EXERCISE SCIENCE (EXSC)

EXSC 15003 CAREERS IN HEALTH AND MEDICAL SCIENCES 2 Credit Hours
(Cross-listed with ATTR 15003 and IHS 15003) An overview of the profession of Healthcare and Medical Professional associated including employment opportunities, academic preparation, and clinical preparation. This course will address the qualities and skills required for a comprehensive list of professional opportunities in the healthcare and medical fields with an emphasis on professionalism, cultural competencies, ethics and self care. Students will be required to work with faculty and health care and medical professionals to outline a personalized program to assist in their professional development.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 2 lecture
Grade Mode: Standard Letter

EXSC 23093 VARIABLE TITLE WORKSHOP IN EXERCISE SCIENCE 1-3 Credit Hours
(Repeatable for credit) Workshop to develop mastery and application of knowledge and skills that address issues in exercise science; topics vary. Satisfactory/unsatisfactory (S/U) graded.
Prerequisite: None.
Schedule Type: Workshop
Contact Hours: 1-3 other
Grade Mode: Satisfactory/Unsatisfactory

EXSC 25057 HUMAN ANATOMY AND PHYSIOLOGY I (KBS) (KLAB) 4 Credit Hours
(Cross-listed with ATTR 25057) Comprehensive examination of anatomy and physiology related to the organization of the body and basic cell and tissue types. Specific structure and function of the muscular, skeletal, integumentary, and nervous systems are addressed.
Prerequisite: None.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3 lecture, 2 lab
Grade Mode: Standard Letter
Attributes: Kent Core Basic Sciences, Kent Core Basic Sciences Lab

EXSC 25058 HUMAN ANATOMY AND PHYSIOLOGY II (KBS) (KLAB) 4 Credit Hours
(Cross-listed with ATTR 25058) Comprehensive examination of anatomy and physiology related to the human body under rest and exercise conditions. Specific structure and function of the metabolic, endocrine, lymphatic, digestive, urinary, and reproductive systems are addressed. Advanced coverage of neurological, cardiovascular and respiratory systems are also addressed.
Prerequisite: ATTR 25057 or EXSC 25057 or BSCI 11010 or BSCI 21010.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3 lecture, 2 lab
Grade Mode: Standard Letter
Attributes: Kent Core Basic Sciences, Kent Core Basic Sciences Lab

EXSC 34000 EXERCISE SCIENCE FOR ESPORTS 3 Credit Hours
This course examines topics within the field of exercise science and relates them to esport performance. Topics will include physical activity, sedentary behavior, mental and physical health and exercise physiology. By relating these topics to esports, students will gain an understanding of what may enhance and also diminish esport performance.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

EXSC 35040 PRACTICAL AND APPLIED CONCEPTS OF STRENGTH AND CONDITIONING 3 Credit Hours
(Equivalent to ATTR 35040) This course will discuss the practical and applied concepts related to strength and conditioning. Specifically, the course will focus on how to improve muscle strength, power, speed, agility, endurance, stamina, stability and muscle hypertrophy. Emphasis will be placed on the ability to create and administer safe and effective periodized training programs while ensuring safe and effective techniques fundamental to improvements in athletic performance.
Prerequisite: ATTR 25057 (and ATTR 25058) or BSCI 10020 (and BSCI 11010) or BSCI 21010 or BSCI 21020 or EXSC 25057 (and EXSC 25058).
Corequisite: ATTR 35054 (or EXSC 35054) and ATTR 35080 (or EXSC 35080).
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter

EXSC 35054 BIOMECHANICS 3 Credit Hours
(Cross-listed with ATTR 35054) Anatomical and mechanical bases of human movement. Emphasis is placed on tools and techniques for motion analysis, mechanical concepts, forces and performance analysis. Lecture and laboratory.
Prerequisite: ATTR 25057 or EXSC 25057 or BSCI 11010 or BSCI 21010.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter

EXSC 35068 STATISTICS FOR THE EXERCISE SCIENTIST 3 Credit Hours
Measurement and statistics applied to physical education and exercise/sport sciences; laboratory experiences in statistics test construction and administration and evaluation.
Prerequisite: None.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter

