

Biochemistry, Nutrition, and Health Promotion

Department Head: Dr. Daniel Peterson (Interim)

Graduate Coordinator: Dr. Juan Silva

105 Herzer Building

Box 9805

Mississippi State, MS 39762

Telephone: 662-325-4002

Fax: 662-325-8728

E-mail: Department Head: dp127@msstate.edu

E-mail: Graduate Coordinator: jls46@msstate.edu

Website: <http://www.fsnhp.msstate.edu/>

Graduate study is offered in the Department of Food Science, Nutrition and Health Promotion leading to a Master of Science degree in Food Science, Nutrition and Health Promotion with concentrations in Food Science and Technology; Nutrition; or Health Promotion. The Doctor of Philosophy degree in Food Science, Nutrition and Health Promotion is also offered through this department with concentrations in Food Science and Technology or Nutrition.

Graduate assistantships may be available. For information, contact the graduate coordinator at the address above or visit the departmental website.

Admission Criteria

General regular admission requirements for the department are as follows:

1. Baccalaureate (four-year degree) for entry into the M.S. program and 60 credit hours beyond a baccalaureate degree for admission to the Ph.D. program if a master's degree has not been earned.

- Nutrition concentrations require an overall 3.00 GPA in undergraduate study for entry into the M.S. degree program and a 3.00 GPA for all master's coursework if applying to the Ph.D. program.
- Food Science and Technology concentrations require a 2.75 GPA but a 3.00 is preferred. Typically, a 2.75 GPA requires provisional admittance.
- The Health Promotion concentration requires a 2.75 GPA but a 3.00 is preferred. Grad point averages between 2.50 and 2.75 may be considered for provisional admission at the discretion of program faculty.
- English proficiency is required for non-English speakers. Some international students may be exempt based on country of origin.

TOEFL Paper-based score: 550 or better

TOEFL Internet-based (iBT): 79 or better

IELTS: 6.5 or better

3. Contingent admission may be granted on the recommendation of the Graduate Faculty and Graduate Coordinator. The following criteria apply:

- Contingent admission may be allowed when an applicant meets the regular admission requirements but scores less than the minimum on any English proficiency tests. Contingency is dependent upon taking one semester of English as a Second Language (ESL course) followed by a technical writing course at Mississippi State University. Successful completion of both will result in regular admission status once proof is received by the Graduate School.
- Contingent admission may be allowed when an applicant has a borderline academic background that may require leveling courses to strengthen the overall academic foundation of the applicant.

4. Provisional admission may be granted to an applicant who has not fully met the GPA requirement stipulated by the University for regular admission. The provisionally-admitted student is eligible for a change to regular status after receiving a 3.00 GPA on the first 9 hours of graduate courses at Mississippi State University (with no grade lower than a C). The first 9 hours of graduate courses must be within the student's Program of Study, as prescribed by advisor. Courses with an S grade, transfer credits, or credits earned while in Unclassified status cannot be used to satisfy this requirement. If a 3.00 is not attained, the provisional student **shall** be dismissed from the graduate program. Academic departments may set higher standards for students to fulfill provisional requirements; a student admitted with provisional status should contact the graduate coordinator for the program's specific requirements. **While in the provisional status, a student is not eligible to hold a graduate assistantship.**

Master of Science in Food Science, Nutrition and Health Promotion

Food Science and Technology Concentration

In 1983 the Board of Trustees of Institutions of Higher Learning designated Mississippi State University (MSU) as the flagship university for a food science program in the state of Mississippi. The designation basically stated that MSU would be the only university in the state with such a program. A student may work toward a Master of Science in Food Science, Nutrition and Health Promotion with a concentration in Food Science and Technology by selecting courses from Food Science, Nutrition and Health Promotion and allied areas such as biochemistry, microbiology, animal and dairy sciences, and other disciplines. Faculty, staff members, and facilities of the cooperating departments are utilized. A Bachelor of Science in Food Technology, Food

Science, or related areas will be considered to meet the prerequisites for study toward an advanced degree. Students from other disciplines may be required to take leveling courses generally not to exceed 15 semester hours.

