### University Core and Graduation Requirements

#### University Core Requirements:

- **Religion Cornerstones**
  - Teachings and Doctrine of The Book of Mormon
  - Jesus Christ and the Everlasting Gospel
  - Foundations of the Restoration
  - The Eternal Family

- **The Individual and Society**
  - American Heritage
  - Global and Cultural Awareness

- **Skills**
  - First Year Writing
  - Advanced Written and Oral Communications
  - Quantitative Reasoning
  - Languages of Learning (Math or Language)

- **Arts, Letters, and Sciences**
  - Civilization 1
  - Civilization 2
  - Arts
  - Letters
  - Biological Science
  - Physical Science
  - Social Science

- **Core Enrichment: Electives**
  - Religion Electives
  - Open Electives

#### Graduation Requirements:

- Minimum residence hours required: 30.0
- Minimum hours needed to graduate: 120.0

### Suggested Sequence of Courses

#### FRESHMAN YEAR

**1st Semester**

- CHEM 105 (FWSpSu) 4.0
- First Year Writing or American Heritage 3.0
- Quantitative Reasoning (if needed) 3.0
- NDFS 191 1.0
- Religion Cornerstone course 2.0
- General Elective 2.0

**Total Hours**: 15.0

The following semester recommendations are for the Food Science Technical Track.

#### SOPHOMORE YEAR

**2nd Semester**

- CHEM 106, 107 (FWSpSu) 4.0
- NDFS 100 (FWSu) 3.0
- PHSCS 105 (FWSp) 3.0
- Religion Cornerstone course 2.0

**Total Hours**: 15.0

**3rd Semester**

- CHEM 351 (FWSp) 3.0
- MATH 112 (FWSpSu) 4.0
- NDFS 250 (FWSp) 3.0
- NDFS 251 (FWSp) 1.0
- BIO 100 or PDBIO 120 3.0
- Religion Cornerstone Course 2.0

**Total Hours**: 16.0

**4th Semester**

- CHEM 352 (FWSpSu) 3.0
- CHEM 353 (FWSpSu) 1.0
- MMBIO 221 (FWSpSu) (Biological Science) 3.0
- MMBIO 222 (FWSpSu) 1.0
- Religion Cornerstone Course 2.0
- STAT 121 3.0
- General Elective 2.0

**Total Hours**: 15.0

#### JUNIOR YEAR

**5th Semester**

- Arts or Letters elective 3.0
- WRTG 336 (FWSpSu) (Adv. Writing) 3.0
- NDFS 351 (F) 3.0
- NDFS 362 (F) 2.0
- Religion elective 2.0

**Total Hours**: 15.0

**6th Semester**

- NDFS 350 (W) 4.0
- NDFS 355 (W) 3.0
- NDFS 363 (W) 2.0
- Religion electives 2.0
- General elective 3.0

**Total Hours**: 14.0

#### SENIOR YEAR

**7th Semester**

- CHEM 481 (FWSpSu) 3.0
- NDFS 450 (F) 3.0
- NDFS 462 (F) 3.0
- Civilization 1 elective 3.0
- Arts or Letters elective 3.0

**Total Hours**: 15.0

**8th Semester**

- NDFS 464 (W) 2.0
- NDFS 465 (W) 3.0
- Social Science elective 3.0
- Religion elective 2.0
- Civilization 2 elective 3.0
- Global & Cultural Awareness elective 3.0

**Total Hours**: 16.0

Note: Students are encouraged to complete an average of 15 credit hours each semester or 30 credit hours each year, which could include spring and/or summer terms. Taking fewer credits substantially increases the cost and the number of semesters to graduate.
Consult with a faculty advisor prior to finalizing your curriculum plan.

