

EXERCISE SCIENCE (EXS)

EXS 122 Foundations of Kinesiology 3 Hours

An introductory study of the historical, philosophical, and scientific foundations of kinesiology; aspects of physical education, exercise science, and sport will be covered.

Restriction(s): Enrollment is limited to students in Exercise Science (554)

Equivalent(s): PE 122

Recent Term(s) Offered: winter 2022; spring 2022; summer 2022; fall 2022; winter 2023; spring 2023; summer 2023; fall 2023; winter 2024; spring 2024; summer 2024; fall 2024

EXS 223 Introduction to Exercise Science 3 Hours

Investigation of the important interplay between disease prevention and physical activity. Introduction to the application of exercise science to fitness, health, and disease, along with field and laboratory measurement techniques used by practitioners and researchers. Students will learn to be more informed consumers of research by understanding the components of research articles and the origins of evidence-based practices. **Colonnade/Statewide General Education Code E-NS | NS**

Recent Term(s) Offered: spring 2022; summer 2022; fall 2022; spring 2023; summer 2023; fall 2023; winter 2024; spring 2024; summer 2024; fall 2024

EXS 296 Practicum in Exercise 3 Hours

Work experience in Exercise Science related practical settings in progression towards completion of the major and career explorations. Liability insurance and current CPR/AED are required.

Prerequisite(s): EXS 223 (may be taken concurrently) with a minimum grade of C and EXS 122 with a minimum grade of C and SFTY 171 with a minimum grade of C

Restriction(s): Enrollment is limited to students in Exercise Science (554)

Recent Term(s) Offered: spring 2022; summer 2022; fall 2022; spring 2023; summer 2023; fall 2023; spring 2024; summer 2024; fall 2024

EXS 310 Kinesiology 3 Hours

Study of the anatomical, mechanical, and neuromuscular bases of human movement.

Prerequisite(s): BIOL 131 with a minimum grade of C and EXS 296 with a minimum grade of C

Restriction(s): Enrollment is limited to students in Exercise Science (554)

Recent Term(s) Offered: spring 2022; fall 2022; spring 2023; summer 2023; fall 2023; spring 2024; summer 2024; fall 2024

EXS 311 Physiology of Exercise 4 Hours (repeatable max of 4 hrs)

A systemic study of the acute and chronic effects of exercise on the physiological function of the human body. Note: Permission of instructor may be required.

Prerequisite(s): BIOL 131 with a minimum grade of C and EXS 223 with a minimum grade of C and (CHEM 109 with a minimum grade of C or CHEM 116 with a minimum grade of C or CHEM 120 with a minimum grade of C) and HMD 211 with a minimum grade of C

Restriction(s): Enrollment is limited to students in Exercise Science (554)

Recent Term(s) Offered: winter 2022; spring 2022; fall 2022; winter 2023; spring 2023; fall 2023; spring 2024; fall 2024

EXS 312 Basic Athletic Training 3 Hours

A study of the basic principles of athletic training including prevention, evaluation, care, and rehabilitation of athletic injuries.

Prerequisite(s): (PE 311 or EXS 311)

Restriction(s): Students with a semester level of Academy Junior, Academy Senior, Freshman or Sophomore may **not** enroll.

Equivalent(s): PE 312

Recent Term(s) Offered: None

EXS 313 Motor Learning and Control 3 Hours

Designed to help build a foundation of knowledge and practice in the theoretical and conceptual basis behind human acquisition and performance of motor skills. The goal of the course is to understand how the individual, motor skill, and environment work together when learning novel or improving previously learned motor skills.

