

# Food Science

## College of Agriculture, Food and Environment

Food science is the study of the transformation of biological materials into food products acceptable for human consumption. This requires studying diverse scientific disciplines related to food, including chemistry, engineering, microbiology, biochemistry, toxicology, and management; and effectively applying the industrial and practical aspects to product development, food processing, preservation, and marketing. The program is administered by the Department of Animal and Food Sciences and offers training in the basic sciences and in the fundamentals of food science.

Career opportunities in food industries include: management, research and development of new food products and ingredients, process supervision, quality control, procurement, distribution, sales, and merchandising. Positions include sales and services in allied industries; consulting and trade association activities; and promotional and educational services. Governmental agencies employ food scientists whose work is directed towards research, regulatory control, and the development of food standards.

### Graduation Requirements

To earn the Bachelor of Science in Food Science, the student must complete a minimum of 128 semester hours with at least 45 hours from courses at the 300 level and above. A 2.0 grade-point standing (on a 4.0 scale) is necessary and remedial courses may **not** be counted toward the total hours required for the degree.

The Food Science program meets the requirements for accreditation by the Institute of Food Technologists and the National Organization of Food Science Professionals.

Each student must complete the following:

### UK Core Requirements

See the *UK Core* section of the 2016-2017 *Undergraduate Bulletin* for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

#### I. Intellectual Inquiry in Arts and Creativity

Choose one course from approved list ..... 3

#### II. Intellectual Inquiry in the Humanities

Choose one course from approved list ..... 3

#### III. Intellectual Inquiry in the Social Sciences

Choose one course from approved list ..... 3

#### IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences

CHE 105 General College Chemistry I ..... 4

CHE 111 Laboratory to Accompany General Chemistry I ..... 1

#### V. Composition and Communication I

CIS/WRD 110 Composition and Communication I ..... 3

#### VI. Composition and Communication II

CIS/WRD 111 Composition and Communication II ..... 3

#### VII. Quantitative Foundations

MA 113 Calculus I

or

MA 123 Elementary Calculus and Its Applications

or

MA 137 Calculus I With Life Science Applications ..... 4

#### VIII. Statistical Inferential Reasoning

STA 296 Statistical Methods and Motivations ..... 3

#### IX. Community, Culture and Citizenship in the USA

GEN 100 Issues in Agriculture, Food and Environment ..... 3

#### X. Global Dynamics

Choose one course from approved list ..... 3

**UK Core hours** ..... **33**

#### Graduation Composition and Communication Requirement (GCCR)

WRD 203 Business Writing ..... 3

#### Graduation Composition and Communication Requirement hours (GCCR)

..... **3**

#### Premajor Requirements

#### Hours

BIO 148 Introductory Biology I ..... 3

BIO 152 Principles of Biology II ..... 3

ECO 201 Principles of Economics I ..... 3

BIO 208 Principles of Microbiology ..... 3

BIO 209 Introductory Microbiology Laboratory ..... 2

CHE 105 General College Chemistry I ..... 4

CHE 107 General College Chemistry II ..... 3

CHE 111 Laboratory to Accompany General Chemistry I ..... 1

CHE 113 Laboratory to Accompany General Chemistry II ..... 2

CHE 236 Survey of Organic Chemistry

or

CHE 230 Organic Chemistry I ..... 3

DHN 212 Introductory Nutrition ..... 3

MA 113 Calculus I

or

MA 123 Elementary Calculus and Its Applications

or

MA 137 Calculus I With Life Science Applications ..... 4

STA 296 Statistical Methods and Motivations ..... 3

**Subtotal: Premajor hours** ..... **37**

#### Major Requirements

#### Hours

##### Required:

FSC 107 Introduction to Food Science ..... 3

FSC 306 Introduction to Food Processing ..... 4

FSC 395 Special Problems in Food Science ..... 3

or

FSC 399 Experiential Learning in Animal Sciences/Food Science ..... 3

or

EXP 396 Experiential Education ..... 3-6

FSC 434G Food Chemistry ..... 4

FSC 530 Food Microbiology ..... 5

FSC 535 Food Analysis ..... 4

FSC 536 Advanced Food Technology ..... 4

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University of Kentucky is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award associate, baccalaureate, masters, and doctorate degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097, call 404-679-4500, or online at [www.sacscoc.org](http://www.sacscoc.org) for questions about the accreditation of University of Kentucky.

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plus at least three of the following courses:

FSC 304 Animal Food Products .....	4
FSC 430 Sensory Evaluation of Foods .....	3
FSC 538 Food Fermentation and Thermal Processing .....	4
FSC 540 Food Sanitation .....	3
<b>Subtotal: Major hours .....</b>	<b>38-41</b>

## Specialty Support

AEN 340 Principles of Food Engineering .....	4
DHN 311 Nutritional Biochemistry	
<b>or</b>	
BCH 401G Fundamentals of Biochemistry .....	3
PHY 211 General Physics .....	5

plus two of the following courses:

AEC 305 Food and Agricultural Marketing Principles .....	3
ASC 300 Meat Science .....	4
CLD 230 Intrapersonal Leadership	
<b>or</b>	
CLD 340 Community Interaction .....	3
<b>Subtotal: Specialty Support .....</b>	<b>18-19</b>

## Electives

Elective courses should be selected by the student to lead to the minimum total of 120 hours required for graduation.

<b>Subtotal: Electives .....</b>	<b>6</b>
<b>TOTAL HOURS: .....</b>	<b>120</b>