

# FOOD SCIENCE (BS)

## Degree Requirements and Curriculum

In addition to the program requirements listed on this page, students must also satisfy requirements outlined in more detail in the Minimum Requirements for Graduation (<https://catalog.calpoly.edu/academic-standards-policies/general-requirements-bachelors-degree/>) section of this catalog, including:

- 40 units of upper-division courses
- 2.0 GPA
- Graduation Writing Requirement (GWR)
- U.S. Cultural Pluralism (USCP)

Note: No Major, Support or Concentration courses may be selected as credit/no credit. In addition, no more than 12 units of cooperative or internship courses can count towards your degree requirements.

Code	Title	Units
<b>MAJOR COURSES</b>		
FDSC 1101	Orientation to the Food Science Major	1
FDSC 1110 or FSN 1111	Introduction to Food Science and Sustainability Elements of Food Processing	3
FSN 2202	Introduction to Human Nutrition	3
FSN 2250	Food and Nutrition: Culture and Customs (USCP)	3
FDSC 3310	Food Laws and Regulations	3
FDSC 3330	Food Processing and Engineering I	4
FDSC 3340	Food Quality Assurance and Prerequisite Programs	4
FDSC 3345	Food Safety and Sanitation	4
FDSC 3350	Food Chemistry	4
FDSC 3355	Food Analysis	3
FDSC 4420	Sensory Evaluation of Food	3
FDSC 4425 & FDSC 4426	Food Product Development and Food Science Exit Exam	3
<b>Concentrations</b>		
(See list of Concentrations below)		12
<b>SUPPORT COURSES</b>		
BIO 1111	General Biology (5B) <sup>1</sup>	3
CHEM 1120	Fundamentals of Chemical Structure and Properties (5A & 5C) <sup>1</sup>	4
CHEM 1122	Fundamentals of Chemical Reactivity	4
CHEM 2240	Organic Chemistry: Fundamentals and Applications	4
CHEM 3350	Biochemistry: Fundamentals and Applications (Upper-Division 2/5) <sup>1</sup>	4
MATH 1261	Calculus I (2) <sup>1</sup>	4
MCRO 2221	Introduction to Microbiology	4
MCRO 4421	Food Microbiology	3
PHYS 1121	College Physics I	4
STAT 1110	Applied Statistical Concepts and Methods	3
STAT 3320	Statistical Methods for Food Science	3
<b>GENERAL EDUCATION (GE)</b>		
(See GE program requirements below)		30
<b>FREE ELECTIVES</b>		
Free Electives		0
<b>Total Units</b>		<b>120</b>

<sup>1</sup> Required in Major or Support; also satisfies General Education (GE) requirement.

## Concentrations

### Culinology®

Code	Title	Units
<b>REQUIRED COURSES</b>		
FSN 1121	Fundamentals of Food	3
FSN 3304	Culinology	3
FSN 3323	Culinary Internship	1
FSN 3346	Institutional Food Service	3
FDSC 4462	Senior Project - Internship	2
<b>Total Units</b>		<b>12</b>

### Food Safety

Code	Title	Units
<b>REQUIRED COURSES</b>		
FDSC 4430	Food Processing and Engineering II	4
FDSC 4445	Food Safety Modernization Act: Human Food Safety and Produce Safety	3
Select from the following:		2
FDSC 4460	Senior Project - Scientific and Technical Writing Course	
FDSC 4461	Senior Project - Research	
FDSC 4462	Senior Project - Internship	
<b>Approved Electives</b>		
Select from the following:		3
ASCI 4415	HACCP for Meat and Poultry Operations	
DSCI 3344	Dairy Microbiology	
DSCI 4402	Quality Assurance and Control of Dairy Products	
FDSC 5545	Advanced Food Safety	
MCRO 3342	Public Health Microbiology	
PLSC 4421	Postharvest Technology	
<b>Total Units</b>		<b>12</b>

### Sustainable Food Technology

Code	Title	Units
<b>REQUIRED COURSES</b>		
FDSC 4430	Food Processing and Engineering II	4
Select from the following:		2
FDSC 4460	Senior Project - Scientific and Technical Writing Course	
FDSC 4461	Senior Project - Research	
FDSC 4462	Senior Project - Internship	
Select from the following:		6
BRAE 3348	Energy for a Sustainable Society	
BRAE 3349	Water for a Sustainable Society	
BRAE 5436	Food and Agriculture Process Water Engineering	
NR 3324	Social Dimensions of Sustainable Food Systems	
<b>Total Units</b>		<b>12</b>

## General Education (GE) Requirements

- 43 units required, 13 of which are specified in Major and/or Support.
- If any of the remaining 30 Units is used to satisfy a Major or Support requirement, additional units of Free Electives may be needed to complete the total units required for the degree.
- See the complete GE course listing (<https://catalog.calpoly.edu/academic-standards-policies/general-requirements-bachelors-degree/#generaleducationtext>).

- A grade of C- or better is required in one course in each of the following GE Areas: 1A (English Composition), 1B (Critical Thinking), 1C (Oral Communication), and 2 (Mathematics and Quantitative Reasoning).

**Lower-Division General Education**

<b>Area 1</b>	<b>English Communication and Critical Thinking</b>	
1A	Written Communication	3
1B	Critical Thinking	3
1C	Oral Communication	3
<b>Area 2</b>	<b>Mathematics and Quantitative Reasoning</b>	
2	Mathematics and Quantitative Reasoning (3 units in Support) <sup>1</sup>	0
<b>Area 3</b>	<b>Arts and Humanities</b>	
3A	Arts	3
3B	Humanities: Literature, Philosophy, Languages other than English	3
<b>Area 4</b>	<b>Social and Behavioral Sciences (Area 4 courses must come from at least two different course prefixes.)</b>	
4A	American Institutions (Title 5, Section 40404 Requirement)	3
4B	Social and Behavioral Sciences	3
<b>Area 5</b>	<b>Physical and Life Sciences</b>	
5A	Physical Sciences (3 units in Support) <sup>1</sup>	0
5B	Life Sciences (3 units in Support) <sup>1</sup>	0
5C	Laboratory (may be embedded in a 5A or 5B course) (1 units in Support) <sup>1</sup>	0
<b>Area 6</b>	<b>Ethnic Studies</b>	
6	Ethnic Studies	3
<b>Upper-Division General Education</b>		
Upper-Division 2/5	Mathematics and Quantitative Reasoning or Physical and Life Sciences (3 units in Support) <sup>1</sup>	0
Upper-Division 3	Arts and Humanities	3
Upper-Division 4	Social and Behavioral Sciences (Area 4 courses must come from at least two different course prefixes.)	3
<b>Total Units</b>		<b>30</b>

<sup>1</sup> Required in Major or Support; also satisfies General Education (GE) requirement.