EXERCISE SCIENCE (EXS)

College of Health Sciences

Courses

EXS 101. Group Exercise Leadership. 2 Credits.
The major goals of this course are to provide students with professional instruction on how to teach a variety of group exercise classes by applied learning techniques, to be able to lead exercise classes for all levels of fitness and for a wide variety of participants, including children, the elderly, and other special populations, and to modify moves to accommodate them. This course is designed to prepare the student to pass a nationally accredited certification exam for group exercise leadership. Typically offered in Fall & Spring.

EXS 102. Fundamentals of Resistance Training Techniques. 2 Credits.
Resistance training, also called weight training or strength training, is structured exercise in which muscles of the body are forced to contract under tension using weights, body weight, or other devices in order to stimulate growth, strength, power and endurance. This course provides the beginner student with hands-on experience using these various methods along with instruction on proper exercise technique and safety precautions. Typically offered in Fall & Spring.

EXS 180. Lifetime Fitness Concepts. 3 Credits.
Designed to provide an interdisciplinary understanding of the relationship between lifestyle, physical fitness, and health and well-being. Typically offered in Fall & Spring.

EXS 222. Introduction to Medical Terminology and Drug Classifications. 2 Credits.
This course offers an introduction to common clinical abbreviations and medical terms through an analysis of their construction including prefix, suffix, root, connecting and combining forms. The student acquires an understanding of medical meanings applicable to structure, function and diseases of the human body. Students will also learn how drugs are classified and for what major conditions they are used and learn how to use the Physicians Desk Reference. Distance education offering may be available. Typically offered in Fall & Spring.

EXS 223. Kinetic Anatomy. 2 Credits.
The purpose of this course is to lay the foundation for students to learn how anatomy affects movement of the human body. The course will build upon, reinforce, and challenge the student’s basic knowledge of structural anatomy with the intention of acquiring a mastery of basic concepts in this discipline. Presentation of concepts will begin with whole body orientation by region, and then work additively and systematically from skeletal anatomy identifications and joint structure / alignment analysis, through muscular and neuromuscular investigation to provide a comprehensive study of clinically applied structural anatomy. Typically offered in Fall & Spring.

This class introduces basic anatomical and physiological concepts critical to understanding human movement, exercise, physical education and how the human body functions. The class examines the anatomy, physiology and exercise physiology of the skeletal and muscular systems. Throughout the course, special attention will be paid to the impact of development (growth and maturation) on the systems covered. Students will be required to apply these anatomical and physiological principles to physical education, exercise and sport. Typically offered in Fall & Spring.

EXS 262. Biomechanics. 3 Credits.
Students will develop a fundamental understanding of selected mechanical and anatomical laws of motion, actions caused by forces and their application to the study of mechanical structure and analysis of motion. Students will be able to use and apply these principles to various forms of movement. Pre / Co requisites: EXS 262 requires prerequisite PHY 100 or PHY 130 and BIO 259 and COREQ: EXL 262. Typically offered in Fall & Spring.

EXS 361. Body Systems and Applied Anatomy II. 3 Credits.
This class introduces basic anatomical and physiological concepts critical to understanding human movement, exercise, physical education and how the human body functions. The class examines the anatomy, physiology and exercise physiology of the following systems: nervous, endocrine, cardiovascular, respiratory, digestive, and renal systems. Metabolism and the generation of energy will also be discussed. Throughout the course, special attention will be paid to the impact of development (growth and maturation) on the systems covered. Students will be required to apply these anatomical and physiological principles to physical education, exercise and sport.

Pre / Co requisites: EXS 361 requires prerequisite of EXS 241. Typically offered in Fall & Spring.

EXS 364. Introduction to Exercise Physiology. 3 Credits.
Builds on the physiological concepts introduced in EXS 241. Students will be required to apply these physiological principles to physical education, exercise and sport. Pre / Co requisites: EXS 364 requires a prerequisite of EXS 241. Typically offered in Fall & Spring.

EXS 370. Motor Learning. 3 Credits.
An undergraduate course that examines the behavioral, physiological, and psychological principles underlying motor control and motor learning. Specific topics include classifications and measurement of motor performance; the role and function of sensory processes, perception, memory, and attention; and the delivery of feedback and structure of practice. Pre / Co requisites: EXS 370 requires a prerequisite of BIO 259. Distance education offering may be available. Typically offered in Fall, Spring & Summer.