EXSC 35075 EXERCISE PROGRAMMING 3 Credit Hours
Problems and issues in developing exercise programs in institutional and commercial settings.
Prerequisite: ATTR 25057 or EXSC 25057 or BSCI 11010 or BSCI 21010; and ATTR 25058 or EXSC 25058 or BSCI 11020 or BSCI 21020.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter
EXSC 35080  PHYSIOLOGY OF EXERCISE  4 Credit Hours
Response of the human to acute and chronic exercise with emphasis on the underlying physiological mechanisms.
**Prerequisite:** ATTR 25057 or BSCI 11010 or BSCI 21010 or EXSC 25057; and ATTR 25058 or BSCI 11020 or BSCI 21020 or EXSC 25058.
**Schedule Type:** Laboratory, Lecture, Combined Lecture and Lab
**Contact Hours:** 3 lecture, 2 lab
**Grade Mode:** Standard Letter

EXSC 40612  EXERCISE LEADERSHIP FOR THE OLDER ADULT  3 Credit Hours
(Cross-listed with EXPH 50612) Designed to provide students with a knowledge base in exercise leadership in the older adult population, including special populations. Students participate in the leading, supervision and evaluation of participants within the exercise program. The also assist in the collection of functional fitness data.
**Prerequisite:** None.
**Schedule Type:** Workshop
**Contact Hours:** 1-3 lecture
**Grade Mode:** Satisfactory/Unsatisfactory

EXSC 40612  EXERCISE LEADERSHIP FOR THE OLDER ADULT  3 Credit Hours
(Cross-listed with EXPH 50612) Designed to provide students with a knowledge base in exercise leadership in the older adult population, including special populations. Students participate in the leading, supervision and evaluation of participants within the exercise program. The also assist in the collection of functional fitness data.
**Prerequisite:** None.
**Schedule Type:** Workshop
**Contact Hours:** 1-3 lecture
**Grade Mode:** Satisfactory/Unsatisfactory

EXSC 43093  VARIABLE TITLE WORKSHOP IN EXERCISE SCIENCE AND EXERCISE PHYSIOLOGY  1-3 Credit Hours
(Repeatable for credit) (Slashed with EXPH 53093) Workshop in exercise science or physiology, topics vary.
**Prerequisite:** None.
**Schedule Type:** Workshop
**Contact Hours:** 1-3 lecture
**Grade Mode:** Satisfactory/Unsatisfactory

EXSC 40612  EXERCISE LEADERSHIP FOR THE OLDER ADULT  3 Credit Hours
(Cross-listed with EXPH 50612) Designed to provide students with a knowledge base in exercise leadership in the older adult population, including special populations. Students participate in the leading, supervision and evaluation of participants within the exercise program. The also assist in the collection of functional fitness data.
**Prerequisite:** None.
**Schedule Type:** Workshop
**Contact Hours:** 1-3 lecture
**Grade Mode:** Satisfactory/Unsatisfactory

EXSC 43098  RESEARCH IN EXERCISE SCIENCE (ELR)  1-3 Credit Hours
(Repeatable for a maximum of 12 credit hours) Research project completed under the supervision of a faculty member. Written approval of supervising faculty member and School Director required prior to registration.
**Prerequisite:** Special approval.
**Schedule Type:** Research
**Contact Hours:** 3-9 other
**Grade Mode:** Satisfactory/Unsatisfactory-IP
**Attributes:** Experiential Learning Requirement

EXSC 40612  EXERCISE LEADERSHIP FOR THE OLDER ADULT  3 Credit Hours
(Cross-listed with EXPH 50612) Designed to provide students with a knowledge base in exercise leadership in the older adult population, including special populations. Students participate in the leading, supervision and evaluation of participants within the exercise program. The also assist in the collection of functional fitness data.
**Prerequisite:** None.
**Schedule Type:** Workshop
**Contact Hours:** 1-3 lecture
**Grade Mode:** Satisfactory/Unsatisfactory

EXSC 45023  PROFESSIONAL CERTIFICATE PREPARATION  2 Credit Hours
This course is designed to prepare students to take the the National Strength and Conditioning Association Certified Strength and Conditioning Specialist (NSCA CSCS). Material covered will include basic exercise science, training adaptations, and methods of resistance-exercise training.
**Prerequisite:** ATTR 25057 or BSCI 11010 or BSCI 21010 or EXSC 25057; and ATTR 25058 or BSCI 11020 or BSCI 21020 or EXSC 25058; and EXSC 35080; and senior standing.
**Pre/corequisite:** ATTR 35040 and EXSC 45081.
**Schedule Type:** Lecture
**Contact Hours:** 2 lecture
**Grade Mode:** Standard Letter