Nutrition Concentration

A Master of Science degree in Food Science, Nutrition and Health Promotion with a concentration in Nutrition is offered by selecting courses in Food Science, Nutrition and Health Promotion; Statistics; and Biochemistry.

The Dietetic Internship is an innovative, post-baccalaureate program designed to prepare interns for rewarding careers in traditional and non-traditional roles. Interns complete the requirements for the Dietetic Internship and 6 hours of coursework in Food Science, Nutrition and Health Promotion with an emphasis in nutrition. The MSU Dietetic Internship Program provides hands-on experience in various clinical research, food service management, community nutrition, and nutrition education activities that registered dietitians encounter. Interns work with faculty, site coordinators, and preceptors in outpatient clinics, various inpatient settings, community settings, classrooms, and other locations as they build skills and broaden their understanding of modern dietetics. Upon completion of the internship, a graduate is prepared for the Registration Examination of the Commission on Dietetic Registration and successful entry-level practice. Students may also pursue a M.S. degree at the same time.

The Mississippi State University Dietetic Internship Program is currently granted accreditation by:

The Commission on Accreditation for Dietetics Education of the American Dietetic Association
120 South Riverside Plaza, Suite 2000
Chicago, IL 60606-6995
(312) 899-0040, ext. 5400

Dietetic interns must be admitted to graduate studies at MSU. For additional information contact the Dietetic Internship Program Director, Box 9805, Mississippi State, MS 39762-9805 or visit the departmental website: <http://www.fsnhp.msstate.edu/>.

Health Promotion Concentration

A Master of Science degree in Food Science, Nutrition and Health Promotion with a concentration in Health Promotion is available. This program is designed to equip students for careers as public health educators, health promotion specialists, and health scientists. Graduates from this program will be trained for careers in school health, public health, worksite, and/or violence and injury prevention. Graduates can sit for the Certified Health Education Specialists exam, offered by the National Commission on Health Education Credentialing (<http://www.nchec.org/health-education-credentialing/>).

Master of Public Health

The Master of Public Health program will prepare students with a professional degree in the field of public health nutrition. The program requires 42/44 credit hours, including core courses of 21/22 hours in public health and 18 hours in nutrition and foods, as well as an elective course (3 hours except EPY 8214). For programmatic accreditation, it requires applied public health practicum and integrative experience, which are part of the core curriculum.

Admission Criteria

A minimum of a 2.75 GPA (undergraduate work) is required for graduate work if accrued over a four-year average. If accrued over a two-year period, a 3.00 GPA is required. Applicants must take the Graduate Record Examination (GRE). International students are required to have a minimum TOEFL (Test of English as a Foreign Language) score of 550 PBT (79 iBT) or an IELTS (International English Language Testing Systems) score of 6.5.

Provisional Admission

An applicant who has not fully met the GPA requirement stipulated by the University may be admitted on a provisional basis. The provisionally-admitted student is eligible for a change to regular status after receiving a 3.00 GPA on the first 9 hours of graduate courses at Mississippi State University (with no grade lower than a C). The first 9 hours of graduate courses must be within the student's program of study, as prescribed by advisor. Courses with an S grade, transfer credits, or credits earned while in Unclassified status cannot be used to satisfy this requirement. If a 3.00 is not attained, the provisional student **shall** be dismissed from the graduate program. Academic departments may set higher standards for students to fulfill provisional requirements; a student admitted with provisional status should contact the graduate coordinator for the program's specific requirements. **While in the provisional status, a student is not eligible to hold a graduate assistantship.**

Doctor of Philosophy in Food Science, Nutrition and Health Promotion

A Doctor of Philosophy degree is offered within the Department of Food Science, Nutrition and Health Promotion with concentrations in Food Science and Technology, Functional Foods, Nutrition and Health, or Nutrition. Graduate assistantships may be available. To secure additional information, please contact the Graduate Coordinator.