### REQUIREMENT 1
Complete 14 courses

**CORE REQUIREMENTS:**

- CHEM 105 - General College Chemistry 1 with Lab (Integrated)
- MMBIO 221 - General Microbiology
- MMBIO 222 - General Microbiology Laboratory
- NDFS 100 - Essentials of Human Nutrition
- NDFS 191 - Careers in Food Science
- NDFS 250 - Essentials of Food Science Laboratory
- NDFS 355 - Food Process Engineering
- NDFS 361 - Food Microbiology
- NDFS 362 - Food Processing
- NDFS 465 - Food Product Development
- NDFS 464 - Food Sensory Evaluation
- NDFS 450 - Food Chemistry
- NDFS 465 - Food Product Development
- CHEM 105 - General College Chemistry 1
- CHEM 106 - General College Chemistry 2
- MFGEN 355 - Plastics Materials and Processing
- NDFS 200 - Nutrient Metabolism
- NDFS 200 - Food Chemistry
- NDFS 399R - Academic Internship
- NDFS 399R - Academic Internship
- NDFS 399R - Academic Internship
- TECH 201 - (Not currently offered)
- TECH 202 - (Not currently offered)

### REQUIREMENT 2
Complete 1 option

#### COMPLETE ONE OF THE FOLLOWING TRACKS:

**OPTION 2.1 Complete 2 groups**

**A. FOOD SCIENCE TECHNICAL TRACK:**

**GROUP 2.1.1 Complete 25.0 hours from the following course(s):**

- CHEM 120 - Science of Biology
- CHEM 106 - General College Chemistry 2
- CHEM 107 - General College Chemistry Laboratory
- CHEM 351 - Organic Chemistry 1
- CHEM 352 - Organic Chemistry 2
- CHEM 353 - Organic Chemistry Laboratory - Nonmajors
- CHEM 481 - Biochemistry
- NDFS 450 - Food Chemistry
- NDFS 464 - Food Sensory Evaluation
- NDFS 465 - Food Product Development
- MATH 112 - Calculus 1
- MATH 119 - Introduction to Calculus

**GROUP 2.1.2 Complete 1 course**

- WRTG 316 - Technical Communication

**OPTION 2.2 Complete 4 groups**

**B. FOOD INDUSTRY MANAGEMENT TRACK:**

**GROUP 2.2.1 Complete 7 courses**

- ACC 200 - Principles of Accounting

**GROUP 2.2.2 Complete 1 course from the following course(s):**

- ENT 381 - Entrepreneurship Lecture Series
- ENT 382 - Technology Entrepreneurship Lecture Series
- MSB 380 - Executive Lectures
- ENT 381 - Business Model Ideation & Validation

**GROUP 2.2.3 Complete 1 course**

- NDFS 399R - Academic Internship

**GROUP 2.2.4 Complete 1 course**

- NDFS 399R - Academic Internship

**RECOMMENDED Complete 1 course**

- TECH 201 - (Not currently offered)
- TECH 202 - (Not currently offered)
- WRTG 316 - Technical Communication

### REQUIREMENT 3

**RECOMMENDED Complete 1 course**

- M COM 320 - Management Communication
- WRTG 316 - Technical Communication

### A. FOOD SCIENCE TECHNICAL TRACK - RECOMMENDED COURSES (CONSULT WITH A FACULTY ADVISOR BEFORE SELECTING):**

- CHEM 223 - (Not currently offered)
- ECON 110 - Economic Principles and Problems
- IAS 220 - Introduction to Development Studies
- MFGEN 355 - Plastics Materials and Processing
- NDFS 200 - Nutrient Metabolism
- PHSCS 106 - General Physics 2
- PHSCS 107 - General Physics Lab 1
- PHSCS 108 - General Physics Lab 2
- PWS 100 - Plants in the Environment
- STDEV 150 - Public Speaking
- STDEV 317 - Job and Internship Search Strategies

### B. FOOD INDUSTRY MANAGEMENT TRACK - RECOMMENDED COURSES (CONSULT WITH A FACULTY ADVISOR BEFORE SELECTING):**

**RECOMMENDED Complete 2 options**

- M COM 320 - Management Communication
- WRTG 316 - Technical Communication

### THE DISCIPLINE:

Food Science is the multidisciplinary study of food and the application of knowledge thus gained to developing food products and processes, preserving and storing food, and assuring food safety and quality. Food science addresses the conversion of raw agricultural products into a nutritious, convenient, and economical food supply. Most of the food products available in grocery stores were developed, produced and tested by food scientists. Students graduating in Food Science are well prepared for immediate employment in
the food industry. The technical track curriculum also provides excellent preparation as a premedical, predental or other preprofessional major. With one additional credit hour, students graduating in the technical track are able to obtain a minor in chemistry. Students pursuing the management track are eligible to apply for a business minor and are well prepared for graduate studies in a Master of Business Administration (MBA) program.

