

Food Science

Department Information

- **Department Location:**
Harris Hall
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- **Department Email:**
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- **Department Web Site:**
www.ag.ndsu.edu/plantsciences/ (<http://www.ag.ndsu.edu/plantsciences/>)
- **Credential Offered:**
B.S.
- **Official Program Curriculum:**
bulletin.ndsu.edu/undergraduate/program-curriculum/food-science/ (<http://bulletin.ndsu.edu/undergraduate/program-curriculum/food-science/>)

Food science deals with the transformation of raw agricultural goods into food products acceptable for human consumption. This field of applied science involves studying diverse scientific disciplines such as chemistry, engineering, microbiology, biochemistry, toxicology and management as they relate to food, and effectively applying the industrial and practical aspects to product development, food processing, preservation and marketing.

The Faculty and Facilities

Food science is a four-year curriculum offered by the College of Agriculture, Food Systems, and Natural Resources through the Department of Plant Sciences. The program draws on the expertise of faculty members in several departments at North Dakota State University who have expertise in both teaching and research. Many have industry experience with numerous connections in the food industry.

The Quentin Burdick Building (QBB) and Harris Hall at NDSU house laboratories and teaching facilities where many of the food science courses are taught. Extensive facilities are available for teaching and food processing research.

The Curriculum

The program includes courses in food chemistry, food analysis, food microbiology, food processing, food engineering, meat science, nutrition science and cereal technology, in addition to basic courses in mathematics, the sciences, humanities and social sciences. Most of the applied courses in food science are taken after the basic courses have laid the groundwork for the student.

The program allows flexibility in selecting suitable electives to direct one's career goal. Areas of emphasis include food safety, microbiology, sciences, business and management, engineering, nutrition and processing.

The curriculum for food science is approved by the Institute of Food Technologists (IFT). The four-year undergraduate program leads to a Bachelor of Science degree in food science. The program enables graduates to recognize, critically analyze and solve problems realistically in both industrial and academic environments. It provides the opportunity to gain industrial experience during undergraduate study by means of industry internships.

Career Opportunities

Challenging and rewarding entry-level positions in the food industry are plentiful for food science graduates. Potential employers include large and small food corporations and government agencies. Career opportunities include positions in food science and technology, food chemistry, food microbiology, product development, quality control, food production and processing, food inspection, packaging, sales and marketing. The median total compensation for an individual with a B.S. degree in food science is \$80,250 according to the Institute of Food Technologists' Salary Survey.

Food scientists study food to improve existing products or create new ones. They also analyze the structure and composition of food and the changes that occur during processing and storage. They determine how processing affects flavor, texture, appearance and nutritional value, and explore new ways to protect and stabilize food through packaging.

The food industry is the largest industry in the world. The challenges of food scientists are to provide wholesome, tasty and nutritious foods for the consumer.

Industry Internships

Internships offered through NDSU's food science department and Cooperative Education programs provide opportunities for industry experience at companies such as Cargill, Hormel, Dakota Growers Pasta Co., Jennie-O and others.

Financial Aid and Scholarships

Loans, grants and work-study are made available through the Office of Financial Aid and Scholarships. A number of scholarships are awarded each year to students enrolled in the College of Agriculture, Food Systems, and Natural Resources. Departmental scholarships also are available. Information may be obtained by contacting the coordinator of the food science program. A number of laboratory assistant jobs are available for students majoring in food science.

Sample Program Guide

Please note this is a sample program guide and not an official curriculum. Actual student schedules for each semester will vary depending on start year, education goals, applicable transfer credit, and course availability. Once admitted, students are encouraged to work with their assigned academic advisor on a regular basis to review degree progress.

Freshman			
Fall	Credits	Spring	Credits
AGRI 189		1 BIOL 151	3
BIOL 150		3 CHEM 122 & 122L	4
CFS 210		3 COMM 110 (Gen Ed Category C)	3
CHEM 121 & 121L (Gen Ed Category S)		4 ENGL 120 (Gen Ed Category C)	3
ENGL 110 (Gen Ed Category C)		3 MATH 146 or 165 (Gen Ed Category R)	4
Gen Ed Humanities/Fine Arts (Gen Ed Category A)		3	
		17	17
Sophomore			
Fall	Credits	Spring	Credits
CFS 370		3 BIOC 260 or 460 <i>and</i> 460L	4
CSCI 114 or TL 116 (Gen Ed Category S)		3 ECON 201 (Gen Ed Category B & G)	3
PHYS 211 & 211L (Gen Ed Category S)		4 HNES 250 (Gen Ed Category W)	3
Gen Ed Humanities/Fine Arts and Cultural Diversity (Gen Ed Category A and D)		3 Gen Ed Social and Behavioral Sci (Gen Ed Category B)	3
Elective		3	
		16	13
Junior			
Fall	Credits	Spring	Credits
CFS 450		3 CFS 452	3
CHEM 341 & 341L		4 CFS 470	3
ENGL 320, 321, or 324 (Gen Ed Category C)		3 CFS 471	1
MICR 350 & 350L		5 CFS 474	3
		STAT 330 (Gen Ed Category R)	3
		Elective	3
		15	16

Senior			
Fall	Credits	Spring	Credits
CFS 430 or ABEN 263		3 ANSC 340	3
CFS 460		3 CFS 464	3
CFS 461		1 CFS 480	3
MICR 453		3 Electives	4
Elective		3	
		13	13

Total Credits: 120