Prerequisite(s): EXS 223 with a minimum grade of C and EXS 296 with a minimum grade of C and (MATH 116 (may be taken concurrently) with a minimum grade of C or MATH 116E (may be taken concurrently) with a minimum grade of C or MATH 117 (may be taken concurrently) with a minimum grade of C or MATH 136 (may be taken concurrently) with a minimum grade of C or MATH 183 (may be taken concurrently) with a minimum grade of C)

Restriction(s): Enrollment is limited to students in Exercise Science (554)

Recent Term(s) Offered: winter 2022; spring 2022; summer 2022; fall 2022; spring 2023; summer 2023; fall 2023; spring 2024; summer 2024; fall 2024

EXS 324 Measurement and Evaluation in Kinesiology 3 Hours

A study of measurement tools and evaluation procedures used in the fields associated with kinesiology, including physical education, exercise science, and biomechanics.

Prerequisite(s): (MATH 116 with a minimum grade of C or MATH 116E with a minimum grade of C or MATH 117 with a minimum grade of C or MATH 136 with a minimum grade of C or MATH 183 with a minimum grade of C) and EXS 223 with a minimum grade of C and PHYS 231 with a minimum grade of C

Restriction(s): Students with a semester level of Academy Junior, Academy Senior, Freshman or Sophomore may **not** enroll.

Enrollment is limited to students in Exercise Science (554)

Recent Term(s) Offered: winter 2022; spring 2022; fall 2022; winter 2023; spring 2023; fall 2023; winter 2024; spring 2024; fall 2024

EXS 325 Applied Exercise Physiology 3 Hours

Applied concepts introduced in exercise physiology and kinesiology.

Aspects of the human body's reaction to differing exercise stressors.

Emphasis on metabolic, musculoskeletal, and cardiorespiratory systems. Laboratory and field experience applying theoretical concepts of exercise physiology and kinesiology.

Prerequisite(s): EXS 311 with a minimum grade of C and (CHEM 109 with a minimum grade of C or CHEM 116 with a minimum grade of C or CHEM 120 with a minimum grade of C)

Restriction(s): Enrollment is limited to students in Exercise Science (554)

Recent Term(s) Offered: spring 2022; fall 2022; spring 2023; fall 2023; spring 2024; fall 2024

EXS 412 Exercise Testing & Prescription 4 Hours (repeatable max of 4 hrs)

This course is designed for future Exercise Science professionals who are interested in helping individuals, communities, and groups gain benefits of participating in regular physical activity in a positive and safe environment. The course includes a lab in which class material will be applied to a practical testing environment.

Prerequisite(s): EXS 311 with a minimum grade of C and EXS 325 with a minimum grade of C

Restriction(s): Enrollment is limited to students in Exercise Science (554)
Recent Term(s) Offered: spring 2022; fall 2022; spring 2023; fall 2023; spring 2024; fall 2024

EXS 420 Clinical Exercise Physiology 3 Hours (repeatable max of 3 hrs)

Designed to provide students with a foundational understanding of clinical exercise testing and exercise prescription for designated clinical populations. The course focuses on the clinical assessment of disease, basic pathophysiology of disease processes, and exercise rehabilitation in clinical populations.

Prerequisite(s): EXS 325 with a minimum grade of C and EXS 412 with a minimum grade of C

Restriction(s): Enrollment is limited to students in Exercise Science (554)
Recent Term(s) Offered: spring 2022; fall 2022; spring 2023; fall 2023; spring 2024; fall 2024

EXS 425 Exercise Bioenergetics 3 Hours

Study of exercise metabolism during physical activity. Includes metabolic utilization of carbohydrates, fats, and proteins during anaerobic and aerobic exercise.

Prerequisite(s): EXS 325 with a minimum grade of C and (CHEM 109 with a minimum grade of C or CHEM 116 with a minimum grade of C or CHEM 120 with a minimum grade of C)

Restriction(s): Enrollment is limited to students in Exercise Science (554)
Recent Term(s) Offered: None

EXS 436 Principles of Strength and Conditioning 3 Hours

Designed to develop knowledge of principles and practices in components of strength and conditioning. The aim of the course is to understand the process behind development, implementation, and evaluation of strength and conditioning programs for elite, collegiate, high school, and/or recreational athletic populations.

