

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 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 Measurement and Evaluation in Health and Kinesiology 3 Credit Hour(s)

Prerequisite: EXSC 310 and (RSCH 201 or Inquiry Research with a score of 80 or Research with a score of 80 or Research (prior to 2017-2018) with a score of 80)

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 340 Essentials of Strength Training and Conditioning 3 Credit Hour(s)

Prerequisite: (KINE 225 or PHED 225) and EXSC 310

This course includes the theories, organization, methods, and techniques involved in the teaching and coaching of strength training, physical conditioning, and personal training. (Formerly KINE 340)

Registration Restrictions: Junior status

Offered: Resident

EXSC 345 Applied Strength Training and Conditioning 2 Credit Hour(s)

Prerequisite: (KINE 225 or PHED 225) and EXSC 310

In Applied Strength Training and Conditioning, students will integrate theory and practice in a course designed to provide lab-based examples of sport-specific conditioning. In-depth coaching techniques will be applied to topics including resistance and power training, speed and agility training, aerobic conditioning, and periodized programming. Students will also conduct original research related to sport performance.

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 401 Seminar in Strength and Conditioning 1 Credit Hour(s)

Prerequisite: EXSC 340

The Seminar in Strength and Conditioning provides students with a comprehensive overview of the existing scientific literature including strength and power training, speed and agility, and metabolic conditioning. Students will also be exposed to article review, critique, and presentation criteria.

Registration Restrictions: (EXSC 340 and Senior Status) or instructor permission

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 440 Programming and Periodization for Strength and Conditioning 3 Credit Hour(s)

Prerequisite: EXSC 340

Programming and Periodization for Strength and Conditioning provides students the opportunity to go deeper into various models of periodization to become comfortable with creating individualized sports performance programs for specific athletes. Students will integrate principles of periodization and programming to develop their own individual training philosophies.

Registration Restrictions: (EXSC 340 and Senior Status) or instructor permission

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 486 Strength and Conditioning Specialist Workshop and Certification 1 Credit Hour(s)

Prerequisite: EXSC 310 and EXSC 340

The Strength and Conditioning Specialist Workshop and Certification Course will assist students in preparing for the Certified Strength and Conditioning Specialist (CSCS) credential, available through the National Strength and Conditioning Association (NSCA). The course will focus on building mastery in the major content areas outlined by the NSCA: Exercise science, nutrition, exercise technique, program design, organization and administration, and testing and evaluation.

Registration Restrictions: Acceptance into EXSC Program, EXSC 310, EXSC 340, and Senior Status ; OR Instructor Permission.

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 1-6 Credit Hour(s)

Prerequisite: HLTH 333

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. (Formerly KINE 499)

Registration Restrictions: Admission to EXSC major; Senior status; have completed all EXSC coursework and HLTH 333, with a grade of "C" or better; have a minimum overall GPA of 2.25 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

Offered: Resident