Food Science and Technology Concentration

A student pursuing the Ph.D. degree in Food Science, Nutrition and Health Promotion with a concentration in Food Science and Technology selects courses from Food Science, Nutrition and Health Promotion and allied areas such as biochemistry, microbiology, animal and dairy sciences, and other disciplines. Faculty, staff members, and facilities of the cooperating departments are utilized. A Master of Science in Food Technology, Food Science, or

related areas will be considered to meet the prerequisites for study towards a doctorate. Students from other disciplines may be required to take leveling courses generally not to exceed 15 semester hours.

Functional Foods, Nutrition and Health Concentration

A student pursuing the Ph.D. in Food Science, Nutrition and Health Promotion with a concentration in Functional Foods, Nutrition and Health must complete 18 credit hours in the concentration. Required courses are: FNH 4663/6663 Principles of Functional Foods, Nutrition and Health; FNH 8293 Molecular Nutrition; FNH 8773 The Gut, Microbiome in Health and Disease; FNH 8783 Plants and Nutraceuticals-Food as Medicine; FNH 8793 Functional Nutrition in Chronic Disease Prevention and Management; and FNH 8263 Nutritional Genomics. A Master of Science in either nutrition, food sciences, or a health discipline will be considered to meet the prerequisites for study towards a doctorate. A student from another discipline may be required to take leveling courses generally not to exceed 15 semester hours.

Nutrition Concentration

A student pursuing the Ph.D. degree in Food Science, Nutrition and Health Promotion with a concentration in Nutrition selects courses in Food Science, Nutrition and Health Promotion and in Biochemistry and Statistics. A Master of Science in Nutrition or Health Promotion will be considered to meet the prerequisites for study towards a doctorate. A student from other disciplines may be required to take leveling courses generally not to exceed 15 semester hours.

Admission Criteria

For regular admission into the Ph.D. program in Food Science, Nutrition and Health Promotion, an applicant must have a minimum grade point average of 2.75 (undergraduate) if accrued over a four-year average. If accrued over a two-year period, a 3.00 grade point average is required. An applicant must have a minimum grade point average of 3.00 on M.S. work. In addition, the applicant must submit Graduate Record Examination (GRE) verbal, quantitative, and writing scores. International students are required to have a minimum TOEFL (Test of English as a Foreign Language) score of 550 PBT (79 iBT) or an IELTS (International English Language Testing Systems) score of 6.5.

Master's General Requirements

If a minor is approved, at least 9 hours of coursework in the area are required. The program of study should be submitted and approved by the student's graduate committee and graduate coordinator by the end of the first semester of graduate study.

The graduate committee should be composed of the major professor and at least two other committee members. The committee must be composed of a majority in the student's concentration (FST, NTR, HP). A committee member from the minor area (if a minor is sought) is required.

A degree candidate must be thoroughly familiar with the literature in the field of major interest, must show the relation of the special subject to allied subjects, and the level of general knowledge and training, including the use of oral and written communication. At the conclusion of research (if required in that concentration), the student will present her/his research work in the form of a seminar to an open audience and the committee as part of the examination requirements.

Master of Science in Food Science, Nutrition and Health Promotion with Food Science and Technology Concentration - Thesis

Graduate-level coursework	24
Biochemistry	
Statistics	
Seminar	
Food Chemistry (FNH 6243) ¹	
Food Microbiology (FNH 6414) ¹	
Food Preservation (FNH 6583) ¹	
FNH 9000	Research in Food, Nutrition and Health Promotion
Total Hours	30

¹ Courses required unless taken in the undergraduate program.

The Master of Science in Food Science, Nutrition and Health Promotion with a Food Science and Technology concentration requires a minimum of 30 hours of graduate credit (Including 6 hours of research/thesis), a research thesis, and a final defense. At least 12 hours of coursework must be taken at the 8000-level.

