EXERCISE & SPORT PHYSIOLOGY (EX)

EX 5210 Advanced Exercise Physiology (3)
Provides an intensive study of exercise physiology with a focus on the cardiovascular and metabolic systems. Emphasis is placed on the acute and chronic effects of exercise on myocardial function and the energy pathways. Falls.
Prerequisite(s): EX 3580, EX 3750, and CH 2335 or permission of instructor.
Corequisite(s): EX 5220.

EX 5220 Advanced Exercise Physiology Laboratory (1)
Provides an in-depth study of and hands-on experience with laboratory measurement techniques used in exercise physiology research. Students learn how to operate, calibrate, and care for all relevant instruments. Falls.
Prerequisite(s): EX 3580, EX 3750, and CH 2335 or permission of instructor.
Corequisite(s): EX 5210.

EX 5310 Research Methods in Exercise Science (3)
Introduces students to concepts, design, and interpretation of research in exercise science. Emphasis is placed on the process of research writing. Focuses on critical review of the literature and the development of a research proposal. Falls.
Prerequisite(s): Enrollment in MS in Applied Ex Phys and Human Performance or 3+2.

EX 5410 Applied Research in Exercise Science (4)
Students participate in the research process including the development of a research proposal, subject recruitment, collection of relevant data, statistical analysis, and completion of the manuscript for potential submission to a peer-reviewed journal. Students design a poster presentation for submission to a professional conference. Springs.
Prerequisite(s): EX 5310 Research Methods in Exercise Science, ESP majors only.

EX 5500 Graduate Seminar in Exercise Science (3)
Students will be given the opportunity to discuss and critique research in exercise physiology and physical activity and health. Students will critically evaluate topics within the field of exercise physiology through research, literature, and media. Through discussion of readings and research ideas, students will develop ideas for future research projects and meaningful practicum experiences. Pass/No Pass. Falls.

EX 5520 Advanced Exercise Testing & ECG (4)
Students will obtain skills and knowledge to conduct fitness assessments for healthy and clinical populations. Students will learn how to analyze and interpret graded exercise tests and will increase proficiency in basic concepts of electrocardiography for healthy and clinical populations. Students will learn how to use electrocardiography for the prevention, diagnosis, and rehabilitation of cardiovascular disease. Springs.

EX 5610 Advanced Strength and Conditioning (4)
This course is designed to develop advanced knowledge in human performance. By critically evaluating the literature on strength and conditioning, students will explore the history of the field, examine various training methodologies, understand applied bioenergetics and sports nutrition, apply advanced exercise prescription for athletic development, and coach proper exercise technique. There is a lab and lecture component. Falls.

EX 5620 Behavioral Intervention Strategies (4)
This course is designed to help students understand and discuss the behavioral and psychological factors associated with the promotion of physical activity. Students will apply behavioral intervention strategies over multiple populations to promote physical activity. Research-based interventions as well as theoretical frameworks for improving physical activity will be thoroughly studied in the course. Falls.

EX 5700 Advanced Practicum in Exercise Science I (4)
This advanced practicum is designed to introduce the graduate student to a variety of opportunities to expand their knowledge of the profession. The practicum coordination, content, and requirements are determined by the student's advisor. Pass/No Pass. Springs.

EX 5730 Advanced Topics in Exercise Physiology (4)
Advanced study of the acute and chronic responses to exercise. Topics will include cardiopulmonary, neuromuscular, and environmental physiology. The course will have both laboratory and lecture components. Springs.

EX 5840 Exercise Biochemistry & Sports Nutrition (4)
Students will gain an understanding of how physical activity influences humans at the molecular level. Students will critically evaluate current literature including bioenergetics of muscular activity, recovery from exercise, and the biochemical basis for muscular fatigue. Students will utilize a scientific basis for sports nutrition recommendations using current literature to understand guidelines for developing plans to support athletic performance. Springs.

EX 5920 Exercise Physiology in Clinical Populations (4)
Provides an extensive study of the pathophysiology of certain diseases as well as conditions that predispose individuals to disease. Special emphasis is on the role of exercise to fight disease. Springs.

EX 6100 Advanced Practicum in Exercise Science II (3-6)
This advanced practicum is designed to provide the graduate student a variety of opportunities to expand their knowledge of the profession. The practicum coordination, content, and requirements are determined by the student's advisor. Repeatable for a maximum of two enrollments and 12 credits. Pass/No Pass. Falls and Springs.
Prerequisite(s): EX 5700.

EX 6200 Graduate Thesis in Exercise Science (3-6)
Students select a topic for study in consultation with their program advisor and related faculty. A time line, thesis proposal and defense are outlined. Two copies of the thesis must be submitted to Lamson Library; bound copies are presented to the thesis committee. Students will be required to enroll in EX 6200 Thesis every term until thesis is complete. Pass/No Pass. Falls and Springs.