**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) or Exercise Science-prep (554P)

**Equivalent(s):** PE 122

**Recent Term(s) Offered:** winter 2018; spring 2018; summer 2018; fall 2018; spring 2019; fall 2019; winter 2020; spring 2020; fall 2020

**EXS 223 Introduction to Exercise Science  3 Hours**
Introduction to the different areas of study contained within the field of exercise science. Students will be introduced to the application of exercise science to fitness, health, and disease. They will also be introduced to field and laboratory measurement techniques.

**Restriction(s):** Enrollment is limited to students in Exercise Science (554) or Exercise Science-prep (554P)

**Recent Term(s) Offered:** spring 2018; summer 2018; fall 2018; spring 2019; summer 2019; fall 2019; spring 2020; summer 2020; fall 2020

**EXS 296 Practicum in Exercise  3 Hours**
Work experience in Exercise Science practical settings in progression towards completion of the major. Liability insurance is required. Must be repeated for a maximum of 4 hours taken twice with each practicum experience in a different subfield of Exercise Science.

**Prerequisite(s):** EXS 223 (may be taken concurrently)

**Restriction(s):** Enrollment is limited to students in Exercise Science (554) or Exercise Science-prep (554P)

**Recent Term(s) Offered:** spring 2018; summer 2018; fall 2018; spring 2019; summer 2019; fall 2019; spring 2020; summer 2020; fall 2020

**EXS 310 Kinesiology  3 Hours**
Study of the anatomical, mechanical, and neuromuscular bases of human movement.

**Prerequisite(s):** BIOL 131

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

**Recent Term(s) Offered:** spring 2018; fall 2018; spring 2019; fall 2019; spring 2020; fall 2020

**EXS 311 Physiology of Exercise  3 Hours**
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 or BIO 131C with a minimum grade of C) and EXS 223 (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 2018; spring 2018; summer 2018; fall 2018; spring 2019; summer 2019; fall 2019; winter 2020; spring 2020; fall 2020

**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 (MATH 116E (may be taken concurrently) with a minimum grade of C or MATH 116E (may be taken concurrently) 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 2018; spring 2018; summer 2018; fall 2018; winter 2019; spring 2019; summer 2019; fall 2019; winter 2020; spring 2020; summer 2020; fall 2020

**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) and EXS 223 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 2018; spring 2018; summer 2018; fall 2018; winter 2019; spring 2019; summer 2019; fall 2019; winter 2020; spring 2020; summer 2020; fall 2020

**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)

**Course Fee:** $25

**Recent Term(s) Offered:** spring 2018; summer 2018; fall 2018; spring 2019; summer 2019; fall 2019; winter 2020; spring 2020; fall 2020

**EXS 412 Exercise Testing & Prescription  4 Hours** (repeatable max of 4 hrs)
Study and field experience in developing principles and practices of exercise testing and prescription for the general population and special populations. Students must provide their own transportation to designated or assigned sites.

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

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

**Course Fee:** $20

**Recent Term(s) Offered:** spring 2018; fall 2018; spring 2019; fall 2019; spring 2020; fall 2020
EXS 420 Clinical Exercise Physiology 4 Hours (repeatable max of 4 hrs)
Principles of the clinical aspects of exercise physiology. Focuses primarily on the use of exercise in the treatment and diagnosis of various disease states, screening in risk stratification, and the ability to recognize and respond to emergency procedures. 
Prerequisite(s): EXS 325 with a minimum grade of C
Restriction(s): Enrollment is limited to students in Exercise Science (554)
Course Fee: $50
Recent Term(s) Offered: spring 2018; fall 2018; spring 2019; fall 2019; spring 2020; fall 2020

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 2018; fall 2018; spring 2019; fall 2019; spring 2020; fall 2020

EXS 446 Biomechanics 4 Hours (repeatable max of 4 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 (MATH 116 with a minimum grade of C or MATH 116E with a minimum grade of C or MA 116C 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.
Recent Term(s) Offered: spring 2018; fall 2018; spring 2019; fall 2019; spring 2020; fall 2020

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 223 with a minimum grade of C)
Recent Term(s) Offered: spring 2018; fall 2018; spring 2019; fall 2019; spring 2020; fall 2020

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: None

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.
Prerequisite(s): EXS 296 and EXS 412 (may be taken concurrently)
Restriction(s): Enrollment is limited to students in Exercise Science (554)
Recent Term(s) Offered: spring 2018; summer 2018; fall 2018; spring 2019; summer 2019; fall 2019; spring 2020; summer 2020; fall 2020

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.
Recent Term(s) Offered: spring 2018; fall 2018; spring 2019; spring 2020; summer 2020; fall 2020

EXS 499 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