EXSC 403. Lifetime Fitness and Wellness. 3 Credits.
The focus of this course is on a positive healthy lifestyle designed to enhance the current and future quality of life. Topics include: proper exercise programs, healthful nutrition, stress management techniques, and avoidance of high-risk health behaviors in order to reduce disease risk and promote healthful aging. Various laboratory assessments are used to identify health status and recommend remedial approaches. Prerequisites: Junior standing.

EXSC 408/508. Nutrition for Fitness and Sport. 3 Credits.
Emphasizes the role of nutrition as a means to enhance health and performance in sport. Topics covered include energy metabolism and nutrients, regulation of metabolism by vitamins and minerals, and weight control. Prerequisites: BIOL 240 or BIOL 250, BIOL 241 or BIOL 251, CHEM 121N and CHEM 122N with a C or better; MATH 102M or higher with a C or better.

EXSC 415/515. Exercise Testing for Normal and Special Populations. 4 Credits.
The application of different methodologies in the measurement of physiologic responses to exercise. Emphasis is placed on understanding American College of Sports Medicine guidelines, appropriate experimental techniques, and equipment necessary to evaluate changes in body composition and various metabolic, cardiovascular, and respiratory adjustments during exercise. Prerequisites: BIOL 240 or BIOL 250 AND MATH 102M or higher with a C or better; EXSC 526.

EXSC 417W/517. Biomechanics. 4 Credits.
Application of physical laws and mechanical principles to the human musculoskeletal system. (This is a writing intensive course.) Prerequisites: BIOL 240 or BIOL 250, PHYS 111N and MATH 102M or higher with a C or better; ENGL 110C and ENGL 211C or ENGL 221C or ENGL 231C with a grade of C or better.

EXSC 420. Research Methods in Exercise Science. 3 Credits.
Introduction to the scientific method applied to exercise science research including bioethics, review of the literature, research design, data collection, appropriate statistical analysis, research writing, and peer review. Prerequisites: BIOL 240 or BIOL 250 and MATH 102M or higher with a C or better; STAT 130M.

EXSC 428/528. Exercise Prescription for Chronic Disease. 3 Credits.
A study of pathophysiology of common diseases with concentration in the design, implementation and administration of exercise prescription for a variety of chronic diseases. Prerequisites: BIOL 240 or BIOL 250 AND MATH 102M or higher with a C or better; EXSC 526.

EXSC 431W/531. Wellness Programming and Administration. 3 Credits.
This course provides an introduction to the principles of administration and implementation of fitness and wellness programs to individuals, groups, centers, and corporate settings. Prerequisites: BIOL 240 or BIOL 250, MATH 102M or MATH 103M or MATH 162M, and ENGL 211C or ENGL 221C or ENGL 231C with a C or better.

EXSC 508. Nutrition for Fitness and Sport. 3 Credits.
Emphasizes the role of nutrition as a means to enhance health and performance in sport. Topics covered include energy metabolism and nutrients, regulation of metabolism by vitamins and minerals, and weight control.

EXSC 515. Exercise Testing for Normal and Special Populations. 4 Credits.
The application of different methodologies in the measurement of physiologic responses to exercise. Emphasis is placed on understanding American College of Sports Medicine guidelines, appropriate experimental techniques, and equipment necessary to evaluate changes in body composition and various metabolic, cardiovascular, and respiratory adjustments during exercise.

EXSC 517. Biomechanics. 4 Credits.
Application of physical laws and mechanical principles to the human musculoskeletal system. Prerequisites: BIOL 250, PHYS 111N and MATH 102M or higher with a C or better; ENGL 110C and ENGL 211C or ENGL 221C or ENGL 231C with a grade of C or better.
EXSC 528. Exercise Prescription for Chronic Disease. 3 Credits.
A study of pathophysiology of common diseases with concentration in the design, implementation and administration of exercise prescription for a variety of chronic diseases.

EXSC 531. Wellness Programming and Administration. 3 Credits.
An introduction to the principles of administration and implementation of fitness and wellness programs to individuals, groups, centers and corporate settings.