EXS 375. Introduction to Sport Exercise & Performance Psychology. 3 Credits.
An undergraduate course aimed at covering exercise behavior adoption and its maintenance. This course will introduce students with both the theories and practices inherent in the field of exercise psychology. Additional emphasis of this course will include intervention strategies to promote exercise behaviors and long-term adherence to a physically active lifestyle as well as recent research findings on the effectiveness of these approaches. Pre / Co requisites: EXS 375 requires prerequisites of EXS 370 and PSY 100. Distance education offering may be available. Typically offered in Fall, Spring & Summer.

EXS 380. Exercise Physiology. 3 Credits.
This three credit course investigates the physiological principles which explain how the human body responds and adapts to physical activity, exercise and work. Pre / Co requisites: EXS 380 requires prerequisite BIO 269 and EXS 180; co-requisite of EXL 380. Typically offered in Fall & Spring.

EXS 381. Fitness Assessment - Exercise Prescription. 4 Credits.
Designed to prepare students to assess the physical fitness levels of healthy but sedentary adults and prescribe individualized exercise programs. Pre / Co requisites: EXS 381 requires prerequisite of EXS 375, EXS 380, EXL 380 and current CPR certification. Typically offered in Fall & Spring.

EXS 382. Exercise Techniques and Physical Condition. 4 Credits.
Analysis of various exercise techniques, and devices and systems emphasizing their use and safety. Clinical experience in strength and range of motion (ROM) testing and prescription. Pre / Co requisites: EXS 482 requires prerequisites of EXS 262, EXS 380, and EXL 380. Typically offered in Fall & Spring.

EXS 484. Organization and Management of Adult Fitness Progs Clin/Sem. 3 Credits.
Designed to provide students with practical experience in organizing and managing physical fitness programs for adults. Pre / Co requisites: EXS 484 requires prerequisite of EXS 380 and EXL 380 or instructor permission. Typically offered in Fall & Spring.

EXS 486. Exercise Prescription - Special Population. 3 Credits.
Designed to provide students with practical experience in organizing and managing physical fitness programs for adults. Pre / Co requisites: EXS 486 requires prerequisite of EXS 381. Distance education offering may be available. Typically offered in Fall & Spring.
EXS 487. Physical Activity and the Environment. 3 Credits.
A survey course investigating the multidisciplinary nature of environmental physiology. It will explore the impact of different environments on the physiology of humans while at work and play. This course will examine the thermal environments (hot, cold, humidity), baraphysiology (altitude and depth), microgravity and space, air pollution, and chronobiological rhythms. Laboratory experiences, both computer simulation and "hands-on," will be included in the course.
Pre / Co requisites: EXS 487 requires prerequisite of EXS 380 or BIO 468 or BIO 469.

EXS 489. Clinical Exercise Testing and Prescription. 4 Credits.
Designed to teach students how to administer graded exercise tests, take blood pressure and heart rate measurements during exercise, administer and interpret standard resting and exercise 12-lead electrocardiograms at a fundamental level, and how to properly prescribe exercise based on test results and using metabolic calculations. Understanding the athletic heart is a major focus. The course is offered in an online format with a portion of hands-on laboratory experience.
Pre / Co requisites: EXS 489 requires prerequisite of EXS 381 and current CPR certification. Distance education offering may be available. Typically offered in Fall, Spring & Summer.

EXS 490. Internship I. 3 Credits.
A capstone experience meant to tie together previous course work into a "hands-on" application in a job setting. A minimum of 160 hours of actual work site experience may be in any vocational avenue available including cardiac rehabilitation, strength and conditioning coaching, commercial fitness, corporate fitness, and personal training. Specific concentrations require supervision by a licensed professional (e.g., Chiropractor, Physical Therapist, Occupational Therapist).
Pre / Co requisites: EXS 490 requires prerequisites of EXS 381, EXS 482, and EXS 484. Consent: Permission of the Department required to add. Typically offered in Fall & Spring.

EXS 491. Internship II. 3-6 Credits.
A supplemental experience to EXS 490 which will enable students to explore other internship or work settings including cardiac rehabilitation, strength and conditioning coaching, commercial fitness, corporate fitness and personal training. The experience can be at the same site as EXS 490. Hours required range between 125 (for three credits) to 250 hours (for six credits).
Pre / Co requisites: EXS 491 requires Co-requisite of EXS 489. Consent: Permission of the Department required to add. Typically offered in Fall & Spring. Repeatable for Credit.

EXS 499. Special Topics. 1-3 Credits.
This course will examine selected topics of temporal or special interest that are not normally part of the regular ongoing exercise science curriculum. Students will be provided an opportunity to pursue research, study, and/or application of knowledge and development of skills in an applied setting, which may include an off-campus component. Repeatable for Credit.