FOOD SCIENCE AND HUMAN NUTRITION

Not all courses are offered every semester. Refer to the schedule of courses for each term's specific offerings.
More Info (https://one.uf.edu/soc/)

Unless otherwise indicated in the course description, all courses at the University of Florida are taught in English, with the exception of specific foreign language courses.

Department Information

The Food Science and Human Nutrition Department (FSHN) is one of the world's largest combined academic programs where food science, nutritional sciences, and dietetics are all studied within one department. The department's programs are accredited by the Institute of Food Technologists (IFT) (http://www.ift.org/) and the Accreditation Council for Education in Nutrition and Dietetics (http://www.eatright.org/) (ACEND). After completing undergraduate degrees, FSHN students typically move on to employment in the food industry, healthcare settings, graduate, or professional programs.
Website (https://fshn.ifas.ufl.edu/)

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Map (http://campusmap.ufl.edu/#/index/0475)

Curriculum

- Food Science
- Food Science Minor
- Nutritional Sciences
- Nutritional Sciences Minor

Courses

BCH 3025 Fundamentals of Biochemistry 4 Credits
Grading Scheme: Letter Grade
Introducing biochemistry with emphasis on intermediary metabolism.
Prerequisite: CHM 2200 and CHM 2200L (or preferably CHM 2210, CHM 2211 and CHM 2211L) with minimum grades of C.

DIE 2002 Personalized Nutrition 3 Credits
Grading Scheme: Letter Grade
This course will grapple with how and where nutrition should fit in an emerging era of precision medicine, by exploring the challenges of malnutrition and the growing epidemic of metabolic disease (e.g., obesity, diabetes, cardiovascular disease, and cancer). Based on the disciplines of molecular science, dietetics, epidemiology, and data analysis (including artificial intelligence), the course will investigate and reflect on the causes and consequences of malnutrition, and how dietary or nutrient choices can be personalized to prevent metabolic disease. Major themes include the molecular determinants of differences among individuals and nutritional contributions, malnutrition and metabolic disorders, and the application of personalized nutrition in disease prevention. This course affords students the ability to critically examine and evaluate the principles of the scientific method, model construction, and use the scientific method to explain natural experiences and phenomena.
Attributes: Quest 2, General Education - Biological Science

DIE 3310 Community Nutrition 2 Credits
Grading Scheme: Letter Grade
Role of nutrition in promoting, maintaining and improving health in the community. Investigation of traditional aspects of the emerging health delivery systems, as well as entrepreneurial ventures in wellness. Study the financial, legislative, political, sociological, and scientific aspects of public and community health.
Prerequisite: (HUN 2201 and Dietetics major) or instructor permission.

DIE 4125 Food Systems Management 3 Credits
Grading Scheme: Letter Grade
The management of human resources, food, equipment and facilities to provide a quality product and service to customers in a food service operation.
Prerequisite: FOS 2040 or FOS 3042.

DIE 4125L Food Systems Management Laboratory 2 Credits
Grading Scheme: Letter Grade
The application of principles of food systems management, including purchasing, production, service, sanitation and safety.
Prerequisite: DIE majors only;
Corequisite: DIE 4125.

DIE 4245 Medical Nutrition Therapy Applications: Part 1 3 Credits
Grading Scheme: Letter Grade
Part one of a 2-semester sequence focusing on application of the nutrition care planning process. Includes development of nutrition assessment skills and formulation of nutrition care plans for simulated patients, including those requiring enternal and parenteral nutrition.
Prerequisite: HUN 2201 and Dietetics major.
Corequisite: HUN 4445 and (APK 2105C or PCB 4723C) and (BCH 3025 or BCH 4024).

DIE 4246 Medical Nutrition Therapy Applications: Part 2 3 Credits
Grading Scheme: Letter Grade
Part two of a 2-semester sequence that focuses on attainment of knowledge to make nutrition diagnoses, to develop and implement effective nutrition intervention strategies and to identify appropriate monitoring and evaluation plans for patients with common chronic diseases and disorders.
Prerequisite: HUN 4445 and DIE 4245 and (APK 2105C or PCB 4723C).
Corequisite: HUN 4446.

DIE 4436 Nutrition Counseling and Communication 2 Credits
Grading Scheme: Letter Grade
Application of principles of group dynamics and group and interpersonal counseling skills in dietetics practice settings. Provides hands-on experiences in counseling and in oral and written communication.
Prerequisite: HUN 2201 and HUN 3403 and Dietetic major.

DIE 4505 Dietetics Seminar 1 Credit
Grading Scheme: Letter Grade
Capstone course for dietetic majors; focuses on professional issues, including ethics, legislative issues, advocating and marketing the profession.
Prerequisite: Agricultural and Life Sciences senior and Dietetic major.

DIE 4543 Supervised Extension Experience in Dietetics 0-3 Credits
Grading Scheme: S/U
Firsthand, authentic extension experiences in dietetics under the supervision of a faculty member. Projects may involve program planning, development, implementation, and evaluation.
Prerequisite: Instructor permission.

