

FOOD SCIENCE

College of Health and Human Services
Department of Family and Consumer Sciences

Department Chair: Wendy Reiboldt

Department Office: Family and Consumer Sciences (FCS) - 001
Telephone / Fax: (562) 985-4484 / 985-4414
Website: www.csulb.edu/colleges/chhs/departments/fcs

Faculty: Mariné Aghekyan, Judith Anglin, Lee Blecher, Maria Claver, Gail C. Frank, Avery E. Goldstein, Libby Gustin, Dong-Eun Kim, James E. Koval, Peter Kreysa, Jacqueline D. Lee, Margaret Lichty, Suzanne Marshall, Nilufer Medora, Wendy Reiboldt, Lydia Sondhi (emerita), M. Sue Stanley, Richard V. Tuveson, Jung-Mao (Ronnie) Yeh

Baccalaureate Program Coordinator: Richard V. Tuveson

Graduate Coordinator: Jacqueline D. Lee

Single Subject Credential Advisor: Margaret Lichty

Administrative Support Coordinators:

Mikal Lok, Marina Bendersky

Instructional Support Technician: Bonnie Rice

Career Possibilities

Principal Food Scientist • Research Associate • Food and Packaging Engineer • Quality Assurance Manager • Research and Development Chemist • Quality Control Chemist • Laboratory Supervisor • Plant Manager • Food and Drug or USDA Inspector • Food Product Evaluator • Food and Ingredient Sales Representative • Research and Product Development, Food Formulation and Processing • Consumer Safety • Sensory Evaluation • Quality Assurance • Government Organization • Food Ingredient Sales and Marketing

(Some of these, and other careers, require additional education or experience. For more information, see www.careers.csulb.edu.)

Undergraduate Programs

Bachelor of Arts in Family and Consumer Sciences

This degree offers six options:

- Child Development and Family Studies
- Consumer Affairs
- Family and Consumer Sciences Education
- Family Life Education
- Fashion Merchandising
- Textiles and Clothing

Degree and certificate information and requirements are listed under each option alphabetically in this catalog.

Bachelor of Science in Hospitality, Foodservice and Hotel Management

Degree and certificate information and requirements are listed under each option alphabetically in this catalog

Bachelor of Science in Dietetics and Food Administration

This degree offers two options:

- Nutrition and Dietetics
- Food Science

Degree and certificate information and requirements are listed under each option alphabetically in this catalog.

Option in Food Science (120 units)

The Food Science curriculum has an interdisciplinary focus which includes food science, food processing, sensory evaluation, nutrition, chemistry, and microbiology, plus a variety of supporting course work in related disciplines. All courses are designed to develop an understanding of the physical and chemical nature of foods and how it relates to the food industry and consumer safety. The food industry careers awaiting graduates offer diverse opportunities as the world supply expands with technological developments.

Prerequisites

Take the following course or a passing score on the Chemistry Placement Examination:

CHEM 101 Introduction to General Chemistry (4)
Prerequisites/Corequisites: MATH 113 or 117 or 119A or 122.

Requirements

Take all of the following courses:

BIOL 207 Human Physiology (4)
Prerequisites: GE Foundation requirements.

CHEM 111A General Chemistry (5)
Prerequisites: A passing score on the Chemistry Placement Examination (credit in CHEM 101 does not substitute for a passing score on the Chemistry Placement Examination), and a "C" or better in MATH 113 or 117 or 119A or 122. One year of high school chemistry is strongly recommended.

CHEM 327 Fundamentals of Organic Chemistry (3)
Prerequisites: CHEM 111A with a grade of "C" or better; CHEM 111B is recommended.

CHEM 448 Fundamentals of Biological Chemistry (3)
Prerequisites: CHEM 327 or 322B either with a grade of "C" or better.

MATH 113 Precalculus Algebra (3)
Prerequisites: Appropriate ELM score, ELM exemption or MAPB 11.

MICR 200 General Microbiology (4)
Prerequisites: CHEM 111A or 140 with a grade of "C" or better and GE Foundation requirements.

MICR 429 Epidemiology of Infectious Diseases (3)
Prerequisites: BIOL 260; MICR 320, 322; all of a grade of "C" or better. (Undergraduates enroll in MICR 429; graduates enroll in MICR 529.)

CAFF 321I Family and Consumer Resource Management (3)
Prerequisites: GE Foundation requirements, one or more Exploration courses, and upper division standing.

FCSE 299 Introduction to FCS (1)
Prerequisites: None.

FCSE 486 Instructional Strategies for Family and Consumer Sciences Professionals (3)
Prerequisites: Senior standing.

FCSE 499 Professionalism and Leadership in FCS (2)
Prerequisites: FCSE 299, CAFF 321, 12 units of upper division course work in Family and Consumer Sciences.

FSCI 332 Food Science (3)
Prerequisites: CHEM 327; HFHM 235; MICR 200 or equivalent.

FSCI 338 Introduction to Food Processing (3)
Prerequisites: FSCI 332.

FSCI 432 Food Analysis (3)
Prerequisites: CHEM 327, FSCI 332 or equivalent.

FSCI 435 Food Processing, Preservation and Packaging (3)
Prerequisites: FSCI 332 or consent of instructor.

FSCI 492F Internship in Food Science (3)
Prerequisites: Senior standing; a 2.5 overall GPA or a 3.0 major GPA; approval of faculty advisor in Food Science; and FSCI 332.

HFHM 235 Principles of Food Preparation (3)
Prerequisites: None.

NUTR 132 Introductory Nutrition (3)
Prerequisites/Corequisites: One Foundation course.

