EXSC 1120. Introduction to Exercise, Fitness, and Health. 4 Hours.
Explores the fundamental role of exercise and fitness in health.
Introduces principles of exercise and various components of fitness
and wellness. Discusses the development of basic exercise prescription
cardiorespiratory endurance, muscular strength, and endurance
and flexibility. Includes discussions on a wide range of research topics,
including advances and innovations in health and fitness and practices
that lead to more healthful living.

EXSC 2991. Research in Exercise Science. 1-4 Hours.
Offers an opportunity to conduct introductory-level research or creative
endeavors under faculty supervision.

EXSC 4500. Exercise Physiology 1. 4 Hours.
Introduces exercise physiology. Covers the muscular, neuromuscular,
cardiovascular, ventilatory, endocrine, and metabolic responses to
acute exercise and the physiological adaptations to chronic exercise
and physical activity. Basic concepts related to physical fitness, body
composition, weight control, and training principles are discussed.

EXSC 4501. Lab for EXSC 4500. 1 Hour.
Accompanies EXSC 4500. Offers experiments in the exercise physiology
laboratory that introduce concepts related to the lecture content of the
course and include techniques such as strength testing, ergometry,
graded exercise testing, indirect calorimetry, and body composition
assessment.

EXSC 4990. Elective. 1-4 Hours.
Offers elective credit for courses taken at other academic institutions.
May be repeated without limit.

EXSC 5200. Cardiopulmonary Physiology. 3 Hours.
Offers students an opportunity to gain an understanding of physiological
principles of the cardiopulmonary system. This advanced course
covers (1) the structure and functional operation and regulation of the
cardiopulmonary system; (2) disease-associated physiological changes
and cardiopulmonary dysfunction; (3) exercise-induced acute responses
and physiological adaptations of the system and their applications to
chronic cardiopulmonary diseases. Encourages students to integrate
their knowledge of exercise and physical activity with cardiopulmonary
health and fitness, as well as cardiopulmonary disease prevention
and treatment. Restricted to graduate students in exercise science and
undergraduate students minoring in exercise science.

EXSC 5210. Physical Activity and Exercise: Prescription, Measurement,
and Testing. 3 Hours.
Studies the general principles of physical activity and exercise
prescription, measurement, and testing. Offers students an opportunity
to learn the fundamental concepts and techniques to measure physical
activity, exercise, and related testing procedures through a hands-on
approach. Topics include the use of questionnaires and activity monitors
to measure physical activity; measurement of body composition, fitness,
muscular strength, and endurance; and clinical exercise testing. The
fundamental concepts of exercise prescription and use of measurement
techniques taught in this course are applicable to careers in physical
therapy, exercise physiology, and as a physician assistant. Requires
prior completion of EXSC 4500 or equivalent undergraduate course or
permission of instructor.

EXSC 5220. Advanced Exercise Physiology. 3 Hours.
Covers the advanced study of concepts, principles, and research in
the field of exercise physiology. Discusses advanced concepts in the
muscular/neuromuscular, cardiovascular, ventilatory, endocrine, and
metabolic responses to exercise and exercise training. Specific study of
the physiological control mechanisms regulating these systems are also
addressed during periods of rest, acute exercise, and following chronic
exercise training.

EXSC 5230. Physical Activity and Exercise: Effects on Musculoskeletal
Health and Disease. 3 Hours.
Seeks to provide a foundation for understanding the benefits of physical
activity and exercise and the detrimental effects of physical inactivity
and sedentary behavior on musculoskeletal health. Studies the function/
dysfunction of the musculoskeletal systems resulting in common/
uncommon disorders and the prevalence, etiology, and benefits of
physical activity/exercise. Students apply previously learned exercise
physiology principles, such as exercise prescription and neural and
motor control adaptations, to physical activity and exercise. Discusses
key physiological mechanisms underlying common/uncommon
musculoskeletal disorders. Examines the preventive and beneficial
effects of physical activity and exercise endorsed by the American
College of Sports Medicine. Restricted to graduate students in exercise
science and to undergraduate students minoring in exercise science.

EXSC 5976. Directed Study. 1-4 Hours.
Offers independent course work under the direction of members of the
department on chosen topics. Requires submission of a written proposal
to the program adviser prior to the intended semester. May be repeated
without limit.

EXSC 5978. Independent Study. 1-4 Hours.
Offers independent work under the direction of members of the
department on a chosen topic. Course content depends on instructor.
May be repeated without limit.

EXSC 6202. Electrocardiography, Clinical Assessment, and Prescription.
3 Hours.
Focuses on the identification and management of chronic diseases.
Offers students an opportunity to learn skills to interpret EKGs. Topics
include cardiac electrophysiology, lead systems, dysrhythmia recognition
and treatment, axis, infarction, ischemia, hypertrophy, and the effects of
cardiovascular drugs and exercise on the EKG. Through case studies,
students interpret exercise test results, prescribe exercise, and evaluate
exercise programs for clinical conditions such as cardiovascular disease,
pulmonary conditions, and metabolic diseases.

EXSC 6300. Internship in Exercise Science. 3 Hours.
Offers students an opportunity to obtain practical experience and
to synthesize, integrate, and apply skills and knowledge learned in
the exercise science curriculum in a professional environment. Field
experiences are an important part of graduate education programs in
exercise science. The student is expected to complete a minimum of 300
hours of supervised experience in a research or practice setting. May be
repeated once.
EXSC 6400. Applied Research Methods. 3 Hours.
Studies how to conduct scientific research in exercise science. Offers students an opportunity to propose a research project and design appropriate methodology to complete the project. Includes discussions on developing research hypotheses, comparing study designs, selecting appropriate statistical analyses, and managing data collection. Incorporates interpretation of published research to support the proposed research. Students present their own research plans through scientific writing.

EXSC 6962. Elective. 1-4 Hours.
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

EXSC 6999. Internship Continuation. 0 Hours.
Continues clinical requirements.

EXSC 7990. Thesis 1. 3 Hours.
Provides initiation to scholarly investigation. Requires students to submit a written research proposal, which includes the first three chapters of the thesis (introduction, review of literature, and methods and procedures) for approval by a thesis committee and to present an oral proposal at a seminar. May be repeated once.

EXSC 7991. Thesis 2. 3 Hours.
Continues EXSC 7990.