**FOOD SCIENCE, B.S.**

**Begin Campus:** Any Penn State Campus  
**End Campus:** University Park

## Degree Requirements

For the Bachelor of Science degree in Food Science, a minimum of 121 credits is required:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
<td>45</td>
</tr>
<tr>
<td>Electives</td>
<td>2</td>
</tr>
<tr>
<td>Requirements for the Major</td>
<td>98</td>
</tr>
</tbody>
</table>

24 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 9 credits of GN courses; 6 credits of GQ courses; 9 credits of GWS courses.

### Requirements for the Major

To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (http://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44).

#### Prescribed Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 110</td>
<td>Biology: Basic Concepts and Biodiversity</td>
<td>4</td>
</tr>
<tr>
<td>BMB 211</td>
<td>Elementary Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>BMB 212</td>
<td>Elementary Biochemistry Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 110</td>
<td>Chemical Principles I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 111</td>
<td>Experimental Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 112</td>
<td>Chemical Principles II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 113</td>
<td>Experimental Chemistry II</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 202</td>
<td>Fundamentals of Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>FDSC 409</td>
<td>Laboratory in Food Microbiology</td>
<td>2</td>
</tr>
<tr>
<td>FDSC 410</td>
<td>Food Chemistry and Analysis (II)</td>
<td>3</td>
</tr>
<tr>
<td>FDSC 411</td>
<td>Managing Food Quality</td>
<td>3</td>
</tr>
<tr>
<td>FDSC 413</td>
<td>Science and Technology of Plant Foods</td>
<td>3</td>
</tr>
<tr>
<td>FDSC 414</td>
<td>Science and Technology of Dairy Foods</td>
<td>3</td>
</tr>
<tr>
<td>FDSC 415</td>
<td>Science and Technology of Muscle Foods</td>
<td>3</td>
</tr>
<tr>
<td>FDSC 417</td>
<td>Food Laws and Regulations</td>
<td>3</td>
</tr>
<tr>
<td>FDSC 450</td>
<td>Food Innovation and Product Design</td>
<td>3</td>
</tr>
<tr>
<td>MICRB 201</td>
<td>Introductory Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>MICRB 202</td>
<td>Introductory Microbiology Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>PHYS 250</td>
<td>Introductory Physics I</td>
<td>4</td>
</tr>
</tbody>
</table>

*Prescribed Courses: Require a grade of C or better*

- CAS 100 | Effective Speech                              | 3       |
- ENGL 15 | Rhetoric and Composition                      | 3       |
- FDSC 200 | Introductory Food Science                     | 3       |
- FDSC 201 | Introductory Food Science Practicum          | 1       |
- FDSC 400 | Food Chemistry and Analysis (I)              | 3       |
- FDSC 405 | Food Engineering Principles                  | 3       |
- FDSC 406W | Physiology of Nutrition                      | 3       |
- FDSC 408 | Food Microbiology                             | 3       |
- STAT 250 | Introduction to Biostatistics                | 3       |

### Additional Courses

- **FDSC 403 or FDSC 404** | Sensory Data Collection & Analysis or Sensory Evaluation of Foods | 3       |

*Additional Courses: Require a grade of C or better*

- ENGL 202C | Effective Writing: Business Writing         | 3       |
- MATH 110 | Techniques of Calculus I                    | 4       |
- MATH 140 | Calculus With Analytic Geometry I           | 3       |

### Supporting Courses and Related Areas

- To reflect the student's career interests, select 12 credits from department list or in consultation with adviser.

#### General Education

Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (https://bulletins.psu.edu/undergraduate/general-education/baccalaureate-degree-general-education-program/) section of the Bulletin and consult your academic adviser.

The keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program.

**Foundations (grade of C or better is required.)**

- Quantification (GQ): 6 credits
- Writing and Speaking (GWS): 9 credits

**Knowledge Domains**

- Arts (GA): 6 credits
- Health and Wellness (GHW): 3 credits
- Humanities (GH): 6 credits
- Social and Behavioral Sciences (GS): 6 credits
- Natural Sciences (GN): 9 credits

**Integrative Studies (may also complete a Knowledge Domain requirement)**

- Inter-Domain or Approved Linked Courses: 6 credits

### University Degree Requirements

#### First Year Engagement

All students enrolled in a college or the Division of Undergraduate Studies at University Park, and the World Campus are required to take 1 to 3 credits of the First-Year Seminar, as specified by their college First-Year Engagement Plan.

Other Penn State colleges and campuses may require the First-Year Seminar; colleges and campuses that do not require a First-Year Seminar provide students with a first-year engagement experience.
First-year baccalaureate students entering Penn State should consult their academic adviser for these requirements.

**Cultures Requirement**

6 credits are required and may satisfy other requirements

- United States Cultures: 3 credits
- International Cultures: 3 credits

**Writing Across the Curriculum**

3 credits required from the college of graduation and likely prescribed as part of major requirements.

**Total Minimum Credits**

A minimum of 120 degree credits must be earned for a baccalaureate degree. The requirements for some programs may exceed 120 credits. Students should consult with their college or department adviser for information on specific credit requirements.

**Quality of Work**

Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

**Limitations on Source and Time for Credit Acquisition**

The college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 (http://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80)). For more information, check the Suggested Academic Plan for your intended program.