

# Department of Food Science, Nutrition and Health Promotion

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## Interim Department Head: Professor Ashli Brown

Office: 107 Herzer Building

The Food Science, Nutrition and Health Promotion major offers the opportunity to gain a broad education in food science, nutrition, and health, as well as the specific academic background to pursue careers as food scientists and dietitians/nutritionists. It involves the integration of new knowledge and advances in technology and the physical and biological sciences with psychological, sociological, and behavioral sciences in the provision of a safe, nutritious food supply. Research, teaching, and outreach extend the continuum from the processing of food to its marketing, consumption, and impact on public health and community.

Food scientists integrate knowledge from engineering, biological, and physical sciences to study the nature of foods, the causes of deterioration, the principles underlying food processing, and the improvement of foods for the consuming public. Food technology is the application of food science to the selection, preservation, processing, packaging, distribution, and use of safe, nutritious, and wholesome foods (<http://www.ift.org/knowledge-enter/learnabout-food-science.aspx>, 2013).

The Department offers a degree in Culinology®. This is a dual degree program in which students take courses at Mississippi State University and the Mississippi University for Women in Columbus, MS. The Culinology® curriculum includes courses that combine the disciplines of food science and culinary arts. Culinologists work in diverse areas within the food industries - from experimental chefs to food manufacturing and product development.

The Pre-Health Professions concentration is designed to develop students who have a thorough understanding of the principles of food science and have also fulfilled the prerequisites for medical school or other health-related professional or graduate school programs (examples include but are not limited to: medicine, nursing, physician's assistant, physical therapy, pharmacy, occupational therapy, public health, optometry, podiatry, and others).

Dietitians are food and nutrition experts studying the relationship of nutrition and diet in promoting health and treating disease. Studies include nutritional science, medical nutrition therapy, community nutrition, food service, food production and management of food service operations, chemistry, physiology, plus a variety of supporting coursework in related disciplines. The Food and Nutrition concentration is an accredited Didactic Program in Dietetics (DPD) through the Accreditation Council for Education in Nutrition and Dietetics, providing the required course work needed to apply for a supervised practice program required for Registered Dietitian Nutritionist (RDN) eligibility. (The terms Registered Dietitian (RD) and Registered Dietitian Nutritionist (RDN) are used interchangeably.)

Students in Food Science, Nutrition and Health Promotion have many exciting and diverse career opportunities. Food Science, Nutrition and Health Promotion careers include Research Scientist (Industrial, Government, Academic); Food Engineer; Food Microbiologist; Research and Development; Product Development Technologist; Research Chef; Food Manufacturing Operations Manager; Quality Control Technician; Regulatory Affairs; Food Packaging Specialist; Processing Engineer; Technical Sales in the Food Industry; Technical Services; Public Health/Community Nutritionist; Clinical Nutrition Educator; Nutrition Educator; Registered Dietitian (Pediatric, Cardiovascular, Renal, Private Practice, Sports/Wellness, Weight Management, Business and Industry, and Journalism and Communications); Healthcare/School Food Service Director; Pharmaceutical Sales Representative; and Public Relations and Marketing Specialists.

A major in Food Science, Nutrition and Health Promotion is also an excellent choice for students interested in pursuing pre-professional career paths like Veterinary School, Medical School, Pharmacy, Physical Therapy, Nursing School, and Dental School.

The following concentrations are offered in the Department of Food Science, Nutrition and Health Promotion:

- Food Processing/Business
- Food Science
- Food Safety (pre-vet)
- Food and Nutrition
- Pre-Health Professions

## Food and Nutrition Concentration

The Food and Nutrition concentration prepares students for a wide variety of careers. For students interested in becoming a Registered Dietitian, the Didactic Program in Dietetics (DPD) at Mississippi State University is accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics, 120 South Riverside Plaza, Suite 2000, Chicago, IL, 60606-6995; telephone 800-877-1600, <http://www.eatright.org/ACEND>. Upon completion of the DPD program, graduates may pursue participation in a supervised practice program/dietetic internship.

Didactic Program in Dietetics:

1. To enter the Didactic Program in Nutrition and Dietetics (DPD) Food and Nutrition concentration, students must have a 3.0 GPA and have completed the following courses with a grade of "C" or better: CH 1213 Chemistry I, CH 1211 Investigations in Chemistry I, CH 1223 Chemistry II, CH 1221 Investigations in Chemistry II, CH 2503 Elementary Organic Chemistry, CH 2501 Elementary Organic Chemistry Laboratory, BIO 1134 Biology I, FNH 2203 Science of Food Preparation, FNH 2293 Individual and Family Nutrition, ST 2113 Introduction to Statistics.
2. A grade of "C" or better is required in all DPD courses. A course with a final grade lower than a "C" must be repeated.
3. Students who wish to receive a Letter of Intent and/or verification statement from the MSU Didactic Program in Dietetics (DPD) must have a minimum of a 3.0 GPA and a minimum grade of "C" or better in all of the required DPD courses.
4. Eight (8) hours are available for electives, and students are encouraged to consider an academic minor.
5. Transfer credits with a grade of "C" or better will be considered toward fulfilling degree requirements. After completion of the DPD undergraduate degree, successful completion of the supervised practice program/dietetic internship, followed by the Registration Exam, a student fulfills the requirements to become a Registered Dietitian. Beginning in January 2024, a minimum of a Master's degree will be an eligibility requirement to take the Registration Exam.