DIE 4905 Problems in Dietetics 1-5 Credits
Grading Scheme: Letter Grade
Individual research work in various phases of dietetics.
Prerequisite: Instructor permission.

DIE 4911 Supervised Research in Dietetics 0-3 Credits
Grading Scheme: S/U
Firsthand, authentic research in dietetics under faculty member supervision. Projects may involve inquiry, design, investigation, scholarship, discovery, or application.
Prerequisite: Instructor permission.

DIE 4915 Honors Thesis Research in Dietetics 0-3 Credits
Grading Scheme: S/U
Independent research in dietetics leading to an honors thesis. Student is mentored by a faculty member. Projects may involve inquiry, design, investigation, scholarship, discovery or application.
Prerequisite: junior standing, upper division GPA of 3.75 or higher and completed honors thesis proposal on file.

DIE 4934 Topics in Dietetics 1-3 Credits
Grading Scheme: Letter Grade
Lectures, conference, laboratory, or clinical experience covering selected topics in dietetics.
Prerequisite: Instructor permission.

DIE 4940 Undergraduate Supervised Teaching 0-3 Credits
Grading Scheme: S/U
This course provides supervision, instruction, and facilitation for undergraduate students wishing to obtain teaching experience in Food Science and Human Nutrition under the supervision of a faculty mentor.
Prerequisite: Junior or Senior Standing.

FOS 2001 Man's Food 3 Credits
Grading Scheme: Letter Grade
Discussion of current nutrition and food science topics concerning nutritional quality and safety of foods as they relate to one health. Provides the ability to critically examine and evaluate the principles of the scientific method, model construction, and use the scientific method to explain natural experiences and phenomena. For science and non-science students.
Attributes: General Education - Biological Science, General Education - International

FOS 2040 Introductory Food Science 3 Credits
Grading Scheme: Letter Grade
Commodities selected for human consumption and methods used by food technologists to prolong shelf life, retard spoilage and ensure quality. Principles upon which various processing methodologies are based. This course affords students the ability to critically examine and evaluate the principles of the scientific method, model construction, and use the scientific method to explain natural experiences and phenomena.
Attributes: General Education - Biological Science

FOS 3060 Life After Graduation 1 Credit
Grading Scheme: S/U
Overview of available opportunities for Food Science students after graduation, and tips and advice on how to be successful after graduation. Intended for all Food Science majors, especially those preparing to graduate within the academic year.
Prerequisite: junior or senior standing.

FOS 4064 Principles of Food Entrepreneurship 3 Credits
Grading Scheme: Letter Grade
Overview of the food business. Covers the fundamental aspects of food entrepreneurship, including basic food science, food regulation, food safety, product development, business planning, and marketing. Learn how various disciplines of food science are incorporated into entrepreneurship through lectures, hands-on activities, and presentations.
Prerequisite: Junior or Senior Standing.
Attributes: Enable-AI

FOS 4202 Food Safety and Sanitation 2 Credits
Grading Scheme: Letter Grade
Lectures, discussions, demonstrations and field trips concerning microbial, chemical and biological safety of food, principles of sanitation for the food processing, food service and retail food industries.
Prerequisite: MCB 2000 and MCB 2000L, or the equivalent.

FOS 4222 Food Microbiology 3-4 Credits
Grading Scheme: Letter Grade
Sources and types of biological contamination and its control during harvesting, processing and storage of foods; food fermentation; biotechnology sanitation; HACCP methods used to examine foods for microbial content.
Prerequisite: MCB 2000 or MCB 2010 or MCB 2013 or MCB 3020 or MCB 3023.

FOS 4222L Food Microbiology Laboratory 2 Credits
Grading Scheme: Letter Grade
Methods to enumerate microorganisms in foods.
Prerequisite: MCB 2000L or MCB 3020L; concurrent or previous registration in FOS 4222.

FOS 4223 Food and Environmental Virology 2 Credits
Grading Scheme: Letter Grade
An emerging topic in the field of microbial food safety, food virology explores the role of viruses as human pathogens; their interactions with bacteria; transmission to food, water, and contact surfaces; detection; and prevention strategies. Through this course, students can develop a competency framework within their discipline.
Prerequisite: MCB 2000/MCB 2000L or MCB 3020/MCB 3020L or FOS4222.

FOS 4290 Principles of Food Safety Systems 2 Credits
Grading Scheme: Letter Grade
This course is designed to cover 1) current issues in food supply chain including security and safety in domestic and international food industry, 2) various food safety control systems, 3) principles of HACCP and FSMA Preventive controls. The course also provides hands-on practice in developing a food safety plan.
Prerequisite: FOS 2040 or FOS 3042.

FOS 4310L Experimental Foods Laboratory 1 Credit
Grading Scheme: Letter Grade
Demonstrations and illustrations of the chemical and physical properties of foods. Shows the effects of processing, ingredients and storage on food quality and nutrient retention.
Corequisite: FOS 4311.