Prerequisite(s): EXS 325 with a minimum grade of C

Restriction(s): Enrollment is limited to students in Exercise Science (554)
Recent Term(s) Offered: spring 2022; fall 2022; spring 2023; fall 2023; spring 2024; fall 2024

EXS 446 Biomechanics 3 Hours (repeatable max of 3 hrs)

Designed to help build a foundation of knowledge and practice in the theoretical and conceptual basis of human movement. The goal of the course is to understand the influence of rigid-body mechanics on human movement and how manipulations of mechanical factors alter human movement. The secondary goal is to learn to quantitatively analyze human movement.

Prerequisite(s): BIOL 131 with a minimum grade of C and EXS 311 with a minimum grade of C and EXS 313 with a minimum grade of C and (MATH 116 with a minimum grade of C or MA 116C with a minimum grade of C or MATH 116E with a minimum grade of C or MATH 117 with a minimum grade of C or MATH 136 with a minimum grade of C or MATH 183 with a minimum grade of C) and PHYS 231 with a minimum grade of C

Restriction(s): Students with a semester level of Academy Junior, Academy Senior, Freshman, Junior or Sophomore may **not** enroll.

Enrollment is limited to students in Exercise Science (554)

Recent Term(s) Offered: spring 2022; fall 2022; spring 2023; fall 2023; spring 2024; fall 2024

EXS 455 Exercise and Aging 3 Hours

Designed for students to gain a better understanding of the acute physiological responses and chronic adaptations associated with exercise in the aged population and the role of exercise in the aging process. Specific attention will be given to the mitigating role of exercise in certain diseases and disorders.

Prerequisite(s): (GERO 100 with a minimum grade of C or EXS 311 with a minimum grade of C)

Recent Term(s) Offered: spring 2022; fall 2022; fall 2023; spring 2024

EXS 456 Individual Advanced Studies in Kinesiology 3 Hours

(repeatable max of 6 hrs)

Specific and detailed analysis of practical problem areas in Kinesiology.

Equivalent(s): PE 456

Recent Term(s) Offered: spring 2022; summer 2023; summer 2024

EXS 485 Exercise Science Study Abroad 1-3 Hours (repeatable max of 6 hrs)

An exploration of international offerings pertaining to the study of exercise science and sports medicine. Study abroad courses require travel to various international locations. Specific course offerings will be announced prior to the semester in which travel occurs. Note: Must be in good standing, and obtain approval from the instructor.

Recent Term(s) Offered: None

EXS 496 Internship in Exercise Science 6 Hours

Comprehensive practical experience in a selected Exercise Science environment. Development of practical skills with on-the-job experience. Students will be responsible for their own transportation to designated or assigned sites. Note: A minimum GPA of 2.5 at the time of registration for EXS 496 is required. Liability insurance and current CPR/AED certification are required.

Prerequisite(s): EXS 296 with a minimum grade of C and EXS 412 with a minimum grade of C and EXS 325 with a minimum grade of C

Restriction(s): Enrollment is limited to students in Exercise Science (554)
Recent Term(s) Offered: spring 2022; summer 2022; fall 2022; spring 2023; summer 2023; fall 2023; spring 2024; summer 2024; fall 2024

EXS 498 Capstone Research Experience in Exercise Science 6 Hours

This course is designed to allow students who have a strong interest in the research process, and who intend to pursue graduate studies in exercise physiology or a related discipline, to gain valuable laboratory experience by working directly with an exercise science faculty member on a semester-long research project. Students may take this course in place of completing an internship. Note: A minimum cumulative GPA of 2.5 at the time of registration and permission of instructor required.

Prerequisite(s): EXS 325 and EXS 412

Restriction(s): Students with a semester level of Academy Junior, Academy Senior, Freshman, Junior or Sophomore may **not** enroll.

Enrollment is limited to students in Exercise Science (554)

Recent Term(s) Offered: spring 2022; fall 2022; spring 2023; summer 2023; fall 2024