## BS in Food Science, Nutrition, and Health Promotion

### Food Processing/Business Concentration (FSTP)

Major Advisors: Wes Schilling, Professor, and Shecoya White, Assistant Professor

FSTP combines food science and business courses to prepare students for careers in the food industry, government, or private business.

|   |   |           |
|---|---|-----------|
| <b>English Composition</b>                            |   | <b>6</b>  |
| EN 1103<br>or EN 1104                                 | English Composition I<br>Expanded English Composition I                                       |           |
| EN 1113<br>or EN 1173                                 | English Composition II<br>Accelerated Composition II  |           |
| <b>Fine Arts (General Education)</b>                  |   | <b>3</b>  |
| Select from University Gen Ed Core                    |   |           |
| <b>Natural Sciences (General Education)</b>           |   | <b>12</b> |
| BIO 1134  | Biology I   |           |
| CH 1213   | Chemistry I   |           |
| CH 1211   | Investigations in Chemistry I   |           |
| CH 1223   | Chemistry II  |           |
| CH 1221   | Investigations in Chemistry II  |           |
| <b>Math (General Education)</b>                       |   | <b>6</b>  |
| MA 1313   | College Algebra (or higher math)  |           |
| ST /BQA /MA 2113<br>or ST 3123                        | Introduction to Statistics<br>Introduction to Statistical Inference                           |           |
| <b>Humanities (General Education)</b>                 |   | <b>6</b>  |
| Select from University Gen Ed Core                    |   |           |
| <b>Social/Behavioral Sciences (General Education)</b> |   | <b>6</b>  |
| AEC 2713  | Introduction to Food and Resource Economics   |           |
| Select from University Gen Ed Core                    |   |           |
| <b>Major Core Courses</b>                             |   | <b>17</b> |
| CH 2503   | Elementary Organic Chemistry  |           |
| CH 2501   | Elementary Organic Chemistry Laboratory   |           |
| MGT 3513  | Introduction to Human Resource Management   |           |
| FNH 2293  | Individual and Family Nutrition   |           |
| FNH 3111  | Food Science, Nutrition and Health Promotion Seminar  |           |
| FNH 4243  | Composition and Chemical Reactions of Foods   |           |
| CO 1003<br>or CO 1013<br>or CO 3213                   | Fundamentals of Public Speaking<br>Introduction to Communication<br>Small Group Communication |           |
| <b>Food Processing/Business Concentration</b>         |   | <b>68</b> |
| BIO 3304  | General Microbiology  |           |
| MA 1323   | Trigonometry  |           |

|   |  |
|---|--|
| PH 1113<br>or PH 2213                         | General Physics I<br>Physics I   |
| AEC 3413<br>or MKT 3013                       | Introduction to Food Marketing<br>Principles of Marketing  |
| AELC 3203                                     | Professional Writing in Agriculture, Natural Resources, and Human Sciences <sup>1</sup>              |
| AELC 4203                                     | Applications of Computer Tech to Agricultural Education, Leadership, and Communications <sup>2</sup> |
| FNH 2011                                      | Career Planning and Success Skills in Food Science   |
| FNH 2112                                      | Food Products Evaluation   |
| FNH 4114                                      | Analysis of Food Products  |
| FNH 4241                                      | Applied Food Chemistry   |
| FNH 4333                                      | Food Law   |
| FNH 4414                                      | Microbiology of Foods  |
| FNH 4480                                      | Food Science Internship (6 hours)  |
| FNH 4573<br>or FNH 4583                       | Food Engineering Fundamentals<br>Food Preservation Technology  |
| FNH 4593                                      | New Food Product Development   |
| Business Electives (12 hours) <sup>5</sup>    |  |
| Processing Electives (6-8 hours) <sup>3</sup> |  |
| FNH Electives (3 hours) <sup>4</sup>          |  |
| Free Electives (0-1 hours)                    |  |
| <b>Total Hours</b>                            | <b>124</b>   |

<sup>1</sup> Fulfills Jr/Sr Writing Requirement

<sup>2</sup> Fulfills Computer Lit Requirement

<sup>3</sup> Choose 2 courses (6-8 hours) from the Food Processing Electives: FNH 3314 , FNH 4143 Dairy Foods Processing, FNH 4514 Poultry Processing, or FNH 4613 Seafood Processing

