

FOOD SCIENCE AND TECHNOLOGY - BS, FOOD INDUSTRY OPTION

Food Science and Technology is an exciting multidisciplinary field that prepares majors with a comprehensive knowledge of the biological, physical and engineering sciences to develop new food products, design innovative processing technologies, improve food quality and nutritive value, enhance the safety of foods and ensure the wholesomeness of our food supply. Food Science majors apply the principles learned in the basic sciences such as food chemistry, biochemistry, genetics, microbiology, food engineering and nutrition to provide consumers with safe, wholesome and attractive food products that contribute to their health and well-being. For more information, visit <http://nfs.tamu.edu>

The undergraduate curriculum is approved by the Institute of Food Technologists (IFT) and offers two tracks, a Food Science Option and an Industry Option. These tracks provide promising career opportunities in areas such as food product/process design, technical service, research and development, quality assurance, food safety, food law, regulatory oversight, technological innovation, marketing, corporate sales, sensory evaluation and operations management. There are numerous opportunities available for corporate internships, scholarships and study abroad programs that provide real-world experience and enhance opportunities for employment after completing a baccalaureate degree. The major also provides an excellent background for those interested in professional schools, graduate studies, medicine, veterinary medicine, dentistry, pharmacy, physical therapy, nursing, occupational therapy and public health.

Food Industry Option

The Food Industry option integrates knowledge from the basic disciplines of chemistry, microbiology, physics and biology and applies scientific principles from food engineering, food processing operations, sensory evaluation, food safety, HACCP, quality assurance and management to produce foods that are wholesome, affordable and safe. The goal of the curriculum is to prepare Food Technologists for careers in the food and related industries. These careers may involve food processing, manufacturing, technical service, food product development, operations management, regulatory oversight and other technology based opportunities.

Program Requirements

First Year

Fall		Semester Credit Hours
CHEM 119	Fundamentals of Chemistry I	4
ENGL 103 or ENGL 104	Introduction to Rhetoric and Composition or Composition and Rhetoric	3
NFSC 201	Food Science	3
NFSC 204	Perspectives in Nutrition and Food Science	1
NFSC 210	Horizons in Nutrition and Food Science	2

Mathematics (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#Mathematics) ¹	3
--	---

Semester Credit Hours 16

Spring

CHEM 120	Fundamentals of Chemistry II	4
----------	------------------------------	---

Select one of the following: 3

AGEC 105	Introduction to Agricultural Economics	
----------	--	--

ECON 202	Principles of Economics	
----------	-------------------------	--

ECON 203	Principles of Economics	
----------	-------------------------	--

American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history) ²	3
---	---

Language, philosophy and culture (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture) ²	3
---	---

Mathematics (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#mathematics) ¹	3
--	---

Semester Credit Hours 16

Second Year

Fall

BIOL 111	Introductory Biology I	4
----------	------------------------	---

CHEM 227	Organic Chemistry I	3
----------	---------------------	---

CHEM 237	Organic Chemistry Laboratory	1
----------	------------------------------	---

NFSC 202 or NFSC 203	Fundamentals of Human Nutrition or Scientific Principles of Human Nutrition	3
-------------------------	--	---

POLS 206	American National Government	3
----------	------------------------------	---

Semester Credit Hours 14

Spring

ACCT 209	Survey of Accounting Principles	3
----------	---------------------------------	---

PHYS 201	College Physics	4
----------	-----------------	---

American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history) ²	3
---	---

Creative arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts) ²	3
--	---

Free elective ³	3
----------------------------	---

Semester Credit Hours 16

Third Year

Fall

ENGL 210	Technical and Business Writing	3
----------	--------------------------------	---

NFSC 311	Principles of Food Processing	3
----------	-------------------------------	---

POLS 207	State and Local Government	3
----------	----------------------------	---

Select one of the following: 3

ANSC 307/ NFSC 307	Meats	
-----------------------	-------	--

ANSC 457/ NFSC 457	Hazard Analysis and Critical Control Point System	
-----------------------	---	--