**PRACTICAL EXPERIENCE AND INTERNSHIPS:**
Students can get hands-on experience working several semesters with faculty on research projects. Summer work opportunities are available with many food companies in numerous cities. The department has developed ongoing summer internships with several food companies.

**PROFESSIONAL ASSOCIATION:**
BYU's food science technical track curriculum has been reviewed and approved by the Institute of Food Technologists (IFT), the professional society of food scientists.

**HONORARY SOCIETIES AND CLUBS:**
Students and faculty interact in the various social, service and career-related activities of the Food Science Club. The Food Science Club is a student chapter of IFT and participates in the statewide IFT Bonneville Section, which helps students develop a network of professional contacts. Students may also participate in Food Science College Bowl and other student competitions sponsored by IFT.

**CAREERS:**
Food Science provides excellent career prospects in the worldwide, multibillion dollar food industry. The food industry is consistently looking for graduates to fill all of the unique and challenging opportunities available. Potential careers include:

- **Food plant production manager** - Manages and supervises food processing plant. Uses technical and business skills to ensure economical production. Manages personnel and solves food production problems.
- **Food ingredient technical salesperson** - Contacts industrial customers or potential users of food ingredients. Provides technical insight and assistance. Extends the company's products among consuming companies.
- **Basic research scientist** - Conducts basic and applied food research. Works in industry, academia, or government.

See faculty advisor for additional career choices.

**FINANCING:**
Scholarships are available from the department, the college, and IFT. University and federal sources of scholarships and financing are also available. Many students work part time to help with finances. Research opportunities and summer work are available for most students. Work in the department as research or teaching assistants is available for some qualified students.

**MAP DISCLAIMER**
While every reasonable effort is made to ensure accuracy, there are some student populations that could have exceptions to listed requirements. Please refer to the university catalog and your college advisement center/department for complete guidelines.

### DEPARTMENT INFORMATION
**Nutrition, Dietetics, and Food Science**
Brigham Young University
S-221 Eyring Science Center
Provo, UT 84602
Telephone: (801) 422-3912
FAX: (801) 422-0258
E-Mail: laura_jefferies@byu.edu

### ADVISEMENT CENTER INFORMATION
**Life Sciences Advisement**
Brigham Young University
2060 Life Sciences Building
Provo, UT 84602
Telephone: (801) 422-3042
lifesciences@byu.edu

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<thead>
<tr>
<th>BS in Food Science (284320)</th>
<th>2022-2023</th>
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<tbody>
<tr>
<td><strong>Food plant production manager</strong></td>
<td>Manages and supervises food processing plant. Uses technical and business skills to ensure economical production. Manages personnel and solves food production problems.</td>
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<tr>
<td><strong>Quality assurance director</strong></td>
<td>Generates specifications and supervises analyses of raw materials and ingredients. Monitors food processing and assures final product quality. Assures proper sanitation.</td>
</tr>
<tr>
<td><strong>Food ingredient technical salesperson</strong></td>
<td>Contacts industrial customers or potential users of food ingredients. Provides technical insight and assistance. Extends the company’s products among consuming companies.</td>
</tr>
<tr>
<td><strong>Basic research scientist</strong></td>
<td>Conducts basic and applied food research. Works in industry, academia, or government.</td>
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| **Food research and development scientist** | Develops new food products according to market demand. Improves and modifies existing foods to meet current consumer wants. Participates in manufacturing scale-up and commercialization of lab prototypes. |