<sup>4</sup> Choose one additional FNH 3000-4000 level course from all Food Science, Nutrition, and Health Promotion classes

<sup>5</sup> A minor in AgEcon, Marketing, Finance, Management or Business Administration will satisfy the requirement for 12 credits of business electives. In lieu of a minor, students should select 12 credit hours from the following: ACC 2013 Principles of Financial Accounting, MKT 3013 Principles of Marketing, AEC 3133 Introductory Agribusiness Management, AEC 3213 International Trade in Agriculture, AEC 3413 Introduction to Food Marketing, AEC 4113 Agribusiness Firm Management, AEC 4123 Financial and Commodity Futures Marketing, AEC 4133 Analysis of Food Markets and Prices, AEC 4343 Advanced Farm Management; all classes listed under the minors for Marketing, Finance, Business Administration, and Management are also acceptable business electives.

## Food Science Concentration (FSSC)

Major Advisors: Wes Schilling, Professor, and Shecoya White, Assistant Professor

FSSC is designed for students who wish to explore a career in research, pursue graduate studies, work for the government, or work in the food industry.

|   |  |           |
|---|--|-----------|
| <b>English Composition</b>                  |  | <b>6</b>  |
| EN 1103<br>or EN 1163                       | English Composition I<br>Accelerated Composition I   |           |
| EN 1113<br>or EN 1173                       | English Composition II<br>Accelerated Composition II |           |
| <b>Fine Arts (General Education)</b>        |  | <b>3</b>  |
| Select from University Gen Ed Core          |  |           |
| <b>Natural Sciences (General Education)</b> |  | <b>12</b> |
| BIO 1134                                    | Biology I  |           |
| CH 1213                                     | Chemistry I  |           |
| CH 1211                                     | Investigations in Chemistry I                        |           |
| CH 1223                                     | Chemistry II   |           |
| CH 1221                                     | Investigations in Chemistry II                       |           |
| <b>Math (General Education)</b>             |  | <b>6</b>  |
| MA 1713                                     | Calculus I   |           |

|   |   |            |
|---|---|------------|
| ST /BQA /MA 2113<br>or ST 3123                        | Introduction to Statistics<br>Introduction to Statistical Inference   |            |
| <b>Humanities (General Education)</b>                 |   | <b>6</b>   |
| Select from University Gen Ed Core                    |   |            |
| <b>Social/Behavioral Sciences (General Education)</b> |   | <b>6</b>   |
| AEC 2713  | Introduction to Food and Resource Economics   |            |
| Select from University Gen Ed Core                    |   |            |
| <b>Major Core Courses</b>                             |   | <b>17</b>  |
| CH 2503   | Elementary Organic Chemistry  |            |
| CH 2501   | Elementary Organic Chemistry Laboratory   |            |
| MGT 3513  | Introduction to Human Resource Management   |            |
| FNH 2293  | Individual and Family Nutrition   |            |
| FNH 3111  | Food Science, Nutrition and Health Promotion Seminar  |            |
| FNH 4243  | Composition and Chemical Reactions of Foods   |            |
| CO 1003<br>or CO 1013<br>or CO 3213                   | Fundamentals of Public Speaking<br>Introduction to Communication<br>Small Group Communication   |            |
| <b>Food Science Concentration</b>                     |   | <b>68</b>  |
| BIO 1144  | Biology II  |            |
| BIO 3304  | General Microbiology  |            |
| BCH 4013  | Principles of Biochemistry  |            |
| MA 1723   | Calculus II   |            |
| PH 1113<br>or PH 2213                                 | General Physics I<br>Physics I  |            |
| PH 1123<br>or PH 2223                                 | General Physics II<br>Physics II  |            |
| ACC 2013  | Principles of Financial Accounting  |            |
| MKT 3013  | Principles of Marketing   |            |
| AELC 3203   | Professional Writing in Agriculture, Natural Resources, and Human Sciences <sup>1</sup>   |            |
| AELC 4203   | Applications of Computer Tech to Agricultural Education, Leadership, and Communications <sup>2</sup>  |            |
| FNH 2011  | Career Planning and Success Skills in Food Science  |            |
| FNH 2112  | Food Products Evaluation  |            |
| FNH 4114  | Analysis of Food Products   |            |
| FNH 4164  | Quality Assurance of Food Products  |            |
| FNH 4241  | Applied Food Chemistry  |            |
| FNH 4333  | Food Law  |            |
| FNH 4414  | Microbiology of Foods   |            |
| FNH 4573<br>or FNH 4583                               | Food Engineering Fundamentals<br>Food Preservation Technology   |            |
| FNH 4593  | New Food Product Development  |            |
| FNH 4480  | Food Science Internship (6 hours)   |            |
| Processing Electives (3-4 hours) <sup>3</sup>         |   |            |
| FNH Electives (3-4 hours) <sup>4</sup>                |   |            |
| Free Electives (0-2 hours)                            |   |            |
| <b>Total Hours</b>                                    |   | <b>124</b> |
| <sup>1</sup>  | Fulfills Jr/Sr Writing Requirement  |            |
| <sup>2</sup>  | Fulfills Computer Lit Requirement   |            |
| <sup>3</sup>  | Choose 1 course (3-4 hours) from the Food Processing Electives: FNH 3314 , FNH 4143 Dairy Foods Processing, FNH 4514 Poultry Processing, or FNH 4613 Seafood Processing |            |
| <sup>4</sup>  | Choose an additional 3-4 hours from all 3000-4000 level Food Science, Nutrition and Health Promotion classes.   |            |

