

Food Science

The Department of Food Science and Nutrition

Join the leader in science, technology, and management. Students majoring within the Department of Food Science and Nutrition are prepared for a wide range of professions in the food industry, the largest single industry in the United States. California State University, Fresno is centered in the greatest food production and processing area in the world.

The faculty members continue to be recognized for quality hands-on education as well as scholarly contributions to their academic disciplines. Each student is assigned to a faculty adviser to maximize the student's educational experience at California State University, Fresno. The faculty is noted for cooperation and activity within each industry to prepare and place graduates in their chosen careers.

The Food Science Program

Food science is the scientific discipline in which biology, the physical sciences, chemistry, and engineering are used to study the nature of foods, the causes of food deterioration, and the principals underlying food processing. A food scientist develops ways to process, preserve, package, and/or store food according to industry and government specifications and regulations.

Food science deals with the science and technology which is required to bring our food to us from the fields and oceans and into our grocery stores and homes. It is a unique marriage of several fields of study including chemistry, biochemistry, microbiology, engineering, and some specialized statistics. A degree in food science will prepare an individual for a profession that ensures the availability of safe, nutritious, appealing food for the benefit of all people.

Most food materials are of biological origin. How they behave in harvesting, processing, distribution, storage, and preparation is a complicated challenge. Full awareness of all important aspects of this challenge requires broad-based training. The food scientist is trained to apply a wide range of scientific knowledge to maintain a high quality, abundant food supply. The principles of food science allow us to make the best use of our food resources and minimize waste.

Facilities

Students can gain practical experience by working in the Food Science Analytical Laboratory (a full microbiology and chemistry lab), the Sensory Evaluation Laboratory, the Bakery and Product Development Lab, Dairy Processing Plant, the Food Processing Research Laboratory, or research projects through the Center for

Food Science and Nutrition Research. Students can also participate in internships, projects, supervised work experience, and cooperative research. The food processing facilities at Fresno State produce many products including milk, ice cream, cheese, jams, jellies, salsa, sauces, and other thermally processed products. These products are marketed to various on-campus food services and off-campus establishments, as well as at the Rue and Gwen Gibson Farm Market, located at Chestnut and Barstow.

Major Required Courses

Introduction to Food Science and Technology
Introduction to Food and Dairy Processing
Sensory Evaluation
Food and Dairy Chemistry
Food Analysis
Quality Assurance in the Food and Dairy Industry
Food and Dairy Microbiology
Fruit and Vegetable Processing
Dairy Processing
Food Engineering
Food Laws, Regulations, Inspection, and Grading
Senior Seminar
Elementary Nutrition

Additional Required Courses

General Chemistry
Elementary Organic Chemistry
General Biochemistry
Elementary Statistics
Calculus
Introductory Microbiology

California State
University, Fresno

Department of
Food Science and
Nutrition

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B.S. in Food and
Nutrition Sciences
Option: Food Science

M.S. in Food and
Nutritional Sciences

FRESNO STATE

Discovery. Diversity. Distinction.

Food Science

Career Opportunities

A degree in food science will lead to many exciting and productive careers. With the special training involved in a food science degree, a wide range of employment opportunities exist for the trained professional such as a product development specialist, sensory scientist, quality control specialist, or technical sales representative. A food scientist can be involved in marketing, research, plant supervision, product development, production, product safety, or management. Biotechnology creates new, innovative, useful foodstuffs by manipulation of biological source materials. Sensory science allows consumer testing and product research. Quality control maintains production standards. Engineering develops new methods of processing, and improvements of old ways. A degree from a good food science program will provide endless professional opportunities.

As part of a California State University located in the center of the world's most productive food processing region, the Food Science Program is ideally suited to provide students with both a strong academic and practical education in food science. Our graduates are equally prepared for the practical application of their expertise in the food industry, as well as the rigors of further study in food science graduate programs. According to a recent survey conducted by the Institute of Food Technologists and published in *Food Technology*¹, entry level positions with a B.S. in food science, as a national median, commanded a yearly salary of \$48,000; an M.S. in food science, as a national median, commanded a yearly salary of \$55,000; while the median in California was \$50,100. The full survey can be viewed at <http://www.ift.org/careercenter/salary-survey.aspx>.

The Fresno State Food Science Club:
<http://foodscienceclub.csufresno.edu>

For more information, contact:

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¹ Institute of Food Technologists, 2006. 2005 IFT Membership Employment & Salary Survey, *Food Technology*, 60(2): 22-35.