exercise progressions and nutritional interventions will also be discussed.

Prerequisite(s): PED-2550 or PED-3550 or EXS-3550.

EXS-3460 Sports Nutrition (4 semester hours)

This course will examine the different physiological relationships between nutrition and exercise. Emphasis is placed on the body's metabolic response to a wide range of stresses that occur in different sports and activities, at different intensities, and within different environments. Macro and micronutrients and their respective roles in energy production and the development of improved athletic performance are discussed in detail. In addition, this course will study those methods of assessing an athlete's nutritional needs and status.

Prerequisite(s): BIO-1060 or BIO-2650 or BIO-2660.

EXS-3480/PSY-3480 Sport Psychology (4 semester hours)

Sport psychology is a field of study in which the principles of psychology are applied in a sports setting. These principles are often applied to enhance the athletic performance of teams and individuals. It also focuses on the study of personal and social factors responsible for the development of citizenship, sport behavior and personality.

EXS-3550 Principles of Strength Training and Conditioning (4 semester hours)

This course explores scientific foundations of strength training and conditioning. Students will be introduced and taught different concepts and principles related to strength training and conditioning. Emphasis will be placed on how to use strength training and conditioning to optimize performance. Emphasis will also be placed on learning how to develop strength training and conditioning programs for various populations.

Prerequisite(s): BIO-1060 or BIO-2650 or BIO-2660; PED-3230 or EXS-3230.

EXS-4010 Mechanical and Physiological Analysis of Sport and Exercise (4 semester hours)

This laboratory-intensive course will investigate and apply biomechanical and physiological principles related to sport and exercise. Students will develop knowledge in several topics related to the physics of motion as it relates to sports movement. Laboratory experiences will explore physiological topics, such as aerobic and anaerobic power, body composition, and oxygen consumption as it relates to exercise and sport performance. Students will learn and apply systematic approaches for the qualitative and quantitative analysis of the human body as it engages in motor activities.

Prerequisite(s): PED-3230 or EXS-3230; PED-3215 or EXS-3215.

Additional fee required**EXS-4110 Administration of Health and Human Performance (4 semester hours)**

The art of managing people productively and effectively is perhaps the most challenging task facing any professional. The art of managing others is a dynamic process that is ever-changing and evolving, just as people, professional environments, government, and the economy continue to change. Attracting, training, motivating, and retaining quality employees are critical in the fields of coaching, sport management and fitness, and exercise science. This course focuses on the interactive management skills necessary to develop effective teams of satisfied and productive individuals by creating trusting interpersonal relationships with employees. Open to sport management and exercise majors only.

Prerequisite(s): Senior Standing.

EXS-4120 Exercise Science Capstone (4 semester hours)

This senior-level capstone course focuses on integrating the knowledge and skills gathered from prior course work to further develop as exercise science professionals. Students will participate in a variety of experiential and project-based activities that focus on career preparedness, exploring the administrative and managerial roles within the field of exercise science. Current and emerging professional issues and their impact on the profession will be explored. Open to exercise science majors only.

Prerequisite(s): Senior Standing.

EXS-4250 Exercise Science Internship (4-12 semester hours)

The exercise science internship is a culminating experience that allows students to apply knowledge and skills attained during their academic training through the completion of extensive work under the supervision of a certified clinical or sports performance professional. Focus will be spent on building professional behaviors and attributes necessary in their chosen field. Must complete a background check and pass a TB test within the current academic year (cost incurred by student).

Prerequisite(s): PED-4115 or PED-4120.

Grading Type: Credit/No Credit

EXS-4350 Advanced Sports Performance and Program Design (4 semester hours)

The focus of the class will include the concepts and theory of program design for athletes, general population and special populations. A thorough examination of the theory and methodology of training will be used to design exercise programs for improvement of muscular system and cardiovascular system. Topics will include program design, functional movement screening, corrective strategies, and periodization. Exercise progressions and nutritional interventions will also be discussed.

Prerequisite(s): PED-2550 or PED-3550 or EXS-3550.