EXSC 621. Strength and Conditioning Applications. 3 Credits.
A study of the principles and techniques utilized in optimizing physical performance and reducing injury through proper and effective strength and conditioning programs. Special emphasis will be placed on current research findings, breakthrough techniques and advanced weight training techniques, and popular conditioning practices.

EXSC 630. Exercise Physiology. 3 Credits.
Review of current physiological literature related to muscular exercise including the cardiovascular-respiratory system, metabolic effects of exercise, neuromuscular relationships, and the effects of training or diet, environment, ergogenic aids, temperature, attitude, and other factors on performance and health. Prerequisite: EXSC 509 or equivalent.

EXSC 636. Research Problems in Exercise Science. 3 Credits.
Practice in the use of statistical and analytical techniques in solving problems in exercise science; supervised student research.

EXSC 642. Clinical Exercise Testing and Prescription. 3 Credits.
Principles of diagnostic exercise assessment, cardiovascular physiology, electrocardiography, ACSM guidelines to exercise testing and prescription for symptomatic and asymptomatic populations. Prerequisite: HMS 630 or EXSC 630.

EXSC 661. Nutrition for Sports and Health. 3 Credits.
This course is an in-depth analysis of the role of nutrition in health and human physical and athletic performance. General areas covered include the role of the six major classes of nutrients in health and sport, physiologic and metabolic interrelationships, malnutrition, nutrition in growing and aging, and diet and nutrition in the prevention of disease.

EXSC 668. Internship in Exercise Science. 1-6 Credits.
Designed to provide detailed practical experience (400 clock hours) in an exercise science field setting. Prerequisite: completion of 75% of graduate work.

EXSC 695. Topics in Exercise Science. 1-3 Credits.
Selected topic courses in exercise science and wellness.

EXSC 697. Independent Study in Exercise Science. 1-3 Credits.
Investigations in exercise science. Problems approved in advance are investigated under the supervision of the faculty advisor.

EXSC 698. Thesis Research in Exercise Science. 3-6 Credits.
Master's level thesis research in topics related to Exercise Science. Prerequisite: permission of the advisor and committee.

EXSC 699. Thesis in Exercise Science. 3-6 Credits.
Preparation and writing of the master's thesis. Prerequisite: Permission of the advisor and committee.

EXSC 727. Advanced Biomechanics. 3 Credits.
Study of the relationships among mechanics, energetics and control of human movement. Emphasis will be placed on the application of mechanical concepts in biomechanics research. Prerequisite: EXSC 417W or EXSC 517.

EXSC 730. Advanced Cardiovascular Exercise Physiology. 3 Credits.
A study of the physiology and pathophysiology of the cardiovascular system. Effects of exercise on the system will also be discussed. Prerequisite: EXSC 630.

EXSC 738. Exercise Endocrinology. 3 Credits.
This course will focus on the endocrine responses to acute and chronic exercise and how neuroendocrine function relates to health and athletic performance. Emphasis is placed on the role of the endocrine system in regulating substrate utilization during exercise, energy balance, skeletal muscle plasticity, reproductive function, and the aging process. Prerequisite: EXSC 630.

EXSC 827. Advanced Biomechanics. 3 Credits.
Study of the relationships among mechanics, energetics and control of human movement. Emphasis will be placed on the application of mechanical concepts in biomechanics research. Prerequisite: EXSC 417W or EXSC 517.

EXSC 830. Advanced Cardiovascular Exercise Physiology. 3 Credits.
A study of the physiology and pathophysiology of the cardiovascular system. Effects of exercise on the system will also be discussed. Prerequisite: EXSC 630.

EXSC 838. Exercise Endocrinology. 3 Credits.
This course will focus on the endocrine responses to acute and chronic exercise and how neuroendocrine function relates to health and athletic performance. Emphasis is placed on the role of the endocrine system in regulating substrate utilization during exercise, energy balance, skeletal muscle plasticity, reproductive function, and the aging process. Prerequisite: EXSC 630.

EXSC 999. Doctoral Graduate Credit. 1 Credit.
This course is a pass/fail course doctoral students may take to maintain active status after successfully passing the candidacy examination. All doctoral students are required to be registered for at least one graduate credit hour every semester until their graduation.