NUTR 234 Orientation Dietetics and Food Administration (2)
Prerequisites: None.

NUTR 331A Fundamentals of Human Nutrition (3)
Prerequisites: NUTR 132, BIOL 207, CHEM 302 or 327 or equivalent.

NUTR 336 Cultural Aspects of Food and Nutrition (3)
Prerequisites: PSY 100 or SOC 100 or ANTH 120 or equivalent; NUTR 132.

Take one of the following courses:

ED P 419 Educational Statistics (3)
Prerequisites: Satisfactory completion of an undergraduate mathematics course suitable for general education math credit and, if required by the major, a lower-division statistics course.

H SC 403 Community Health Statistics (3)
Prerequisites: GE Math and SOC 250 or PSY 210 or equivalent.

Take one of the following courses:

ENGL 101 Composition (3)
Prerequisites: ENGL 100.

ENGL 317 Technical Communication (3)
Prerequisites: GE Foundation requirements, upper-division standing, and a previous composition course, i.e., ENGL 100, 101, 102, 300, or equivalents.

Take one of the following courses:

PSY 100 General Psychology (3)
Prerequisites/Corequisites: GE A1 requirement.

SOC 100 Principles of Sociology (3)
Prerequisites/Corequisites: A GE Foundation course.

Take 9 units from the following courses:

CHEM 111B; FCSE 497; NUTR 331B; HFHM 275, 477; IS 233.

Minor in Food Science

Preparation for employment in the Food Science Industry may be developed through completion of this program of study. Eighteen units including:

Take all the following:

FSCI 332 Food Science (3)
Prerequisites: CHEM 327; HFHM 235; MICR 200 or equivalent.

FSCI 338 Introduction to Food Processing (3)
Prerequisites: FSCI 332.

FSCI 432 Food Analysis (3)
Prerequisites: CHEM 327, FSCI 332 or equivalent.

FSCI 435 Food Processing, Preservation and Packaging (3)
Prerequisites: FSCI 332 or consent of instructor.

FSCI 492F Internship in Food Science (3)
Prerequisites: Senior standing; a 2.5 overall GPA or a 3.0 major GPA; approval of faculty advisor in Food Science; and FSCI 332.

Take 3 units from the following:

FCSE 497 Directed Studies
Prerequisites: Upper division standing, consent of instructor.

MICR 429 Epidemiology of Infectious Diseases
Prerequisites: BIOL 260; MICR 320, 322; all of "C" grade or better.

NUTR 336 Cultural Aspects of Food and Nutrition (3)
Prerequisites: PSY 100 or SOC 100 or ANTH 120 or equivalent; NUTR 132.

Adhere to prerequisites below, some fulfill GE requirements:

1. CHEM 111A is a prerequisite for CHEM 327;
2. HFHM 235, CHEM 327, and MICR 200 are prerequisites for FSCI 332;
3. FSCI 332 is a prerequisite for FSCI 338, 432, 435, and 492F;
4. PSY 100 or SOC 100 or ANTH 120 or equivalent and NUTR 132 are prerequisites for NUTR 336;
5. BIOL 260, MICR 320 & 322 are prerequisites for MICR 429.

The Minor in Food Science is available to any non-Food Science major.

Food Science Courses (FSCI)

UPPER DIVISION

330. Dairy Science (2)

Prerequisites: NUTR 132, HFHM 235.

Study of dairy science from chemical microbiological, processing, nutritional values, and economic standpoints. Integration of recent technology as implemented to feature marketed dairy products both traditional and contemporary.

(Lecture-discussion 2 hours.)

332. Food Science (3)

Prerequisites: CHEM 327; HFHM 235; MICR 200 or equivalent.

Composition and structure of foods: chemical changes in foods that affect their color, flavor, texture, aroma, and nutritive quality during processing and preparation; techniques for food preservation.

Course fee may be required. (Lecture-discussion 2 hours, laboratory 3 hours.)

338. Introduction to Food Processing (3)

Prerequisites: FSCI 332.

Study of industrial concepts of food processing. Raw agricultural commodities through the production phases to a final product acceptable to consumers. (The course may include limited visitations to food preparation sites.)

(Lecture-discussion 3 hours.)

432. Food Analysis (3)

Prerequisites: CHEM 327, FSCI 332 or equivalent.

Application of scientific methods of food analysis. Ingredients, proportions, and techniques in food preparation affect the quality of products. Experimental laboratory problems.

Letter grade only (A-F). Course fee may be required. (Seminar 2 hours, Laboratory 3 hours.)

435. Food Processing, Preservation and Packaging (3)

Prerequisites: FSCI 332 or consent of instructor.

Methods and technological aspects in food processing, preservation and packaging. Application of principles and assessment of nutrition. Evaluation of chemical additives. Microbiological aspects of food.

(Lecture - discussion 2 hours, laboratory 3 hours.)

469. Food Product Development (1)

Prerequisites: FSCI 332, or consent of instructor.

Industrial concepts and technology as they apply to food product development and formulation. Includes principles of new product development, ingredient replacements, and product improvements. Development of a prototype, ingredient interaction, and product cost analysis.

Letter grade only (A-F). (Seminar 1 hour)

492F. Internship in Food Science (3)

Prerequisites: Student must be a Family and Consumer Sciences: Food Science major; have senior standing; have a 2.5 overall GPA or a 3.0 major GPA; approval of a faculty advisor in Food Science; and FSCI 332. Each prerequisite course must be completed with a grade of "C" or better.

Field experience in which student assumes a pre-professional role in professional setting. Objectives by student with supervisor must be approved by major advisor and form the basis for evaluation.

May be repeated for a maximum of 6 units. (Seminar 3 hours)