

FOOD SCIENCE AND TECHNOLOGY (CULINARY SCIENCE) - BACHELOR OF SCIENCE IN FOOD SCIENCE AND TECHNOLOGY

Food science is the science of food. Food scientists study the physical, microbiological, and chemical makeup of food. Food technology is the application of food science to the selection, preservation, processing, packaging, distribution, and use of safe food. The food industry is the largest manufacturing industry in the United States. This multidisciplinary field applies scientific disciplines including chemistry, microbiology, nutrition and engineering to develop new food products as well as the processes designed to improve food safety and the quality of foods. Food scientists develop new foods, add value to raw food commodities and improve the quality and safety of foods. There are three concentration areas offered to allow students to focus on a specific area of interest:

1. Science, Engineering and Technology
2. Culinary Science
3. Meat Science

Consider exploring food science through our introductory course: Food Science I (FSTE 263G) which fulfills the general education Area III Laboratory Science requirement. Food scientists typically work in the food and beverage industry in the areas of quality assurance, product development, product procurement, research, sensory evaluation, sales, and food safety regulations. Graduates of the program will also be prepared for postgraduate studies leading to research, production and management careers in the food and feed industries, government and academia.

A minimum grade of C- is required in all classes with CHEM, BCHE, BIOL, FSTE, or NUTR prefix.

Requirements

Students must complete all University degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 120 credits with 48 credits in courses numbered 300 or above. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
<i>Area I: Communications</i>		
<i>English Composition - Level 1</i> ¹		
		4
<i>English Composition - Level 2</i>		
ENGL 2210G	Professional & Technical Communication	3
or ENGL 2210H	Professional and Technical Communication Honors	
<i>Oral Communication</i> ¹		
		3
<i>Area II: Mathematics</i>		
MATH 1430G	Applications of Calculus I ²	3
<i>Area III/IV: Laboratory Sciences and Social/Behavioral Sciences</i>		
		11

CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
FSTE 2130G	Survey of Food and Agricultural Issues	
<i>Area V: Humanities</i> ¹		3
<i>Area VI: Creative and Fine Arts</i> ¹		3
<i>General Education Elective</i>		
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	4
Viewing A Wider World ³		6
ANTH 360V	Food and Culture Around the World	
Departmental Requirements		
FSTE 2110G	Food Science I	4
FSTE 320	Food Microbiology	4
FSTE 325	Food Analysis	3
FSTE 328	Introduction to Food Engineering	3
FSTE 331	Food Preservation	3
FSTE 421	Food Chemistry	3
FSTE 423	Food Processing Technologies	4
FSTE 425	Sensory Evaluation of Foods	3
FSTE 429	Product Development ¹	3
NUTR 2110	Human Nutrition	3
<i>Culinary Science Concentration</i>		
HRTM 2110	Safety, Sanitation and Health in the Hospitality Industry	1
HRTM 2120	Food Production and Service Fundamentals	3
HRTM 307	Professional Development	1
HRTM 363	Quantity Food Production and Service	4
HRTM 408	Hospitality Internship	1
HRTM 413	Restaurant Operations Management	4
HRTM 414	Wine Appreciation	3
Non-Departmental Requirements		
ANSC 2310	Introduction to Meat Science	3
BCHE 341	Survey of Biochemistry	4
BIOL 311 & 311 L	General Microbiology and General Microbiology Laboratory	5
CHEM 2115	Survey of Organic Chemistry and Laboratory	4
<i>Choose one course from the following:</i>		3
AEEC 2140	Technology and Communication for Business Management	
BCIS 1110	Introduction to Information Systems	
<i>Choose one course from the following:</i>		3
A ST 311	Statistical Applications	
MATH 1350G	Introduction to Statistics	
Second Language: (not required)		
Electives, to bring the total credits to 120 ⁴		8
Total Credits		120

¹ See the [General Education](#) Section of the catalog for a full list of courses

² MATH 1430G Applications of Calculus I is required for the degree but students may need to take any prerequisites needed to enter MATH 1430G first.

³ See the [Viewing a Wider World](#) Section of the catalog for a full list of courses

⁴ Elective credit may vary based on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.

A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1430G Intermediate Algebra and ENGL 1110G Rhetoric and Composition. The contents and order of this roadmap may vary depending on initial student placement in Mathematics and English. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change.

Course	Title	Credits
First Year		
Fall		
English Composition - Level 1 Course ¹		4
Area V/VI: Humanities or Creative/ Fine Arts Course ^{1,2}		3
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
FSTE 2110G	Food Science I	4
	Credits	15
Spring		
Oral Communication Course ¹		3
Area V/VI: Humanities or Creative/ Fine Arts Course ^{1,2}		3
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	4
HRTM 2110	Safety, Sanitation and Health in the Hospitality Industry	1
HRTM 2120	Food Production and Service Fundamentals	3
	Credits	14
Second Year		
Fall		
ENGL 2210G or ENGL 2210H	Professional & Technical Communication ³ or Professional and Technical Communication Honors	3
Choose one from the following:		3
AEEC 2140	Technology and Communication for Business Management	
BCIS 1110	Introduction to Information Systems	
CHEM 2115	Survey of Organic Chemistry and Laboratory	4
MATH 1430G	Applications of Calculus I	3
Elective Course ⁴		2
	Credits	15
Spring		
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	4
NUTR 2110	Human Nutrition	3
FSTE 2130G	Survey of Food and Agricultural Issues	3
ANSC 2310	Introduction to Meat Science	3
Elective Course ⁴		1
	Credits	14

Third Year

Fall

Choose one from the following:		3
A ST 311	Statistical Applications	
MATH 1350G	Introduction to Statistics	
BIOL 311 & 311 L	General Microbiology and General Microbiology Laboratory	5
FSTE 320	Food Microbiology	4
FSTE 328	Introduction to Food Engineering	3
HRTM 307	Professional Development	1
	Credits	16

Spring

FSTE 325	Food Analysis	3
FSTE 421	Food Chemistry	3
FSTE 423	Food Processing Technologies	4
BCHE 341	Survey of Biochemistry	4
Elective Course ⁴		1
	Credits	15

Fourth Year

Fall

ANTH 360V	Food and Culture Around the World	3
HRTM 363	Quantity Food Production and Service	4
HRTM 414	Wine Appreciation	3
FSTE 425	Sensory Evaluation of Foods	3
Elective Course ⁴		3
	Credits	16

Spring

FSTE 331	Food Preservation	3
FSTE 429	Product Development	3
HRTM 413	Restaurant Operations Management	4
HRTM 408	Hospitality Internship	1
Viewing the Wider World ⁵		3
Elective Course ⁴		1
	Credits	15
	Total Credits	120

¹ See the [General Education](#) Section of the catalog for a full list of courses

² Students must take one Area V: Humanities and one Area VI: Creative and Fine Arts course in order to complete the General Education requirements

³ MATH 1430G Applications of Calculus I is required for the degree but students may need to take any prerequisites needed to enter MATH 1430G first.

⁴ Elective credit may vary based on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.

⁵ See the [Viewing a Wider World](#) Section of the catalog for a full list of courses