MS in Nutrition and Exercise Physiology with Emphasis in Exercise Physiology

About the Program
The graduate program in Nutrition and Exercise Physiology is designed to provide advanced training in both the basic and applied aspects of exercise, physical activity and physical inactivity. Currently, the research focus is to examine the mechanisms by which physical activity levels and/or exercise modulate risk and development of obesity, type 2 diabetes, and overall metabolic and cardiovascular diseases using both animal models and human subjects, and to be able to translate the findings into the clinical or applied setting. Graduate students will receive training in laboratory research, seminar preparation, scientific writing, problem solving and grant writing. Graduate studies at the University of Missouri offer the advantage of interdisciplinary exercise research that is facilitated by numerous collaborations at the many research centers at MU. In addition, the Exercise Physiology research program collaborates closely with other units on campus including the Department of Biomedical Sciences in the Vet School, and the Departments of Internal Medicine and Medical Pharmacology and Physiology in the School of Medicine among others.

Exercise physiology faculty seek to develop new knowledge in the area of exercise training, exercise metabolism, and obesity. The current focus of the program is physical inactivity, exercise and nutrition strategies for weight management and the prevention of lifestyle related diseases. The mission of the Exercise Physiology Graduate Program is to train graduate students who will provide professional leadership and research developments in areas of human health and sports conditioning.

The curriculum has a scientific basis with core courses in exercise physiology, nutrition, biochemistry, and physiology. Exercise physiology research emphasizes human studies, but other exercise models are available on campus, including the pig (Vet. Biomedical Sci.) and the rat (Medical School and VA).

Degree Requirements
Students in Nutrition and Exercise Physiology emphasis will choose between two options for final completion: thesis or internship. The course curriculum will be the same for both options. Students will complete a minimum of 36 credits of graduate coursework beyond the bachelor’s degree. For a full explanation of the thesis/non-thesis options, see section below on Thesis/Non-Thesis Requirements (p. 1) or view the information on the programs website: http://ns.missouri.edu/exphyma.html.

Prerequisites courses for the program are a B or better in General Chemistry, Physiology, Human Anatomy, Kinesiology and Physiology of Exercise. Biochemistry, Organic Chemistry and Nutrition are recommended.

Required Graduate Courses
ESC_PS 8850 Quantitative Foundations in Educational Research 3
NEP 7001 Topics in Nutritional Science and Exercise Physiology (Exercise Endocrinology ) 3

Must take a minimum of 2 of the following courses:
NEP 7340 Human Nutrition II Lecture (biochem. prereq.) 3
NEP 8030 Etiology of Obesity 3
NEP 8870/MPP 9431 Exercise Metabolism 3
V_BSCI 9435 Molecular Exercise Biology 3
Suggested Electives (other classes may be accepted)
NEP 7200 Sports Performance and Conditioning 3
NEP 7970 Sports Nutrition 2
NEP 7500 Research in Nutritional Sciences and Exercise Physiology 3
NEP 8340 Nutrition in Human Health 3
BIOCHM 7270 Biochemistry 3

Select to give 36 hours total

Thesis/Non-Thesis Requirements
1. Internship Option
This option is oriented toward improving a practitioner’s professional proficiency in the applied aspects of exercise physiology. The program of study will include courses and learning experiences that will develop the student’s knowledge in the theoretical aspects of exercise physiology. They will be required to complete an approved internship (300 hours minimum) which will provide them with experience in an applied or clinical setting. The student is responsible for identifying and securing the internship. Students selecting this option will graduate with the same preparation for credentialing from organizations including the American College of Sports Medicine (ACSM) and the National Strength and Conditioning Association (NSCA). Completion of this degree as well as obtaining certification will prepare students for careers such as registered clinical exercise physiologists, strength and conditioning coaching, personal trainer or wellness coach, health/fitness instructor, as well as in other health professions.

2. Thesis Option
This option is research-oriented, focusing on designing and conducting research in exercise physiology. The program of study will include courses and learning experiences that will maximize a student’s progress in developing lab skills and critical thinking that will enable the student to continue his/her education in a research-oriented area. The thesis option requires a minimum of 36 hours of graduate credit. A written thesis, based upon original research, that is the student’s own work and that demonstrates a capacity for research and independent thought is
required. In addition, the graduate student must present their thesis research in a seminar that is open to the general faculty and successfully defend their thesis to their committee.

Admissions

Exercise Physiology Program Applicants must have a 3.0 undergraduate GPA and competitive GRE scores to apply. TOEFL scores are required from international applicants. Entering MS students are expected to have a B or better in undergraduate training in biology, chemistry, anatomy/physiology, and exercise physiology. It is also advantageous to have nutrition, biochemistry and organic chemistry, but not required. Courses should be taken at an accredited institution.

Applications to our graduate programs should be submitted by December 30th. While applications received after that date will still be considered, there is no guarantee that we will have space for additional students. Admission at the beginning of spring semester is possible, but limited.

Minimum TOFEL Scores

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Minimum GRE Scores

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Complete instructions on the application process can be found on the programs website: http://ns.missouri.edu/graduate_apply.html