

FOOD SCIENCE AND TECHNOLOGY - BS, FOOD SCIENCE 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 Science Option

The Food Science option provides a strong knowledge base and fundamental understanding of chemistry, biology, engineering, physics, statistics, genetics, biochemistry, microbiology and nutrition that is applied toward the preservation, processing, packaging and distribution on foods that are wholesome, affordable and safe. The goal of the curriculum is to prepare Food Scientists for career opportunities in the food and allied industries or for further studies in graduate or professional schools. See an academic advisor for specific course listings.

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
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Semester Credit Hours 16

Spring

BIOL 111	Introductory Biology I	4
CHEM 120	Fundamentals of Chemistry II	4
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)	3	
Mathematics (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#mathematics) ¹	3	

Free elective ³	1
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Semester Credit Hours 15

Second Year

Fall

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
Select one of the following:	3	

AGEC 105 Introduction to Agricultural Economics

ECON 202 Principles of Economics

ECON 203 Principles of Economics

Language, philosophy and culture (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture) ²	3
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Semester Credit Hours 16

Spring

ACCT 209	Survey of Accounting Principles	3
CHEM 228	Organic Chemistry II	3
CHEM 238	Organic Chemistry Laboratory	1
PHYS 201	College Physics	4
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)	3	
Creative arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts) ²	3	

Semester Credit Hours 17

Third Year

Fall

CHEM 316	Quantitative Analysis	2
CHEM 318	Quantitative Analysis Laboratory	1
ENGL 210	Technical and Business Writing	3
NFSC 311	Principles of Food Processing	3
POLS 207	State and Local Government	3
Free elective ³	3	

Semester Credit Hours 15

Spring

NFSC 312	Food Chemistry	3
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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	
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	
Semester Credit Hours		13

Fourth Year**Fall**

NFSC 314	Food Analysis	3
NFSC 326/ ANSC 326	Food Bacteriology	3
NFSC 327/ ANSC 327	Food Bacteriology Lab	1
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		13
Spring		
BICH 303 or BICH 410	Elements of Biological Chemistry or Comprehensive Biochemistry I	3
NFSC 315/ AGSM 315	Food Process Engineering Technology	3
NFSC 401	Food Product Development	3
NFSC 444	Fundamentals of Food Law	3
NFSC 481	Seminar	1
Free elective ³		2
Semester Credit Hours		15
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/university-core-curriculum/>). 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 earn a chemistry minor by taking 6 hours of additional chemistry courses from an approved list as free electives. See the Department of Chemistry for more details. Students seeking a minor in chemistry must complete the Declaration of Minor in Chemistry form and have it approved by the undergraduate advisor in Chemistry (Room 104 Chemistry) and their NFSC advisor.

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.