## Food Safety Concentration (FDS)

Major Advisors: Wes Schilling, Professor, and Shecoya White, Assistant Professor

FDS is designed as a Pre-Veterinary option that focuses on factors affecting food safety and all coursework essential for acceptance in the College of Veterinary Medicine.

|   |  |           |
|---|--|-----------|
| <b>English Composition</b>                            |  | <b>6</b>  |
| EN 1103<br>or EN 1163                                 | English Composition I<br>Accelerated Composition I   |           |
| EN 1113<br>or EN 1173                                 | English Composition II<br>Accelerated Composition II   |           |
| <b>Fine Arts (General Education)</b>                  |  | <b>3</b>  |
| Select from University Gen Ed Core                    |  |           |
| <b>Natural Sciences (General Education)</b>           |  | <b>12</b> |
| BIO 1134  | Biology I  |           |
| CH 1213   | Chemistry I  |           |
| CH 1211   | Investigations in Chemistry I  |           |
| CH 1223   | Chemistry II   |           |
| CH 1221   | Investigations in Chemistry II   |           |
| <b>Math (General Education)</b>                       |  | <b>6</b>  |
| MA 1313   | College Algebra  |           |
| MA 1323<br>or MA 1713                                 | Trigonometry<br>Calculus I   |           |
| <b>Humanities (General Education)</b>                 |  | <b>6</b>  |
| Select from University Gen Ed Core                    |  |           |
| <b>Social/Behavioral Sciences (General Education)</b> |  | <b>6</b>  |
| Select from University Gen Ed Core                    |  |           |
| <b>Major Core Courses</b>                             |  | <b>17</b> |
| CH 2503   | Elementary Organic Chemistry   |           |
| CH 2501   | Elementary Organic Chemistry Laboratory  |           |
| MGT 3513  | Introduction to Human Resource Management  |           |
| FNH 3111  | Food Science, Nutrition and Health Promotion Seminar   |           |
| FNH 2293  | Individual and Family Nutrition  |           |
| FNH 4243  | Composition and Chemical Reactions of Foods  |           |
| CO 1003<br>or CO 1013<br>or CO 3213                   | Fundamentals of Public Speaking<br>Introduction to Communication<br>Small Group Communication        |           |
| <b>Food Safety Concentration <sup>1</sup></b>         |  | <b>48</b> |
| CH 4523   | Organic Chemistry II   |           |
| CH 4521   | Organic Chemistry Laboratory II  |           |
| BIO 1144  | Biology II   |           |
| BIO 3304  | General Microbiology   |           |
| BCH 4013  | Principles of Biochemistry   |           |
| PH 1113<br>or PH 2213                                 | General Physics I<br>Physics I   |           |
| PH 1123<br>or PH 2223                                 | General Physics II<br>Physics II   |           |
| AELC 3203   | Professional Writing in Agriculture, Natural Resources, and Human Sciences <sup>2</sup>              |           |
| AELC 4203   | Applications of Computer Tech to Agricultural Education, Leadership, and Communications <sup>3</sup> |           |
| ADS 4114  | Animal Nutrition   |           |
| FNH 2011  | Career Planning and Success Skills in Food Science   |           |
| FNH 4241  | Applied Food Chemistry   |           |

|   |   |
|---|---|
| FNH 3314  |   |
| FNH 4414  | Microbiology of Foods                   |
| FNH 4514  | Poultry Processing                      |
| FNH 4583  | Food Preservation Technology            |
| <b>Electives (Select 3-6 credits from the following list)</b> |   |
|   | <b>3-6</b>                              |
| ACC 2013  | Principles of Financial Accounting      |
| FNH 3142  | Meats Judging I                         |
| FNH 4114  | Analysis of Food Products               |
| FNH 4143  | Dairy Foods Processing                  |
| FNH 4164  | Quality Assurance of Food Products      |
| FNH 4593  | New Food Product Development            |
| ADS 1113  | Animal Science                          |
| ADS 1121  | Animal Science Laboratory               |
| ADS 3214  | Livestock Growth and Development        |
| ADS 3312  | Livestock Management Practices          |
| ADS 4113  | Swine Science                           |
| ADS 4124  | Animal Breeding                         |
| ADS 4323  | Beef Cattle Science                     |
| ADS 4613  | Physiology of Reproduction              |
| ADS 4611  | Practices in Physiology of Reproduction |
| BIO 2103  | Cell Biology                            |
| BIO 4413  | Immunology                              |
| BIO 4503  | Vertebrate Histology                    |
| BIO 4514  | Animal Physiology                       |
| VS 3014   | Anatomy and Physiology                  |
| PO 4033   | Diseases of Poultry                     |
| PO 4324   | Avian Reproduction                      |
| PO 4334   | Broiler Production                      |
| PO 4413   | Poultry Nutrition                       |
| PO 4844   | Avian Anatomy and Physiology            |