HORT 419	Viticulture and Small Fruit Culture	
----------	-------------------------------------	--

HORT 420	Concepts of Wine Production	
----------	-----------------------------	--

HORT 421	Enology	
----------	---------	--

NFSC 211	Scientific Principles of Foods	
NFSC 300	Religious and Ethnic Foods	
NFSC 305	Fundamental Baking	
NFSC 307/ ANSC 307	Meats	
NFSC 320	Understanding Obesity: A Social and Scientific Challenge	
NFSC 324	Food Safety and Preventive Controls for Human Food	
NFSC 406/ POSC 406	Poultry Further Processing	
NFSC 410	Nutritional Pharmacometrics of Food Compounds	
NFSC 420	Supervised Research in Mediterranean Nutrition and Food Processing in Italy	
NFSC 422	Food Processing for Sustainable Nutrition in Brazil	
NFSC 457/ ANSC 457	Hazard Analysis and Critical Control Point System	
NFSC 485	Directed Studies	
NFSC 489	Special Topics in...	
NFSC 491	Research	
Free elective ³		3
Semester Credit Hours		15

Spring

AGEC 314	Marketing Agricultural and Food Products	3
NFSC 312	Food Chemistry	3
NFSC 313	Food Chemistry Laboratory	1
MGMT 309	Survey of Management	3
Select one of the following:		3
STAT 301	Introduction to Biometry	
STAT 302	Statistical Methods	
STAT 303	Statistical Methods	
Free elective ³		1
Semester Credit Hours		14

Fourth Year**Fall**

NFSC 314	Food Analysis	3
NFSC 315/ AGSM 315	Food Process Engineering Technology	3
NFSC 326/ ANSC 326	Food Bacteriology	3
NFSC 327/ ANSC 327	Food Bacteriology Lab	1
Select one fo the following:		3
ANSC 307/ NFSC 307	Meats	
ANSC 457/ NFSC 457	Hazard Analysis and Critical Control Point System	
HORT 419	Viticulture and Small Fruit Culture	
HORT 420	Concepts of Wine Production	
HORT 421	Enology	
NFSC 211	Scientific Principles of Foods	
NFSC 300	Religious and Ethnic Foods	

NFSC 305	Fundamental Baking	
NFSC 307/ ANSC 307	Meats	
NFSC 320	Understanding Obesity: A Social and Scientific Challenge	
NFSC 324	Food Safety and Preventive Controls for Human Food	
NFSC 406/ POSC 406	Poultry Further Processing	
NFSC 410	Nutritional Pharmacometrics of Food Compounds	
NFSC 420	Supervised Research in Mediterranean Nutrition and Food Processing in Italy	
NFSC 422	Food Processing for Sustainable Nutrition in Brazil	
NFSC 457/ ANSC 457	Hazard Analysis and Critical Control Point System	
NFSC 485	Directed Studies	
NFSC 489	Special Topics in...	
NFSC 491	Research	
Semester Credit Hours		13

Spring

BICH 303 or BICH 410	Elements of Biological Chemistry or Comprehensive Biochemistry I	3
NFSC 401	Food Product Development	3
NFSC 444	Fundamentals of Food Law	3
NFSC 481	Seminar	1
Free electives ³		6
Semester Credit Hours		16
Total Semester Credit Hours		120

¹ MATH prefix required.² The Graduation requirements include a requirement for 3 hours of International and Cultural Diversity (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/>) and 3 hours of Cultural Discourse (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/cultural-discourse-requirements/>). Selection must be from courses on the approved list. Selection can be courses that also satisfy the requirement for social and behavioral sciences; creative arts; language, philosophy and culture; or electives. For more information on core requirements visit the University Core Curriculum (<http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/>) catalog page.³ Students may achieve a business minor by taking the following courses as free electives: ISTM 209, MGMT 209, FINC 409, MKTG 409.

A total of 120 hours is required for graduation; 36 hours of 300/400 level courses are required to meet the Texas A&M University residency requirement.