

EXERCISE SCIENCE (EXSC)

EXSC 2130. Introduction to Kinesiology. (3 Credits)

Credit Hours: (3-0-3) Introduction to the interdisciplinary approach to the study of human movement. An overview of the importance of the sub-disciplines in kinesiology will be discussed along with career opportunities in the areas of teaching, coaching, allied health, and fitness professions.

EXSC 3143. Exercise Physiology. (3 Credits)

Prerequisites: Grade of C or higher in BIOL 2251K - Anatomy & Physiology I Credit Hours: (3-0-3) Following the completion of this course, the student will be able to discuss the following: 1. The acute physiological changes that occur during exercise 2. Appropriate means of maintaining the body in optimum physiological status for exercise 3. The physiological adaptations that occur following exercise training 4. Health benefits of a consistent exercise program and the health risks associated with inactivity 5. The students will be able to discuss how the various systems of the human body interrelate in response to exercise 6. The students will be able to discuss the various control steps and mechanisms of metabolism (ATP production and ATP utilization)

EXSC 3201. Biomechanics of Human Movement. (3 Credits)

Prerequisites: A grade of C or higher in BIOL 2251K Credit Hours: (3-0-3) The principles of classical mechanics are applied to the study of human motion to provide students with an understanding of the internal and external forces acting on the body during human movement. Students learn to describe motions of the body during typical activities, predict which muscles are responsible for controlling movement, quantify the forces acting on the body during movement, and understand the limitations of different experimental and analytical techniques used to quantify human movement, interpret motion data accurately, and evaluate studies of human movement.

EXSC 3204. Exercise Testing & Prescriptio. (4 Credits)

Prerequisite: HLSC3143 - Exercise Physiology Credit Hours: (3-1-4) This course provides a thorough introduction to exercise testing and prescription. Students will learn to perform preliminary screenings, cardiorespiratory, strength, flexibility, body composition and balance assessments. Students will learn to interpret the results of these assessments and prescribe programs accordingly.

EXSC 3205. Personal Training. (3 Credits)

Prerequisite: HLSC 3143 Credit Hours: (3-0-3) This course focuses on all aspects of personal training (exercise techniques, basic exercise prescription, equipment evaluation, home fitness programs, FMS Screening, fitness assessment, scope of practice, and the business side) including the business side of being a personal trainer.

EXSC 3243. Exercise Leadership. (3 Credits)

Prerequisite: HLSC 3143 Credit Hours: (2-1-3) Materials, methods, and laboratory experiences in exercise leadership. Appropriate techniques of exercise instruction in group and individual settings covered. Special emphasis given to certification guidelines in exercise leadership. Topics include guidelines for instructing safe, effective, and purposeful exercise, essentials of the instructor-participant relationship, the principles of motivation to encourage adherence in the group fitness setting, effective instructor-to-participant communication techniques, methods for enhancing group leadership, and the group fitness instructor's (GFI's) professional role.

EXSC 3305. Nutritional Basis Human Perfor. (3 Credits)

Prerequisites: Grade of C or higher HLSC 3000 and HLSC 3143 Credit Hours: (3-0-3) This course addresses the aspects of nutrition that are related to exercise performance. Emphasis will be placed on the bioenergetics systems, the components of nutrition, nutritional and body composition assessments, ergogenic aids and diet modifications for physically active individuals and athletes.

EXSC 3330. Principles of Coaching. (3 Credits)

Prerequisite: EXSC 3143 Credit Hours: (3-0-3) The study of the theoretical & practical applications of the following areas concerned in coaching: philosophy, pedagogy, off-season preparation, pre-season planning, relating with players, sport psychology & current issues & topics related to coaching.

EXSC 3335. Athletic Injuries and Care. (3 Credits)

Credit Hours: (3-0-3) The purpose of this course is to provide students with the current practices in the prevention and care of common injuries and illnesses associated with sports and physical activity.

EXSC 4140. Exercise & Wellness Fac Mgmt. (3 Credits)

Credit Hours: (3-0-3) Theoretical and practical aspects of selected organization and management procedures which relate to the development, implementation, operation and evaluation of exercise and wellness facilities. Course examines the fitness industry, management practices and operational issues in commercial, corporate, clinical, community settings. Topics include managing and operating facilities for front-of-the-house (member and guest services) and back-of-the-house (facility and equipment maintenance, business office and financial management, legal issues and insurance matters) and the planning and evaluation processes.

EXSC 4145. Principles Strength & Conditio. (4 Credits)

Prerequisite: EXSC 3143 Credit Hours: (3-1-4) An intensive course designed to assist trainers and coaches in developing the ability to teach proper resistance training techniques. Theories and scientific research dealing with the development of hypertrophy, strength, and power will be explored. Student will learn the basic exercise physiology concepts and exercise techniques required to successfully pass nationally recognized personal training certification exams.

EXSC 4290. Cardiopulmonary Physiology. (3 Credits)

Prerequisite: EXSC 3143 Credit Hours: (3-0-3) Students study in detail the anatomy and physiology of the cardiovascular and pulmonary systems. Students also examine possible complications within these systems and related pharmacology. Students will examine the cardiopulmonary response to various exercise modalities.

EXSC 4360. Clinical Exercise Physiology. (3 Credits)

Prerequisite: EXSC 3143 Credit Hours: (3-0-3) This course is a detailed study of physical activity for the exercise specialist, technologist, or technician who is responsible for the safe administration of graded exercise tests and the development of an exercise prescription for apparently healthy human subjects, patients with controlled disease, and patients with known disease including cardiovascular disease, pulmonary disease, diabetes, obesity, and other chronic illnesses.

EXSC 4380. Obesity & Related Complication. (3 Credits)

Prerequisites: HLTW 3000 and EXSC 3143 Credit Hours: (3-0-3) Students in this course will develop in-depth knowledge of standardized body composition assessments, obesity and related chronic diseases, including diabetes, inflammatory diseases, hypertension, energy balance, lipid and lipoprotein profiles and healthy lifestyle choices for disease management.

EXSC 4400. Exercise and Sport Psychology. (3 Credits)

Prerequisite: PSYC 2103 Credit Hours: (3-0-3) The goal of this course is to discuss professional and ethical issues relevant to the practice of sport psychology. Students will study different methods to understand and evaluate psychological aspects of sport performance. Students will learn how to enhance exercise and health behavior change as well as how to increase motivation. Knowledge of different counseling approaches and the effects of exercise on anxiety, eating disorder, self-esteem and psychophysiology will be studied. Referrals to a medical/mental allied health professional will be discussed.