**Total Hours needed for major through Junior Year** **104-107**

Students will receive a B.S. in Food Science, Nutrition and Health Promotion upon successful completion of their first year in the College of Veterinary Medicine at Mississippi State University.

If students do not obtain admittance into the School of Veterinary Medicine after their junior year, an optional 4th year that is listed below will allow these students to graduate with a B.S. in Food Science, Nutrition and Health Promotion (Food Safety Concentration) after their fourth year of studies as well as allow these students another year to attempt to earn admittance into the School of Veterinary Medicine.

**Optional Senior Year** **17**

|   |                                    |
|---|------------------------------------|
| FNH 4114  | Analysis of Food Products          |
| FNH 4164  | Quality Assurance of Food Products |
| FNH 4593  | New Food Product Development       |
| 6 hours of electives for 3000-4000 level FNH classes                    |                                    |
| Electives from the Electives list above to reach a minimum of 124 hours |                                    |

**Total Hours** **124**

- 1 45 hours is equal to 48-3 hours to account for the substitution for FNH 2293 in the major core.
- 2 Fulfills Jr/Sr Writing Requirement
- 3 Fulfills Computer Lit Requirement

## Food and Nutrition Concentration (FN)

Major Advisors: Amanda Conrad, Didactic Program in Nutrition and Dietetics Director and Instructor; Rahel Mathews, Assistant Professor; and Renee Matich, Instructor

|  |                       |
|--|-----------------------|
| <b>English Composition</b> <span style="float: right;"><b>6</b></span> |                       |
| EN 1103  | English Composition I |

|   |  |           |
|---|--|-----------|
| or EN 1163  | Accelerated Composition I                            |           |
| EN 1113   | English Composition II                               |           |
| or EN 1173  | Accelerated Composition II                           |           |
| <b>Fine Arts</b>                                      |  | <b>3</b>  |
| Select from University General Education Core         |  |           |
| <b>Natural Sciences</b>                               |  | <b>12</b> |
| CH 1213   | Chemistry I  |           |
| CH 1211   | Investigations in Chemistry I                        |           |
| CH 1223   | Chemistry II   |           |
| CH 1221   | Investigations in Chemistry II                       |           |
| BIO 3304  | General Microbiology                                 |           |
| <b>Math (General Education)</b>                       |  | <b>6</b>  |
| MA 1313   | College Algebra (or higher)                          |           |
| ST /BQA /MA 2113                                      | Introduction to Statistics                           |           |
| or ST 3123  | Introduction to Statistical Inference                |           |
| <b>Humanities (General Education)</b>                 |  | <b>6</b>  |
| Select from University General Education Core         |  |           |
| <b>Social/Behavioral Sciences (General Education)</b> |  | <b>6</b>  |
| PSY 1013  | General Psychology                                   |           |
| SO 1003   | Introduction to Sociology                            |           |
| or SO 1103  | Contemporary Social Problems                         |           |
| or SO 1203  | Sociology of Families                                |           |
| <b>Major Core Courses</b>                             |  | <b>17</b> |
| CH 2503   | Elementary Organic Chemistry                         |           |
| or CH 4513  | Organic Chemistry I                                  |           |
| CH 2501   | Elementary Organic Chemistry Laboratory              |           |
| or CH 4511  | Organic Chemistry Laboratory I                       |           |
| MGT 3513  | Introduction to Human Resource Management            |           |
| FNH 2293  | Individual and Family Nutrition                      |           |
| FNH 3111  | Food Science, Nutrition and Health Promotion Seminar |           |
| FNH 4243  | Composition and Chemical Reactions of Foods          |           |
| CO 1003   | Fundamentals of Public Speaking <sup>1</sup>         |           |
| or CO 1013  | Introduction to Communication                        |           |
| or CO 3213  | Small Group Communication                            |           |
| <b>Food and Nutrition Concentration</b>               |  | <b>59</b> |
| BCH 4013  | Principles of Biochemistry                           |           |
| BIO 1134  | Biology I  |           |
| BIO 3004  | Human Anatomy  |           |
| BIO 3014  | Human Physiology                                     |           |
| MGT 3113  | Principles of Management                             |           |
| KI 2603   | Medical Terminology                                  |           |
| FNH 2203  | Science of Food Preparation                          |           |
| FNH 3283  | The Food Service System                              |           |
| FNH 3701  | Nutrition Professional Development                   |           |
| FNH 3723  | Community Nutrition                                  |           |
| FNH 4013  | Nutrition Assessment                                 |           |
| FNH 4123  | Nutrition and Chronic Disease                        |           |
| FNH 4233  | Medical Nutrition Therapy                            |           |
| FNH 4253  | Macronutrients: Human Metabolism                     |           |
| FNH 4284  | Quantity Food Production and Service                 |           |
| FNH 4293  | Micronutrients: Human Metabolism <sup>3</sup>        |           |
| FNH 4353  | Nutrition Throughout the Life Cycle                  |           |