The courses are to be determined by the major professor and graduate committee and approved by the committee and the graduate coordinator. Applicants with knowledge in one or more of these areas may be exempt from some course requirements if their academic record confirms successful previous work.

Master of Science in Food Science, Nutrition and Health Promotion with Nutrition Concentration - Thesis

BCH XXXX	Two graduate-level Biochemistry courses ¹	6
Graduate-level statistics course ²		3-4
Other graduate-level coursework		15
FNH 9000	Research in Food, Nutrition and Health Promotion	6
Total Hours		30-31

¹ BCH 6603 is one example of a course that fulfills this requirement.

² ST 8114, KI 8313, EPY 6214, and AELC 9583 are examples of courses that fulfill this requirement.

The Master of Science in Food Science, Nutrition and Health Promotion with a Nutrition concentration requires a minimum of 30 hours of graduate credit (including 6 hours of research/thesis), a research thesis, and a final defense. At least 12 hours of coursework must be taken at the 8000-level.

A graduate program of study should be submitted and approved by the student's graduate committee and graduate coordinator by the end of the first semester of graduate study. The graduate committee should be composed of the major professor and at least two committee members.

Master of Science in Food Science, Nutrition and Health Promotion with Health Promotion Concentration - Thesis

FNH 8513	Theory and Practice of Health Education	3
FNH 8523	Health Promotion Techniques	3
FNH 8553	Behavioral Epidemiology	3
FNH 8613	Design and Administration of Health Promotion Programs	3
FNH 8653	Implementation and Evaluation of Health Promotion Programs	3
Graduate-level electives		12
FNH 9000	Research in Food, Nutrition and Health Promotion	6
Total Hours		33

The Master of Science degree in Food Science, Nutrition and Health Promotion with a Health Promotion concentration requires a minimum of 33 hours of graduate credit. At least 12 hours of coursework must be taken at the 8000-level.

A thesis committee, consisting of the student's major professor and two other graduate faculty members, must be established.

Master of Science in Food Science, Nutrition and Health Promotion with Health Promotion Concentration - Non-Thesis

FNH 8513	Theory and Practice of Health Education	3
FNH 8523	Health Promotion Techniques	3
FNH 8553	Behavioral Epidemiology	3
FNH 8613	Design and Administration of Health Promotion Programs	3
FNH 8653	Implementation and Evaluation of Health Promotion Programs	3
FNH 8563	Principles of Epidemiology and Health Science Research	3
KI 8313	Interpretation of Data in Kinesiology (or equivalent) ¹	3
FNH 8673	Applied Projects for Certified Health Education Specialists ²	3
Graduate-level electives		9
Total Hours		33

¹ EPY 6214 is an example of an equivalent course.

² Designed to help future practitioners develop program assessment, development, implementation and evaluation skills consistent with those required by the Certified Health Education Specialist (CHES) exam and licensure.

The Master of Science degree in Food Science, Nutrition and Health Promotion with a Health Promotion concentration requires a minimum of 33 hours of graduate credit. At least 15 hours of coursework must be taken at the 8000-level.

The student develops, in cooperation with his/her major professor, a program of study during the first semester. All students must successfully complete comprehensive examinations before being awarded the degree of Master of Science in Food Science, Nutrition and Health Promotion with a Health

Promotion concentration. The student must be within 6 hours of graduation, have completed all core courses, and have a 3.00 GPA after admission to the program to apply for comprehensive examinations.

