

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, 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 and Technical Communication Honors	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>		
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
<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
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
<i>Science, Technology and Engineering Concentration</i>		
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 2120	Integrated Organic Chemistry and Biochemistry	3
<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		17
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 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	Credits
ENGL 2210G Professional and Technical Communication Honors or ENGL 2210H 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 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	Credits
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	Credits
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

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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.

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