

EXERCISE SCIENCE (EXSC)

EXSC 101 Introduction to Exercise Science 1 Credit Hour(s)

This course is an overview of the professions in the field of exercise science. Career opportunities within exercise science and allied health will be investigated. Various aspects of careers, determining requirements for advanced study and learning what coursework would be appropriate for the different career paths.

Offered: Resident

EXSC 299 Internship 0 Credit Hour(s)

Offered: Resident

EXSC 302 Exercise and Sports Injuries 2 Credit Hour(s)

Prerequisite: EXSC 310

This course will examine the most common types of injuries that occur in exercise and sport settings. It will include the causes, treatment and prevention of these injuries. (Formerly KINE 302)

Offered: Resident

EXSC 310 Physiology of Exercise 3 Credit Hour(s)

Prerequisite: (BIOL 213 and BIOL 214 and BIOL 215 and BIOL 216) or (BIOL 213 and BIOL 214 and BIOL 215 (may be taken concurrently) and BIOL 216 (may be taken concurrently))

A study of the effects of exercise on the major systems of the human body including the cardiorespiratory, neuro-muscular, glandular and digestive. Other effects influencing human exercise will be examined, including climate, altitude and ergogenic aids. (Formerly KINE 310)

Offered: Resident

EXSC 311 Analysis of Human Movement 3 Credit Hour(s)

Prerequisite: EXSC 310

This course is a scientific study of the musculoskeletal anatomy and neuromuscular physiology involved in voluntary movement. The physiological principles applicable to the anatomical structures that produce human movement will be examined. (Formerly KINE 311)

Offered: Resident

EXSC 315 Group Exercise Instruction 2 Credit Hour(s)

Prerequisite: EXSC 310

This course will focus on the theoretical knowledge of leadership skills necessary to design, implement, and evaluate safe and effective group exercise programs. Emphasis will be placed on group leadership and group fitness instruction. Observations within the field will be available as well as opportunities to apply introductory concepts of exercise training through practical application. The course materials will also address the various skill sets necessary for entry employment into the health and fitness industry.

Offered: Resident

EXSC 320 Research and Statistics in Exercise Science 3 Credit Hour(s)

Prerequisite: EXSC 310

This course will consider the basic principles related to measurement and evaluation including the selection, administration and use of tests unique to the field of health and physical education. Special emphasis will be placed on testing procedure. Computer software for statistics will be introduced. (Formerly KINE 320)

Offered: Resident

EXSC 321 Practicum 1 Credit Hour(s)

Prerequisite: EXSC 310 or KINE 310

This course is designed for students in the Exercise Science major to gain exposure to various fitness/health settings. The student must choose two of the following areas: strength and conditioning, personal training, or clinical rehabilitation. The student must complete 15 observational hours in each of the two chosen areas, for a total of 30 hours. (Formerly EXSC 421)

Offered: Resident

EXSC 333 Ergogenic Aids in Sport 3 Credit Hour(s)

Prerequisite: EXSC 310

This course provides the foundational understanding of the physiological interactions of ergogenic aids and how they affect sports performance.

The materials in this course will provide an in depth understanding of how specific ergogenic aids affects human performance, the physiological pathway that elicits change, practical application, and any possible side effects.

Offered: Resident

EXSC 350 Biomechanics 3 Credit Hour(s)

Prerequisite: EXSC 310 and EXSC 351 (may be taken concurrently)

This course provides students with a foundational knowledge of basic mechanical principles and how these can be applied in analyzing movements of the human body. The course uses an integrated balance of qualitative and quantitative examples, applications, and problems designed to illustrate the mechanical principles discussed. (Formerly KINE 350)

Registration Restrictions: Junior status

Offered: Resident

EXSC 351 Biomechanics Lab 1 Credit Hour(s)

Prerequisite: EXSC 310

This lab course provides students with the application of basic mechanical principles in analyzing movements of the human body. The course uses an integrated balance of qualitative and quantitative applications to illustrate the mechanical principles discussed in EXSC 350, Biomechanics.

