Mizzou
University of Missouri

PhD in Nutrition and Exercise Physiology with Emphasis in Nutrition

About the Program

The PhD in Nutrition and Exercise Physiology with Emphasis in Nutrition provides training in the distinct core nutrition knowledge described by the Graduate Nutrition Education Committee of the American Society for Nutrition: general research skills; structure and biochemical and metabolic functions of nutrients and other dietary constituents; food, diets, and supplements; nutritional status assessment; nutrition and disease; nutrition interventions and policies; and, analytical skills. Graduate students also receive training in laboratory research, seminar preparation and delivery, scientific writing, problem solving and research grant writing. Graduate study in nutritional sciences at the University of Missouri offers the advantage of interdisciplinary nutrition research that is facilitated via the many research centers at MU, including Food for the 21st Century (F21C), the Botanical Center, the Life Sciences Center and the MU Nutritional Center for Health (MUNCH).

Nutrition is, by definition, an applied and multi-disciplinary science that integrates other disciplines such as biochemistry, physiology, biology, psychology, sociology, and economics. A primary research focus in the department of Nutrition and Exercise Physiology is the role of diet in the prevention and treatment of chronic diseases that are prevalent in the United States today: obesity, the metabolic syndrome, diabetes, immune disorders, neurodegenerative diseases, and osteoporosis. Specific dietary components being studied for their role in human health include protein, calcium, vitamin D, copper, iron and nutraceuticals. Another important research area is the determinants of eating behavior, including neuro-psychological, sociologic, and economic factors. Investigative approaches include epidemiology, clinical trials, human studies, experimental and transgenic animal models, and cultured cell models.

Degree Requirements

A total of 75 hours beyond the bachelor's degree, including but not limited to courses from the emphasis areas are required; courses from the Masters degree may be counted at the discretion of the student's committee. At least 15 of the 75 hours must be at the 8000/9000 level (exclusive of research, problems and independent study experiences).

Graduate students may elect to take suggested courses from the following focus areas:
Human/Clinical Nutrition
Public Health Nutrition
Behavioral Science
Food Science
Biochemistry/Cell Physiology
A list of possible courses that fall within these areas can be found on the department website: https://nep.missouri.edu/degrees/phd-nutrition-exercise-physiology/.

Required Core Courses		
NEP 7340	Human Nutrition II Lecture	3
NEP 8310	Nutritional Biochemistry of Lipids	3
NEP 8340	Nutrition in Human Health	3
NEP 8501	Hot Topics in Nutrition, Exercise and Disease (must earn a minimum of 3 credits)	1
NEP 8870	Exercise Metabolism	3
NEP 9087	Doctorate Seminar in Nutritional Sciences and Exercise Physiology (4 credits needed)	1
NEP 9090	Doctorate Research in Nutritional Sciences and Exercise Physiology	12
BIOCHM 7270 & BIOCHM 7272	Biochemistry and Biochemistry	6
Research Ethics (select 1-2 hours)		
BIOCHM 8060	Ethical Conduct of Research	1
BIO_SC 8060	Ethical Conduct of Research	1
MPP 8415	Responsible Conduct of Research thru Engagement, Enactment and Empowerment NIH and other Federal Age	2
V_PBIO 8641	Introduction to Research Ethics	1
Statistics (pick two courses)		
ESC_PS 7170	Introduction to Applied Statistics	3
ESC_PS 8850	Quantitative Foundations in Educational Research	3
ESC_PS 9650	Application of Multivariate Analysis in Educational Research	3
STAT 7070	Statistical Methods for Research	3
STAT 7510	Applied Statistical Models I	3
STAT 7520	Applied Statistical Models II	3
STAT 7540	Experimental Design	3
Research Methods and Techniques		
NEP 7500	Research in Nutritional Sciences and Exercise Physiology	1-99
Possible Electives		
AN_SCI 8420	Endocrinology	3
BIOCHM 8432	Enzymology and Metabolic Regulation	3
F_C_MD 8420	Principles of Epidemiology	3
F_S 8440	Functional Foods and Nutraceuticals	3
NEP 7970	PANHP Capstone: Sports Nutrition	3
NEP 8030	Etiology of Obesity	3
SOC_WK 7330	Addiction Treatment and Prevention	3
V_PBIO 8451	Introduction to Immunology	3
V_PBIO 8455	Epidemiology and Biostatistics	3

Sample Plan of Study

Because students in the PhD program are from a wide variety of circumstances, and pursue the PhD at different paces, a sample plan of study is not easily produced. Students are encourage to work out their plan of study with their advisor.

Qualifying Process

Nutrition Applicants must pass a Qualifying Exam before a student is officially admitted to the doctoral program. The Qualifying Exam should be completed by the end of the second semester (D1 form should be filed with the Graduate School). The Qualifying Exam consists of a knowledge-based written exam and an oral exam.

Comprehensive Examination Process

A doctoral student must successfully complete the comprehensive examination within a period of three (3) years beginning with the first semester of enrollment as a PhD student. In addition, the program for the doctoral degree must be completed within three (3) years of passing the comprehensive examination. Time spent in the armed services will not count toward the six (6)-year limit (See Graduate School Active Duty Policy). For any extension of either of these time limitations, the student must petition their faculty advisor/mentor and the academic program's director of graduate studies in writing during the semester prior to reaching the time limitation. The director of graduate studies will notify the advisor in writing of the decision. The two sections of the examination must be completed within one month. A report of this decision (pdf) (http://gradschool.missouri.edu/forms-downloads/repository/d3.pdf), carrying the signatures of all members of the committee, must be sent to the Graduate School and the student no later than two weeks after the comprehensive examination is completed.

Dissertation Requirements

The dissertation must be written on a subject approved by the candidate's doctoral program committee, must embody the results of original and significant investigation and must be the candidate's own work. All dissertation defenses shall be open to the general faculty. For the dissertation to be successfully defended, the student's doctoral committee must vote to pass the student on the defense with no more than one dissenting or abstaining vote.

Admissions

Applicants are required to meet two sets of minimum qualifications for admission: the requirements of the PhD in Nutrition and Exercise Physiology-Nutrition emphasis (https://nep.missouri.edu/degrees/phd-nutrition-exercise-physiology/) and the minimum requirements of the Graduate School (https://gradschool.missouri.edu/admissions/eligibility-process/). Before official admission to the University of Missouri, your application materials will be reviewed by both the Graduate School and the degree program to which you applied. Specific information can be found on the department website.

Nutritional Program PhD Applicants are expected to have undergraduate training (lecture and laboratory courses) in general and organic chemistry and biology, a two-semester course in biochemistry, and an upper-level human nutrition course. They must have an average of B or better in science courses (chemistry, biology, physics, biochemistry, mathematics, etc.) taken at an accredited institution. TOEFL scores are required for all international applicants.

At this time, the program does not accept students into the doctoral program without a master's degree. A student without a master's degree who would like to pursue a doctoral degree must apply to the master's graduate program. Once accepted into the master's program it is possible to apply and transfer to the doctoral program after the first year of graduate study. Specified criteria must be met for the transfer to be approved by the Nutritional Sciences Graduate Admissions Committee. Please contact the department for more information on this subject.

Deadline for Applications is December 30th. While applications received after that date will still be considered, they will not be eligible for all fellowships.

Minimum TOEFL Scores

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

GRE Scores - the department is no longer requiring GRE scores

Complete instructions for applying to the program can be found on the programs website: Nutrition and Exercise Physiology grad studies (https://cafnr.missouri.edu/academics/degrees-programs/nutrition-and-exercise-physiology-graduate-studies/)