EXERCISE SCIENCE (EXS)

EXS-1000 Career Exploration in Exercise Science (2 semester hours)
This course is designed to expose students to career opportunities in exercise science. Additionally, the student will hear from various professionals in the field which will aid in their understanding of the possible career paths they may follow and what each may entail.

EXS-2080 Introduction to Food & Nutrition (4 semester hours)
This course is intended to provide an understanding of basic nutritional principles necessary to promote a healthy lifestyle. Provides a basic understanding of essential nutrients and their role in health and disease, food safety issues; cultural impacts on intake, nutrition information provided in the media, and current controversies.

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): EXS-2230.

EXS-2400 EKG Technician Certification (2 semester hours)
Students will learn how to set up and administer EKGs and stress tests. Students must be comfortable practicing skills with each other. Students must pass the National Healthcare Association examination to earn ce1iification. Must purchase a voucher at the bookstore for materials and the Certification exam. Additional lab fee.
Co/prerequisite(s): Complete HLS-2670.

Additional fee required

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): HLS-2650 or HLS-2660.

EXS-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): HLS-2670.

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): EXS-3215.

EXS-3250 Clinical Exercise Testing and Prescription (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): EXS-3230.

Additional fee required

EXS-3300 Food Science (4 semester hours)
This course is intended to provide a basic understanding of food science, and will cover the physical and chemical composition and how each impacts the functional properties of carbohydrates, proteins and lipids. The class includes the impact of preparation and cooking methods on food items, including sensory evaluation. The material will be related to nutrition as well as food items.
Prerequisite(s): HLS-2670

Co/prerequisite(s): CHM-2410.

EXS-3400 Human Nutrition (4 semester hours)
This course is intended to provide an understanding of basic nutritional science with an emphasis on chemical structures, metabolism and function of macromolecules. The role of macro- and micronutrients in health and disease will be the primary focus, along with the impact of nutrigenomics and nutrigenetics. Topics covered include the principles of digestion, absorption and metabolic pathways for essential nutrients. Additional lab fee required.
Co/prerequisite(s): Complete HLS-2670.

Additional fee required

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 HLS-2650 or HLS-2660.

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 HLS-2650 or HLS-2660; EXS-3230.

EXS-3600 Research Methods in Exercise Science (4 semester hours)
This course is designed to provide students with knowledge of basic principles and understandings fundamental to research used in exercise science. Students will learn the basics of reading and interpretation of research and statistics, and the application to practical settings common to the field of exercise science.
Prerequisite(s): EXS-3230.

EXS-4020 Exercise & Physical Activity Management for Special Population (4 semester hours)
This course is designed to expand the student's knowledge in the topic of exercise as it relates to special populations including, but not limited to age, diagnosed medical conditions, and special needs. Up-to-date information will also be presented to the student in regard to exercise programming, and fitness assessment and evaluation for special populations.
Prerequisite(s): EXS-3250

Additional fee required

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 emerge professional issues and their impact on the profession will be explored. Open to exercise science majors only.
Prerequisite(s): Senior Standing.

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): EXS-3550.

Additional fee required

EXS-4940 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): Senior Standing

Grading Type: Credit/No Credit