EXERCISE AND SPORT SCIENCE (ESS)

ESS 600. Advanced Statistics. (3 Credits)
Statistical tools for scientific research, including parametric and non-parametric methods for ANOVA and group comparisons, simple linear and multiple linear regression. Emphasis placed on the use of dedicated statistical software.

ESS 601. Quantitative Research Methods. (3 Credits)
Research design and methodology in environmental exercise physiology.

ESS 605. Exercise and Sport Science Testing and Instrumentation-Lab. (3 Credits)
Techniques of in-lab exercise testing and result interpretation in healthy and/or diseased populations.

ESS 606. Exercise and Sport Science Testing and Instrumentation-Field. (3 Credits)
Techniques of field-based exercise testing and result interpretation in healthy and/or diseased populations.

ESS 612. Exercise Biochemistry. (3 Credits)
Provides advanced content on research-based findings of how exercise alters biochemical function in skeletal muscle, the liver and adipose tissue. Prerequisite: HAEP graduate standing.

ESS 620. Navigating Post-Graduation. (1 Credit)
Prepare for work attainment post-graduation. Skills include, resume writing, cover letters, performing job searches, networking and interviewing (live, phone and video).

ESS 630. Clinical Exercise Physiology. (3 Credits)
Physiological study of acute and chronic responses to exercise in diseased populations.

ESS 640. Environmental Exercise Physiology I. (3 Credits)
Principles of exercise physiology in extreme environmental conditions including extreme temperatures, hyper- and hypobarometric pressure, air pollution, sleep deprivation, and zero gravity. Healthy and diseased populations are studied.

ESS 641. Environmental Exercise Physiology II. (3 Credits)
Advanced research and principles of exercise physiology in extreme environmental conditions including extreme temperatures, hyper- and hypobarometric pressure, air pollution, sleep deprivation, and zero gravity. Healthy and diseased populations are studied. Prerequisite: ESS 640.

ESS 660. Health Promotion. (3 Credits)
Development of skills in health promotion program design, implementation and evaluation. Specific emphasis may be placed on healthy and diseased populations in extreme environments.

ESS 675. Clinical Exercise Programming-Lab. (3 Credits)
Role of exercise/physical activity in the prevention, pathophysiology and treatment of chronic diseases. Hands on clinical exercising programming experiences.

ESS 685. Cardiopulmonary Physiology. (3 Credits)
A foundation course that covers 1) the structure and function of the cardiopulmonary systems; 2) exercise-related physiological changes of the cardiopulmonary system and their applications to exercise training; and 3) pathophysiological changes secondary to cardiopulmonary dysfunction and their effects on function.

ESS 692. Independent Study. (1-3 Credits)
Advanced study for students with specialized interest in a particular area of environmental exercise physiology. Prerequisite: advisor permission.

ESS 695. THESIS. (1-9 Credits)
Independent research project, supervised by academic advisor. Over two semesters, students take 3-6 credits of thesis each semester to meet the 9 credit minimum requirement. If, at the end of the chosen two semesters the thesis is not defended, the student must continuously enroll in 1 credit until successful thesis defense. Prerequisite: second year standing.

ESS 696. Research. (1-6 Credits)
High Altitude Performance Lab research supervised by HAEP faculty that falls outside the purview of Master of Science thesis work.

ESS 699. Practicum/Internship. (1-6 Credits)
An opportunity for in-depth work at a site in the area of academic concentration. The experiences must meet standards of the department and the University. Prerequisite: advisor permission.