Registration Restrictions: Junior status

Offered: Resident

EXSC 410 Applied Exercise Physiology 3 Credit Hour(s)

Prerequisite: EXSC 310 and EXSC 320 and EXSC 411 (may be taken concurrently)

This course provides the students with practical experience in implementing different methodologies in the measurement of physiological responses to acute and chronic exercise. Emphasis is placed on the application of the ACSM guidelines and appropriate experimental techniques. The usage of equipment in evaluating changes in body composition and various metabolic, cardiovascular, and respiratory adjustments during exercise in different populations will be included. (Formerly KINE 410)

Registration Restrictions: Junior status

Offered: Resident

EXSC 411 Applied Exercise Physiology Lab 1 Credit Hour(s)

Prerequisite: EXSC 310 and EXSC 320

This course is designed for students in the Exercise Science major to gain proficiency in exercise testing and interpretation as it relates to the various physiological systems and components. (Formerly KINE 411)

Registration Restrictions: Junior status

Offered: Resident

EXSC 433 Exercise Prescription for Special Populations 3 Credit Hour(s)**Prerequisite:** EXSC 310

This is an advanced course in clinical exercise prescription relative to disease of the cardiovascular, pulmonary, metabolic, musculoskeletal, neuromuscular and immunologic systems. The course also provides a basic understanding of the patho-physiology and exercise responses in populations afflicted with these diseases. (Formerly KINE 433)

Registration Restrictions: Junior status**Offered:** Resident**EXSC 460 Exercise Testing, Evaluation, and Prescription 3 Credit Hour(s)****Prerequisite:** (KINE 310 or EXSC 310) and (KINE 320 or EXSC 320)

This course will consider the use of health and fitness field and laboratory instruments, techniques, procedures and equipment. Special emphasis will be placed on the ability to administer test protocols for evaluating the health-related components of physical fitness. (Formerly KINE 460)

Registration Restrictions: Junior status**Offered:** Resident**EXSC 461 Exercise Leadership 3 Credit Hour(s)****Prerequisite:** EXSC 310

This course will emphasize the necessary leadership qualities and skills expected for leading exercise activities. The student will develop professional competencies through classroom instruction as well as observational and practical experiences. (Formerly KINE 461)

Registration Restrictions: Junior status**Offered:** Resident**EXSC 485 Exercise Physiologist Workshop and Certification 1 Credit Hour(s)****Prerequisite:** EXSC 433 (may be taken concurrently) and EXSC 460 (may be taken concurrently) and EXSC 310

This Exercise Physiologist course will provide structured experiences in the classroom, laboratory and exercise arenas to improve the knowledge, skills, and abilities in health-related physical fitness assessment and exercise programming as outlined by the American College of Sports Medicine guidelines. This experience will culminate with the student taking the Exercise Physiologist certification exam, which requires the student to demonstrate the knowledge, skills, and abilities that are needed by an entry-level health/fitness practitioner.

Registration Restrictions: Acceptance into EXSC Program.**Offered:** Resident**EXSC 498 Senior Capstone Project 4 Credit Hour(s)****Prerequisite:** HLTH 333

This course examines an overview of various types of research, theory and design of research problems and experiments in Exercise Science subfields, communication of research proposals, evaluation of current research, and review of current literature. The capstone project will be completed by a group of five Exercise Science students, who will be directed by an assigned faculty member from the Exercise Science Program.

Offered: Resident**EXSC 499 Internship in Exercise Science 4-6 Credit Hour(s)****Prerequisite:** EXSC 101 and EXSC 310 and EXSC 320 and EXSC 321 and EXSC 333 and EXSC 350 and EXSC 351 and EXSC 410 and EXSC 411 and EXSC 433 and EXSC 460 and EXSC 461 and EXSC 485 and STRG 340

This course involves practical work experience in an approved exercise or fitness-related agency, physical or occupational therapy clinic, chiropractic office, or similar setting/facility supervised by a qualified professional. Selection of the internship site should coincide with academic track selected and intended career path. Applications are processed through the department Faculty Intern Advisor. Applicants must apply the semester prior to starting the internship.

Registration Restrictions: Admission to BS Exercise Science program; Senior status; have completed all EXSC coursework and STRG 340 with a grade of "C" or better; have a minimum overall GPA of 2.5 or higher; have achieved a minimum score of 480 on ACSM exam, and uploaded exam results sheet to Sharepoint; or consent of the Exercise Science Program Director**Note:** Formerly KINE 499**Offered:** Resident