|                    |   |            |
|--------------------|---|------------|
| FNH 4363           | Research Methods in Food and Nutrition <sup>2</sup> |            |
| FNH 4373           | Nutrition Education and Counseling Skills           |            |
| <b>Electives</b>   |   | <b>9</b>   |
| <b>Total Hours</b> |   | <b>124</b> |

<sup>1</sup> Fulfills Oral Communication Requirement

<sup>2</sup> Fulfills Jr/Sr Writing Requirement

<sup>3</sup> Fulfills Computer Literacy Requirement

## Pre-Health Professions Concentration (PHP)

Major Advisors: Wes Schilling, Professor; Shecoya White, Assistant Professor; and Antonio Gardner, Assistant Professor

PHP is designed to develop students who have a thorough understanding of principles of food science and have also fulfilled the prerequisites for medical school or other health-related professional or graduate school programs.

### English Composition 6

|            |                            |  |
|------------|----------------------------|--|
| EN 1103    | English Composition I      |  |
| or EN 1163 | Accelerated Composition I  |  |
| EN 1113    | English Composition II     |  |
| or EN 1173 | Accelerated Composition II |  |

### Fine Arts 3

Select from General Education Core

### Math (General Education) 9

|                  |                                       |  |
|------------------|---------------------------------------|--|
| MA 1313          | College Algebra (or higher)           |  |
| ST /BQA /MA 2113 | Introduction to Statistics            |  |
| or ST 3123       | Introduction to Statistical Inference |  |
| MA 1713          | Calculus I                            |  |

### Natural Science 12

|          |                                |  |
|----------|--------------------------------|--|
| BIO 1134 | Biology I                      |  |
| CH 1213  | Chemistry I                    |  |
| CH 1211  | Investigations in Chemistry I  |  |
| CH 1223  | Chemistry II                   |  |
| CH 1221  | Investigations in Chemistry II |  |

### Humanities (General Education) 6

Select from General Education Core

### Social/Behavioral Sciences (General Education) 6

Select from General Education Core (SO 1013 and PSY 1073 recommended)

### Major Core 17

|            |  |  |
|------------|--|--|
| FNH 2293   | Individual and Family Nutrition                      |  |
| FNH 3111   | Food Science, Nutrition and Health Promotion Seminar |  |
| FNH 4243   | Composition and Chemical Reactions of Foods          |  |
| MGT 3513   | Introduction to Human Resource Management            |  |
| CH 4511    | Organic Chemistry Laboratory I                       |  |
| CH 4513    | Organic Chemistry I                                  |  |
| CO 1003    | Fundamentals of Public Speaking                      |  |
| or CO 1013 | Introduction to Communication                        |  |
| or CO 3213 | Small Group Communication                            |  |

### Pre-Health Professions Concentration 57

|           |  |  |
|-----------|--|--|
| AELC 3203 | Professional Writing in Agriculture, Natural Resources, and Human Sciences <sup>1</sup>              |  |
| AELC 4203 | Applications of Computer Tech to Agricultural Education, Leadership, and Communications <sup>2</sup> |  |
| BCH 4013  | Principles of Biochemistry   |  |
| BIO 1144  | Biology II   |  |
| BIO 3014  | Human Physiology   |  |



|   |                                      |
|---|--------------------------------------|
| BIO 3304  | General Microbiology                 |
| CH 4521   | Organic Chemistry Laboratory II      |
| CH 4523   | Organic Chemistry II                 |
| FNH 3103  | Introduction to Health Professions   |
| FNH 3163  | Basic Principles of Health Promotion |
| FNH 4123  | Nutrition and Chronic Disease        |
| FNH 4241  | Applied Food Chemistry               |
| FNH 4393  | Prevention and Control of Disease    |
| FNH 4414  | Microbiology of Foods                |
| FNH 4583  | Food Preservation Technology         |
| MA 1723   | Calculus II                          |
| PH 1113   | General Physics I                    |
| or PH 2213  | Physics I                            |
| PH 1123   | General Physics II                   |
| or PH 2223  | Physics II                           |
| PHI 3323  | Medical Ethics                       |
| Electives (Choose 2-3 classes based on requirements for specific health professional school; see advisor for options) |                                      |
| 8   |                                      |

**Total Hours****124**

- 1 Fulfills Jr/Sr Writing Requirement
- 2 Fulfills Computer Literacy Requirement

**B.S. in Culinology®**

Major Advisors: Wes Schilling, Professor and Shecoya White, Assistant Professor

The Culinology® degree program offers the opportunity to gain a broad education in Food Science and Culinary Arts. It involves the integration of Food Science and Culinary Arts so that students are prepared to work in diverse areas within the food industries -- from experimental research chefs and menu planners to food manufacturing, fine dining, and product development.