Master of Public Health

Required Public Health Courses

FNH 8553	Behavioral Epidemiology	3
KI 8313, *EPY 6214 or CVM 8503 Biostatistics		
FNH 6773	Introduction to Environmental Health	3
FNH 8733	Policy in Public Health and Health Care Systems	3
FNH 8563	Principles of Epidemiology and Health Science Research	3
FNH 8713	Applied Public Health Practicum	3
FNH 8723	Integrative Experience	3

Required Nutrition Courses

FNH 6123	Medical Nutrition Therapy I	3
FNH 6353	Nutrition Throughout the Life Cycle	3
FNH 8243	Public Health Nutrition	3
FNH 6373	Nutrition Education and Counseling Skills	3
FNH 8753	Nutritional Epidemiology	3
FNH 8743	Nutrition Policy	3

Electives		3/4
-----------	--	-----

Please see Graduate Coordinator for list of acceptable electives

Total Hours		36-39
--------------------	--	--------------

Graduate Certificate in Clinical Health Promotion and Wellness Coaching

FNH 6393	Prevention and Control of Disease	3
FNH 8513	Theory and Practice of Health Education	3
FNH 8523	Health Promotion Techniques	3
FNH 8553	Behavioral Epidemiology	3
FNH 8443	Health Center Practicum ¹	3
FNH 8556	Clinical Health Promotion and Wellness Coaching Internship ¹	6
Total Hours		21

¹ Health Center Practicum and Clinical Internship in Health Promotion and Wellness Coaching requires all four health promotion courses as prerequisites and approval of the primary advisor.

The Graduate Certificate in Clinical Health Promotion and Wellness Coaching requires successful completion of 21 hours in Health Promotion graduate studies including the Health Center Practicum and Clinical Internship. Those not completing the entire M.S. degree in Health Promotion as part of this process will be advised of possibly having to choose other electives, should they pursue the M.S. degree later, due to application of initial course credits.

Doctor of Philosophy General Requirements

The minimum number of coursework hours for a Ph.D. student varies according to the specific requirements of the department and the student's needs but usually requires a minimum of 60 hours of coursework beyond the B.S. degree. In establishing the Ph.D. candidate's program, the graduate committee assists the student in arranging his/her major and may specify a minor as well. When required, a minor in a doctoral program requires at least 12 hours of graduate coursework in the chosen discipline. A committee member from the minor area is required.

Doctor of Philosophy in Food Science, Nutrition and Health Promotion, Food Science and Technology Concentration

Students must demonstrate competence in at least, but not limited to, the following areas: Food Microbiology, Food Chemistry, Nutrition, Food Processing, Statistics (beyond Statistical Methods), and Biochemistry (decided by graduate committee).

Doctor of Philosophy in Food Science, Nutrition and Health Promotion, Functional Foods, Nutrition and Health Concentration

Students must demonstrate competence in the areas of Food Science, Nutrition and Health Promotion and in the required core courses (FNH 4663/6663 Principles of Functional Foods, Nutrition and Health; FNH 8293 Molecular Nutrition; FNH 8773 The Gut, Microbiome in Health and Disease; FNH 8783

Plants and Nutraceuticals-Food as Medicine; FNH 8793 Functional Nutrition in Chronic Disease Prevention and Management; and FNH 8263 Nutritional Genomics).

Great reliance is placed on the student's graduate committee, and especially on the major professor, to develop a program of study commensurate with the goals and background of the student while maintaining the standards of the department.

A Ph.D. candidate must demonstrate mastery of a particular field of knowledge, the techniques of research, and of the correlation of his/her specialty with the larger areas of knowledge, especially those directly related to his/her own field of interest. At the conclusion of the dissertation research, the student will present his/her research in the form of a seminar to an open audience and to the committee as part of the examination requirement.

Doctor of Philosophy in Food Science, Nutrition and Health Promotion, Nutrition Concentration

Students must demonstrate competence in at least but not limited to the following areas: Nutrition, Nutritional Assessment, Biochemistry, Statistics, and Research Methods.

Great reliance is placed on the student's graduate committee and especially the major professor to develop a program of study commensurate with the goals and background of the student while maintaining the standards of the department.

A Ph.D. candidate must demonstrate mastery of a particular field of knowledge, the techniques of research, and of the correlation of his/her specialty with the larger areas of knowledge, especially those directly related to his/her own field of interest. At the conclusion of the dissertation research, the student will present his/her research in the form of a seminar to an open audience and to the committee as part of the examination requirement.