



DEPARTMENT OF ANIMAL AND FOOD SCIENCES

The Food Science Major at UD

Food Science employs scientific principles in the design of new food products and explores ways to process, package and preserve the thousands of food items we consume to ensure their safety and quality.

In the Food Science major, students initially obtain a broad background in the sciences (chemistry, biology, physics and math) as a basis for in-depth studies of the food science disciplines of food chemistry, food processing, food engineering, food microbiology, and food product development. Electives provide the opportunity for course work in areas such as business, material science or molecular biology and allow students to obtain specialized knowledge in other fields important to Food Science. Graduates of the major will have acquired the skills and knowledge for a successful and well-paid career in all sectors of society concerned with the development and production of safe and healthy food. The major also lays the foundation for students who want to pursue an advanced degree in Food Science.

Program Highlights

One of the strengths of the Food Science program is the connection between students and faculty. Not only do students and faculty interact in class and in laboratories, but they work together on research projects, in club activities, and through independent studies. Faculty serve as academic advisors, assisting with course selection, providing internship advice, and helping with career planning. Students who demonstrate strong academic

performance and who wish to get practical research experience may choose to participate in the Science & Engineering Scholars program or pursue a Degree with Distinction under the supervision of a faculty mentor.

The Food Science program emphasizes the acquisition of practical experience. For example, all upper-level food science courses include a laboratory component; all faculty encourage and offer undergraduate research opportunities; and established links with regional food companies and government research facilities provide access to valuable internship experiences. In the Food Science Capstone course, students conduct a semester-long project that includes the development of a novel food product, starting from basic ingredients and ending with the finished product. Along the way, the students conduct such tasks as taste testing, marketing research and quality control.

Many Food Science majors enhance their undergraduate experience by joining the Food Science Club, which sponsors social and professional-development activities and serves as a student chapter of the Institute of Food Technologists (IFT). Students have the opportunity to meet, learn from, and network with professional food scientists at the monthly meetings of the Philadelphia Chapter of the IFT. The Club also fosters interaction with Food Science students from other universities through participation in the Food Science College Bowl and by sponsoring trips to the annual national meeting of the IFT.

Facilities and Resources

The College of Agriculture and Natural Resources houses the Food Science major, and its facilities are readily accessible to our students. Townsend and Worriow Halls house our classrooms, faculty offices, and our food-science laboratories with high-tech equipment related to food processing, food microbiology and packaging. A Food Science test kitchen is located in the Newton Building and is equipped for preparation of food-grade items. An agriculture library and computing site with access to E-mail and the Internet provide support services for classwork and research projects.

Career Paths

Upon graduation, job opportunities include positions within the food and allied industries, government, and independent research institutions. The role of the food scientist in such positions may involve product and process development, food safety, engineering, quality control and analysis, technical service and sales, with opportunities in regulatory agencies, education, and basic research. Qualified students from our program go on to pursue graduate degrees in food chemistry, process engineering, food microbiology, and molecular biology. We encourage all students to participate in job-search workshops and career days, to seek internships, to develop communication skills, and to learn to network with prospective employers. This, in addition to doing well academically, greatly enhances post-graduate opportunities.

The Food Science Curriculum

Starting with the first semester, Food Science majors have at least one course in the major each term. To earn a bachelor's degree, students must complete **124 credits** and meet specific requirements, as outlined in the *University of Delaware Undergraduate Catalog*. Each semester's courses will vary, depending on the student's concentration, interest, background, and academic preparation. **The following plan is only one example; not every student will take every course in the same order. Most students will take 12 -17 credits per semester;** Winter and Summer sessions may be used to lighten the loads of regular semesters.

Bachelor of Science in Food Science

FALL SEMESTER

ANFS 102	Food for Thought	3
ANFS 165	First Year Experience	1
NTDT 200	Nutrition Concepts	3
CHEM 103	General Chemistry	4
MATH 221	Calculus I	3
ANFS 111	Animal Science Laboratory	1
Total Credit		15

SPRING SEMESTER

ENGL 110	Critical Reading & Writing	3
CHEM 104	General Chemistry	4
MATH 222	Calculus	3
ANFS 260	Seminar in Food Science	1
XXX	Multicultural course	3
		14

ANFS 230	Investigating Foodborne Outbreaks	3
BISC 207	Intro. Biology I	4
CHEM 321	Organic Chemistry	4
PHYS 201	Intro. Physics I	4
Total Credit		15

BISC 208	Intro. Biology II	4
CHEM 322	Organic Chemistry	4
ANFS 305	Food Science	3
PHYS 202	Intro. Physics II	4
ANFS 265	Sophomore Seminar	1
		16

ANFS 328 or ANFS 409	Food Chemistry (even years) Food Processing (odd years)	4
FREC 408	Statistics	3
CHEM 220	Quantitative Analysis	3
CHEM 221	Quantitative Analysis Lab	1
XXX	Second Writing Requirement	3
XXX	Elective	1
Total Credit		15

ANFS 329 or ANFS 443	Food Analysis (even years) Food Engineering (odd years)	4
BISC 300	Intro. Microbiology	4
CHEM 214	Elementary Biochemistry	3
XXX	Soc Sci/Hum req.	3
XXX	Lit. & Arts req.	3
		17

ANFS 328 or ANFS 409	Food Chemistry (even years) Food Processing (odd years)	4
ANFS 439	Food Microbiology	4
Chem 418	Intro Physical Chemistry I	3
XXX	Elective	3
XXX	Ag and Bio Sciences req.	3
Total Credit		17

ANFS 329 or ANFS 443	Food Analysis (even years) Food Engineering (odd years)	4
ANFS 449	Food Biotechnology	4
ANFS 411	Food Science Capstone	4
XXX	Soc Sci/Hum req	3
		15

FOR MORE INFORMATION

You are welcome to come talk with us about our majors and the ways in which we can help you reach your goals. Please contact us:

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