EXSC 45040  ADVANCED STRENGTH AND CONDITIONING  3 Credit Hours
(Slashed with EXPH 55040) Advanced principles in strength and conditioning. Learn and understand the energy systems, anatomy, physiology and proper lifting technique of strength, speed, agility and conditioning exercises for practical application with athletes.
**Prerequisite:** ATTR 25057 or BSCI 11010 or BSCI 21010 or EXSC 25057; and ATTR 25058 or BSCI 11020 or BSCI 21020 or EXSC 25058; and ATTR 21020; and EXSC 35040; and EXSC 35080.
**Schedule Type:** Lecture
**Contact Hours:** 3 lecture
**Grade Mode:** Standard Letter

EXSC 45065  EXERCISE TESTING  3 Credit Hours
(Cross-listed with EXPH 55065) Lecture and laboratory experiences dealing with the administration and interpretation of exercise tests.
**Prerequisite:** ATTR 25057 or EXSC 25057 or BSCI 11010 or BSCI 21010; and ATTR 25058 or EXSC 25058 or BSCI 11020 or BSCI 21020.
**Schedule Type:** Combined Lecture and Lab
**Contact Hours:** 2 lecture, 2 lab
**Grade Mode:** Standard Letter
**Attributes:** CTAG Exercise Science

EXSC 45070  ELECTROCARDIOGRAPHY FOR THE EXERCISE PHYSIOLOGIST  3 Credit Hours
(Cross-listed with EXPH 55070) Designed to provide students with the knowledge base in electrocardiography. Students work on interpreting the 12-lead electrocardiogram with clinical case studies to enhance the knowledge base of the exercise specialist.
**Prerequisite:** ATTR 25057 or EXSC 25057 or BSCI 11010 or BSCI 21010; and ATTR 25058 or EXSC 25058 or BSCI 11020 or BSCI 21020.
**Schedule Type:** Lecture
**Contact Hours:** 3 lecture
**Grade Mode:** Standard Letter
EXSC 45081  ADVANCED PHYSIOLOGY OF EXERCISE (WIC)  3 Credit Hours
(Slashed with EXPH 45081) This course is designed to provide an augmented understanding of acute and chronic responses to exercise. Focus is placed on understanding the physiological responses at both the systems and the cellular levels. Emphasis is placed on muscle bioenergetics, environmental physiology, ergogenic aids, sex differences, extreme sports, children and adolescents in sport and exercise and a greater understanding of muscle and cardiorespiratory responses to exercise.
Prerequisite: ATTR 25057 (and ATTR 25058) or BSCI 11010 (and BSCI 11020) or BSCI 21010 or BSCI 21020 or EXSC 25057 (and EXSC 25058); and EXSC 35080.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter
Attributes: Writing Intensive Course

EXSC 45096  INDIVIDUAL INVESTIGATION IN EXERCISE SCIENCE (ELR)  1-3 Credit Hours
(Repeatable for a maximum of 6 credit hours) Independent study completed under the supervision of a faculty member. Written approval of supervising faculty member and school director required prior to registration.
Prerequisite: Special approval.
Schedule Type: Individual Investigation
Contact Hours: 3-9 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

EXSC 45480  INTERNSHIP SEMINAR IN EXERCISE SCIENCE  1 Credit Hour
Overview of the internship possibilities that are available for the exercise science major. The American College of Sports Medicine (ACSM) certification workshops and the scope of the practice for the exercise specialist is discussed in detail.
Prerequisite: Special approval.
Schedule Type: Lecture
Contact Hours: 1 lecture
Grade Mode: Standard Letter

EXSC 45492  INTERNSHIP IN PHYSICAL FITNESS AND CARDIAC REHABILITATION (ELR)  1-9 Credit Hours
(Repeatable for a maximum of 9 credit hours) Supervised experience providing practical experience in administration and operation of programs in physical fitness, health enhancement and or cardiac rehabilitation. 45 clock hours per credit hour.
Prerequisite: Special approval.
Schedule Type: Practical Experience
Contact Hours: 3-27 other
Grade Mode: Satisfactory/Unsatisfactory-IP
Attributes: Experiential Learning Requirement

EXSC 46095  SPECIAL TOPICS IN EXERCISE SCIENCE  1-3 Credit Hours
(Repeatable for credit) Selected topics in exercise science dependent upon interest.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 1-3 lecture
Grade Mode: Standard Letter