

# 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. 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 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.

The curriculum has a scientific basis with core courses in exercise physiology, nutrition, biochemistry, and physiology. Exercise physiology research emphasizes human studies as well as other exercise models, including the pig and the rat.

## Degree Requirements

Master's students in Nutrition and Exercise Physiology emphasis will choose between two options for final completion: thesis or internship.

Students should indicate their preference on their application to the program. The course curriculum will be the same for both options, except for the thesis or internship. 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 or view the information on the programs website: <https://nep.missouri.edu/degrees/ms-exercise-physiology/>.

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

### Required Graduate Courses

ESC_PS 7170	Introduction to Applied Statistics (or an equivalent statistics class)	3
NEP 7500	Research in Nutritional Sciences and Exercise Physiology ( mandatory for thesis track; optional for internship track)	3

NEP 8087	Masters Seminar in Nutritional Sciences and Exercise Physiology	1
NEP 8090	Masters Research in Nutritional Sciences and Exercise Physiology	4
or NEP 8095	Internship in Exercise Physiology	
NEP 8125	Preventive and Therapeutic Exercise Physiology	3
NEP 8127	Advanced Physiological Assessment and Exercise Prescription	3
NEP 8220	Cardiovascular Disease and Exercise	3
NEP 8850	Advanced Exercise Physiology	3
NEP 8860	Exercise Endocrinology	3

### Must take a minimum of 2 of the following courses:

NEP 8030	Etiology of Obesity	3
NEP 7970	PANHP Capstone: Sports Nutrition	3
NEP 7340	Human Nutrition II Lecture	3
NEP 8340	Nutrition in Human Health	3

### Suggested Electives (other classes may be accepted)

BIOCHM 7270	Biochemistry	3
NEP 7200	Sports Performance and Conditioning	3
NEP 7500	Research in Nutritional Sciences and Exercise Physiology	3
NEP 8870	Exercise Metabolism	3
V_BSCI 9435	Molecular Exercise Biology	3

A public health certificate can be obtained if the 4 electives are taken in Public Health (NEP 8340 counts as one of these courses). Other certificates could also possibly work with this masters program.

## Thesis/Non-Thesis Requirements

### 1. Non-Thesis/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 some 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. The program of study can be complimented with a certificate of public health.

### 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 their 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. *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, organic chemistry and biochemistry, as it helps students in their required coursework. Courses should be taken at an accredited institution.

Applications to our graduate programs should be **submitted by February 15th**. 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

Internet-based test (iBT)	Paper-based test (PBT)
100	600

## Minimum GRE Scores - the department is no longer requiring the GRE

Complete instructions on the application process can be found on the programs website: NEP MS graduate program (<https://cafnr.missouri.edu/academics/degrees-programs/nutrition-and-exercise-physiology-graduate-studies/>)