FOOD SCIENCE AND TECHNOLOGY (SCIENCE, TECHNOLOGY AND ENGINEERING) - 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.

Consider exploring food science through our introductory course: FSTE 2110G Food Science I 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, goverment 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		
Area I: Communications		
English Composition - Level 1 [1]		*4*
English Composition - Level 2		
ENGL 2210G	Professional and Technical Communication	3
or ENGL 2210H	Professional and Technical Communication	
Oral Communication [1]		*3*
Area II: Mathematics		
MATH 1430G	Applications of Calculus I [2]	3
Area III/IV: Laboratory Sciences and Social/Behavioral Sciences		
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	4
FSTE 2130G	Survey of Food and Agricultural Issues	3
Area V: Humanities [1]		*3*
Area VI: Creative and Fine Arts [1]		*3*
General Education Elective		
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**
Departmental Requirements		
FSTE 2110G	Food Science I	4
FSTE 4110	Food Microbiology	4
FSTE 4120	Food Chemistry	3
FSTE 4130	Food Preservation	3
FSTE 4140	Food Analysis	3
FSTE 4150	Food Safety	3
FSTE 4230	Food Processing Technologies	4
FSTE 4250	Sensory Evaluation of Foods and Product Development	3
NUTR 2110	Human Nutrition	3
Science, Technology and Engineering Concentration		
FSTE 1120	ACES in the Hole Foods I	4
FSTE 2120	ACES in the Hole Foods II	4
FSTE 3110	Professional Development in Food Science	1
FSTE 4998	ACES Foods at NMSU-Experiential Learning	1
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	4
Non-Departmental Requirements		
ANSC 2310	Introduction to Meat Science	3
BCHE 395	Biochemistry I	3
BIOL 311 & 311 L	General Microbiology and General Microbiology Laboratory	5
CHEM 314	Organic Chemistry II (Students in Food Science need the following chemistry courses: CHEM 1215G, CHEM 1225G, CHEM 313, CHEM 314 and BCHE 395 and these are all non departmental requirements)	3
Choose one course from the following:		*3*
CHEM 313	Organic Chemistry I (Need to replace CHEM 2120 with CHEM 313)	3
AEEC 2140	Technology and Communication for Business Management	
BCIS 1110	Introduction to Information Systems	
Choose one course from the following:		*3*
A ST 311	Statistical Applications	
MATH 1350G	Introduction to Statistics	
Second Language: (not required)		
Electives, to bring the total credits to 120 [4]		**17**
Total Credits		**124**

1. See the General Education (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) 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 (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) 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.

First Year		
Fall		**Credits**
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
FSTE 1120	ACES in the Hole Foods I	4
Elective Course [3]		1
	Credits	**15**
Second Year		
Fall		
ENGL 2210G or ENGL 2210H	Professional and Technical Communication or Professional and Technical Communication	3
Choose one from the following:		3
AEEC 2140	Technology and Communication for Business Management	
BCIS 1110	Introduction to Information Systems	
CHEM 2120	Integrated Organic Chemistry and Biochemistry	3
MATH 1430G	Applications of Calculus I [4]	3
Elective Course [3]		2
	Credits	**14**
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
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	4
FSTE 2120	ACES in the Hole Foods II	4
	Credits	**15**
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 4110	Food Microbiology	4
FSTE 4150	Food Safety	3
Elective Course [4]		3
	Credits	**18**
Spring		
FSTE 3110	Professional Development in Food Science	1
FSTE 4120	Food Chemistry	3
FSTE 4140	Food Analysis	3
FSTE 4230	Food Processing Technologies	4
Elective Course [3]		4
	Credits	**15**
Fourth Year		
Fall		
Viewing the Wider World [5]		3
FSTE 2130G	Survey of Food and Agricultural Issues	3
BCHE 395	Biochemistry I	3
FSTE 4250	Sensory Evaluation of Foods and Product Development	3
ANSC 2310	Introduction to Meat Science	3
	Credits	**15**
Spring		
FSTE 4130	Food Preservation	3
Viewing a Wider World [5]		3
FSTE 4998	ACES Foods at NMSU-Experiential Learning	1
Elective Course [3]		7
	Credits	**14**
	Total Credits	**121**

[1] See the General Education (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) 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] 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.

[4] 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.

[5] See the Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) Section of the catalog for a full list of courses