Culinology® is an approach to food that blends culinary arts and food technology. Through the blending of these two disciplines, Culinology® seeks to make food taste better -- whether purchased in a supermarket or eaten in a restaurant. Culinology® also seeks to make food more consistent and safer. A primary application of Culinology® is to logically translate sophisticated food concepts, such as those applied in fine dining or in a traditional ethnic cuisine, to items that are on the menus of chain restaurants or those processed for retail sale. Such chain-menu or retail product development is only possible through the astute combination of culinary arts and food science and technology.

According to Jeff Cousminer in Food Product Design Magazine, the word *Culinology®* was coined by the first president and founder of the Research Chefs Association, Winston Riley. The original meaning of the word was quite different than what it has come to mean today. Originally the word was designed to be a combination of two words, culinary and technology. So the first meaning of the word was the convergence of culinary arts and all technology, which includes communications, chemistry, physiology, economics and many others.

Accredited Culinology® educational programs are offered by many institutions. The curriculum included courses that combine the disciplines of cooking and food science. According to industry professionals, like Kraft's Harry Crane, Culinology® should "help jump-start product development."

**Degree Requirements**

|  |                                       |          |
|--|---------------------------------------|----------|
| <b>English Composition</b>             |                                       | <b>6</b> |
| EN 1103                                | English Composition I                 |          |
| or EN 1163                             | Accelerated Composition I             |          |
| EN 1113                                | English Composition II                |          |
| or EN 1173                             | Accelerated Composition II            |          |
| <b>Mathematics (General Education)</b> |                                       | <b>6</b> |
| MA 1313                                | College Algebra                       |          |
| ST 3123                                | Introduction to Statistical Inference |          |
| <b>Natural Sciences</b>                |                                       | <b>8</b> |
| CH 1213                                | Chemistry I                           |          |
| CH 1211                                | Investigations in Chemistry I         |          |
| CH 1223                                | Chemistry II                          |          |

|  |  |            |
|--|--|------------|
| CH 1221  | Investigations in Chemistry II   |            |
| <b>Humanities (General Education)</b>                      |  | <b>6</b>   |
| Select from General Education courses                      |  |            |
| <b>Fine Arts (General Education)</b>                       |  | <b>3</b>   |
| Select from General Education courses                      |  |            |
| <b>Social/Behavioral Sciences (General Education)</b>      |  | <b>6</b>   |
| Select from General Education courses (w/advisor approval) |  |            |
| <b>Major Requirements</b>                                  |  | <b>78</b>  |
| CH 2503  | Elementary Organic Chemistry   |            |
| CH 2501  | Elementary Organic Chemistry Laboratory                                    |            |
| BIO 1134   | Biology I  |            |
| BIO 3304   | General Microbiology   |            |
| FNH 1103   | Introduction to Food Science, Nutrition and Health Promotion               |            |
| FNH 2203   | Science of Food Preparation  |            |
| FNH 2112   | Food Products Evaluation   |            |
| FNH 2293   | Individual and Family Nutrition  |            |
| FNH 4164   | Quality Assurance of Food Products   |            |
| FNH 4333   | Food Law   |            |
| FNH 4583   | Food Preservation Technology   |            |
| FNH 4593   | New Food Product Development   |            |
| FNH 4243   | Composition and Chemical Reactions of Foods                                |            |
| FNH 4241   | Applied Food Chemistry   |            |
| FNH 4414   | Microbiology of Foods  |            |
| CA 1251  | ServSafe <sup>MUW</sup>  |            |
| CA 2003  | Introduction to Culinary Arts <sup>MUW</sup>                               |            |
| CA 3005  | Food Prep I <sup>MUW</sup>   |            |
| CA 3015  | Food Prep II <sup>MUW</sup>  |            |
| CA 3023  | Menu and Recipe Development <sup>MUW</sup>                                 |            |
| CA 3500  | CA Internship <sup>2</sup>   |            |
| or FNH 4480  | Food Science Internship  |            |
| CA 4005  | Food Preparation III <sup>MUW</sup>  |            |
| CA 4013  | World Cuisines <sup>MUW</sup>  |            |
| CA 4103  | Business Skills in Culinary Arts <sup>MUW</sup>                            |            |
| <b>CA/FNH Electives</b>                                    |  | <b>5-6</b> |
| Choose from list of approved electives <sup>1</sup>        |  |            |
| <b>Oral Communication Requirement</b>                      |  | <b>3</b>   |
| CO 1003  | Fundamentals of Public Speaking  |            |
| or CO 3213   | Small Group Communication  |            |
| <b>Writing Requirement</b>                                 |  | <b>3</b>   |
| AELC 3203  | Professional Writing in Agriculture, Natural Resources, and Human Sciences |            |
| <b>Total Hours</b>   |  | <b>124</b> |

