PhD in Nutrition Area Program

About the Program

The Nutrition Area Program 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, omega-3 fatty acids, 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

Required Courses

- AN_SCI 9442 Vitamins and Minerals 4
- BIOCHM 7270 Biochemistry 3
- BIOCHM 7272 Biochemistry 3
- NEP 7340 Human Nutrition II Lecture 3
- NEP 8310 Nutritional Biochemistry of Lipids 3
- NEP 8340 Nutrition in Human Health 3
- NEP 9087 Doctorate Seminar in Nutritional Sciences and Exercise Physiology (1hr/semester; must present twice) 4
- NEP 9090 Doctorate Research in Nutritional Sciences and Exercise Physiology 6

Statistics (6 hours of credit required), possible courses include:

- STAT 7070 Statistical Methods for Research 3
- STAT 7110 Statistical Software and Data Analysis 3
- STAT 7310 Sampling Techniques 3
- STAT 7510 Applied Statistical Models I 3
- STAT 7410 Biostatistics and Clinical Trials 3
- STAT 7530 Analysis of Variance 3
- STAT 7540 Experimental Design 3
- STAT 7560 Applied Multivariate Data Analysis 3
- STAT 8220 Applied Statistical Models II 3

A total of 72 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 72 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 emphasis areas: Human/Clinical Nutrition, Public Health Nutrition, Behavioral Science, Food Science and Biochemistry/Cell Physiology. A list of possible courses that fall within these areas can be found on the department website: http://ns.missouri.edu/graduate_phd.html.

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 encouraged to work out their plan of study with their advisor.

Qualifying Process

Nutritional Sciences Program 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 limit. 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 Nutritional Sciences (http://
nep.missouri.edu/graduate_phd.html) and the minimum requirements of the Graduate School (http://gradschool.missouri.edu/admissions/eligibility-process/minimum-requirements.php). 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: http://ns.missouri.edu/grad_admission.html

**Nutritional Area 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 and must provide GRE scores. **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

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### Minimum GRE Scores

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<td>On or After August 1, 2011</td>
<td>150</td>
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Complete instructions for applying to the program can be found on the programs website: http://ns.missouri.edu/graduate_apply.html