

BS Degree in Food Science and Human Nutrition

Food Science Concentration

Food Science is the study of the chemistry, microbiology, and processing of foods. The Food Science concentration is a challenging program and requires a strong background in mathematics, and science. The curriculum also meets entrance requirements for medical, dental, and veterinary schools if an additional semester of physics is taken as an elective.

Students in the Food Science concentration with a grade point average of 3.0 or above may apply for the Food Science Five-Year Combined BS/MS degree program in their junior year. For this accelerated program, nine credits of graduate courses are taken as part of the undergraduate degree (first four years), and the remainder of the graduate courses can be completed in one additional year. Students are encouraged to discuss the accelerated graduate program with their advisor. More information about this option is in the [Graduate Catalog](#).

The B.S. concentration in Food Science is approved by the [Institute of Food Technologists](#) (IFT). Food Science majors are eligible for \$500-\$2500 scholarships from IFT and major food companies. Several Food Science scholarships are available from the School of Food and Agriculture and the College. University of Maine students have also received scholarships worth approximately \$1000 from the [Northeast Section of IFT](#) (NEIFT). These scholarships are based upon scholastic ability, extracurricular activities, and interests.

Why should you choose the University of Maine to study food science? Our program is small enough to provide a sense of community and encourage interactions among students and faculty. Food science classes typically have fifteen or fewer students, allowing for many hands-on opportunities. Most students work in a professor's laboratory during their first two years of college in order to gain experience. Students are encouraged to seek industry or government internships and the background working with faculty is often key to successful internship applications. In the past few years, our students have interned with NASA, Jeanie Marshal Foods, World Harbors, Cabot Creamery and McCormick's. The Food Science Club is a chapter of the IFT Student Association, and is open to all students, providing a social as well as professional network. The College Bowl team competes against other food science programs at regional events. Other club activities include factory tours, barbecues and trips to NEIFT meetings.

Graduates of the Food Science program will be prepared to find jobs not only in Maine, but nationally and internationally. Nationally, the average starting salary for B.S. food science graduates is \$40,000, depending upon the student's experience and the company location. The average starting salary in New England is higher, but entry-level positions in Maine may be a bit lower. We have had 100% job placement for graduates. Barber Foods, Hannaford Brothers, and FMC Marine Colloids are among the local companies who have hired our graduates. Many undergraduate food scientists choose to pursue graduate degrees, and we have successfully placed students at the University of Georgia, Pennsylvania State University, and University of Illinois as well as our own graduate program. Graduates of the UMaine food science graduate

program are employed by Kellogg's, McCormick's, Campbell Soup, Givaudan Flavors, Kerry Foods and many other companies.

Food Science Suggested Plan of Study

First Year

CHY 121,123 Introduction to Chemistry and Lab
CHY 122,124 Molecular Basis of Chemical Change and Lab
CMJ 103 Fundamentals of Public Communication
ENG 101 College Composition
FSN 101 Introduction to Food and Nutrition
FSN 103 Science of Food Preparation
MAT 126 Calculus
NFA 117 Issues and Opportunities
PSY 100 General Psychology

Second Year

BIO 100 Basic Biology
BIO 200 Biology of Organisms
or
BIO 208 Anatomy and Physiology
BMB 221, 222 Organic Chemistry and Lab
or
CHY 251,253 Organic Chemistry I and Lab
BMB 322, 323 Biochemistry and Lab
FSN 270 World Food and Nutrition
FSN 330 Introduction to Food Science and
FSN 340 Food Processing Lab
STS 232 Principles of Statistical Inference

Third Year

BMB 300,305 General Microbiology and Lab
ENG 317 Business and Technical Writing
FSN 438, 439 Food Microbiology and Lab
FSN 502 Food Preservation
FSN 520 Food Product Development
FSN 585 Sensory Evaluation I
PHY 111 General Physics I

Fourth Year

FSN 396 Field Experience in Food Science and Human Nutrition
FSN 425 Contemporary Issues in the Food Industry
FSN 436 Food Law
FSN 450 Food Biotechnology
FSN 482, 483 Food Chemistry and Lab
FSN 485 Introduction to Food Engineering Principles
FSN 486 Food Engineering Lab
FSN 587 Food Analysis

*Upper level Food Science classes may be offered alternate years; labeled as odd or even years.

The capstone experience for the Food Science concentration is FSN 520 Food Product Development. The goal of a capstone is to pull together many aspects of the undergraduate training in food science into an experience typical of a practicing professional. In FSN 520, the students function as part of a development team whose job is to conceptualize, formulate, and evaluate a new food product. The course also includes guest speakers about the issues and challenges facing product developers in today's fast-paced food industry.

Learning Outcomes

The undergraduate course requirements in Food Science are designed to meet the Core Competencies identified by the Institute of Food Technologists (IFT). Major content areas for learning outcomes include:

- Food Chemistry and Analysis
- Food Safety and Microbiology
- Food Processing and Engineering
- Applied Food Science
- Success Skills (such as communication and critical thinking skills)

A complete list of Core Competencies and associated learning outcomes is available at the web site of the Institute of Food Technologists under [Education Standards for Approved Undergraduate Programs](#)

Admission Requirements

Scholastic Aptitude Test

High School Courses

English 4 units

Algebra 2 units

Plane Geometry 1 unit

Other Mathematics (not Accounting) 1 unit

Chemistry 1 unit

Science 1 unit

History/Social Science 1 unit

Academic Electives 5 units

TOTAL 16 units

(1 unit = 1 full year course)

Transfers from other programs at the University of Maine or other colleges and universities are expected to meet these minimum requirements. Transfer students should consult the School Chair prior to applying for more information.

Inquiries:

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