MUW CA courses offered by Mississippi University for Women in Columbus, Mississippi

<sup>1</sup> At least 3 hours must be FNH or business (ACC, MKT, MGT) electives and at least 3 hours must be Culinary Arts (CA) electives: FNH 4363 Research Methods in Food and Nutrition, FNH 4114 Analysis of Food Products, FNH 4143 Dairy Foods Processing, FNH 3314 , FNH 4514 Poultry Processing, FNH 4573 Food Engineering Fundamentals, FNH 3283 The Food Service System, FNH 4283 Purchasing Food and Equipment for Food Service Systems, ACC 2013 Principles of Financial Accounting, MKT 3013 Principles of Marketing, MGT 3513 Introduction to Human Resource Management, CA 3103 Dining Room Service, CA 3153 Demonstration Techniques, CA 3753 Advancing Baking, CA 4153 Food Styling, CA 2603 CA Entrepreneurship, CA 3623 Business Law for CA, CA 3633 Service Design and Management, CA 3643 CA Venture Marketing, CA 3653 HR Management of Culinary Business, CA 4603 Culinary Arts Entrepreneurship

<sup>2</sup> To be completed after the Junior or Senior Year.

## Food Science Minor

Students will be required to complete the following courses to receive a minor in Food Science:

|  |  |           |
|--|--|-----------|
| FNH 4241   | Applied Food Chemistry                                       | 1         |
| FNH 4243   | Composition and Chemical Reactions of Foods                  | 3         |
| FNH 4414   | Microbiology of Foods  | 4         |
| FNH 4583   | Food Preservation Technology                                 | 3         |
| Choose 7 or more credits from the following electives: |  | 7         |
| FNH 4593   | New Food Product Development                                 |           |
| FNH 1103   | Introduction to Food Science, Nutrition and Health Promotion |           |
| FNH 3314   |  |           |
| FNH 4164   | Quality Assurance of Food Products                           |           |
| FNH 4143   | Dairy Foods Processing                                       |           |
| FNH 4514   | Poultry Processing   |           |
| FNH 4114   | Analysis of Food Products                                    |           |
| <b>Total Hours</b>                                     |  | <b>18</b> |

## Meat Science Certificate

Major Advisor: Wes Schilling

The Department of Food Science, Nutrition, and Health Promotion and the Department of Animal and Dairy Sciences offer a Meat Science Certificate for students who wish to specialize in the meat processing industry. Students must complete a total of 24 credit hours as described below to be eligible for the certificate. Nineteen credit hours are in required courses, with the remaining 5 hours to be selected from several electives. Students must also complete 300 hours of hands-on experiential learning in meat processing, research, and extension activities. With this approach, students will be career ready professionals equipped with a comprehensive understanding of industry and a skill set designed for them to make an immediate impact in meat science government, academic, or industry positions upon graduation.

## Certificate Requirements

### Required Courses

|   |   |     |
|---|---|-----|
| ADS 3314<br>or FNH 3314                         |   |     |
| FNH 4333  | Food Law  | 3   |
| FNH 4414<br>or BIO 4414                         | Microbiology of Foods<br>Microbiology of Foods  | 4   |
| FNH 4514<br>or PO 4514                          | Poultry Processing<br>Poultry Processing  | 4   |
| FNH 4480<br>or ADS 4420                         | Food Science Internship (3 credits must be at meat processing or related facility)<br>Animal and Dairy Science Internship | 1-6 |
| HACCP Training (as a Directed Individual Study) |   | 1   |

### Electives

Choose a minimum of 5 credit hours from the following:

|                         |  |  |
|-------------------------|--|--|
| ADS 3142<br>or FNH 3142 | Meats Judging I<br>Meats Judging I   |  |
| ADS 3214                | Livestock Growth and Development   |  |
| ADS 4243<br>or FNH 4243 | Composition and Chemical Reactions of Foods<br>Composition and Chemical Reactions of Foods |  |
| ADS 4313<br>or FNH 4313 | Advanced Science of Muscle Foods<br>Advanced Science of Muscle Foods                       |  |
| FNH 4114                | Analysis of Food Products  |  |
| FNH 4164                | Quality Assurance of Food Products   |  |
| FNH 4241                | Applied Food Chemistry   |  |
| FNH 4512                | Poultry Products Safety and Sanitation   |  |

or PO 4512

Poultry Products Safety and Sanitation

**Total Hours (minimum)**

**24**