FOS 4311 Food Chemistry 3 Credits
Grading Scheme: Letter Grade
Relationship of composition to the properties of foods and the changes which occur during processing, storage and utilization.
Prerequisite: CHM 2200 or (CHM 2210 and CHM 2211).
Corequisite: FOS 4310L or FOS 4311L; biochemistry recommended but not required.

FOS 4311L Food Chemistry Laboratory 1 Credit
Grading Scheme: Letter Grade
Laboratory covering the relationship of composition to the properties of foods and the changes which occur during processing, storage and utilization.
Prerequisite: CHM 2200L or CHM 2211L;
Corequisite: FOS 4311.

FOS 4318 Flavor Chemistry 3 Credits
Grading Scheme: Letter Grade
Learn how flavor chemicals impact sensory perception of food; discuss flavor compounds used in foods, their production, isolation, analysis, and specific attributes.
Prerequisite: (CHM 2045 and CHM 2046) and CHM 2200 or (CHM 2210 and CHM 2211), all with grades of C.

FOS 4321C Food Analysis 4 Credits
Grading Scheme: Letter Grade
Principles and practice of physical and chemical methods for analyzing foods.
Prerequisite: (CHM 2200 and CHM 2200L) or (CHM 2210 and CHM 2211 and CHM 2211L).

FOS 4410C Introduction to Unit Operations in Food Processing 4 Credits
Grading Scheme: Letter Grade
Introduces the fundamentals of food processing for non-engineering students. Applies primary concepts in context of the field of food science, including Engineering Units, Food Properties, Microbial Death, Conduction, Phase Changes, Convection, Heat Exchangers, Steady-State-Heat-Transfer, Extrusion, Unsteady-State-Heat-Transfer, and Radiation.
Prerequisite: MAC 2311 and PHY 2053.

FOS 4427C Principles of Food Processing 4 Credits
Grading Scheme: Letter Grade
Principles of processing foods: cooling, freezing, heating, dehydrating, concentrating, irradiating, fermenting and the use of chemicals.
Prerequisite: FOS 4410C.
Attributes: Artificial Intelligence

FOS 4435C Food Product Development 3 Credits
Grading Scheme: Letter Grade
Capstone course integrating food science and related disciplines to value-added food products using traditional and novel commodity, ingredient and process combinations. Class projects emphasize technology, safety, health/nutrition, legal, quality and economic/ marketing considerations.
Prerequisite: 4AG - FOS majors only.

FOS 4522C Seafood Technology 3 Credits
Grading Scheme: Letter Grade
Processing principles and methods of preparation of various seafood products and control of product quality.
Prerequisite: CHM 2045.

FOS 4722C Quality Control in Food Systems 3 Credits
Grading Scheme: Letter Grade
Measurement and control of the major quality parameters of foods, including sensory, color and texture.
Prerequisite: STA 2023.

FOS 4731 Government Regulations and the Food Industry 2 Credits
Grading Scheme: Letter Grade
Government laws regulating food wholesomeness; food handling, processing and distribution under sanitary conditions; food ingredients and labeling of food products.
Prerequisite: FOS 2040 or FOS 3042 or Food Science major or instructor permission.
Attributes: Enable-AI

FOS 4905 Special Problems in Food Science 1-5 Credits
Grading Scheme: Letter Grade
Individual research work in various phases of food science.
Prerequisite: Instructor permission.

FOS 4906 Supervised Extension Experience in Food Science 0-3 Credits
Grading Scheme: S/U
Firsthand, authentic extension experiences in agricultural and life sciences under the supervision of a faculty member. Projects may involve program planning, development, implementation, and evaluation.
Prerequisite: Instructor permission.

FOS 4911 Supervised Research in Food Science 0-3 Credits
Grading Scheme: S/U
Firsthand, authentic research in food science under the supervision of a faculty member. Projects may involve inquiry, design, investigation, scholarship, discovery, or application.
Prerequisite: Instructor permission.

FOS 4915 Honors Thesis Research in Food Science 0-3 Credits
Grading Scheme: S/U
Independent research in food science leading to an honors thesis. Student is mentored by a faculty member. Projects may involve inquiry, design, investigation, scholarship, discovery or application.
Prerequisite: junior standing, upper division GPA of 3.75 or higher and completed honors thesis proposal on file.

FOS 4936 Topics in Food Science 1-3 Credits
Grading Scheme: Letter Grade
Lectures, conferences, or laboratory covering specially selected topics in food science.
Prerequisite: Instructor permission.

FOS 4941 Full-Time Practical Work Experience in Food Science 1-3 Credits
Grading Scheme: S/U
One-term employment in industry, including extra work according to a pre-approved outline. Practical work under industrial supervision as set forth in College of Agricultural and Life Sciences regulations.
Prerequisite: previous arrangement with advisor and department permission; FSHN majors only.

FOS 4945 Undergraduate Supervised Teaching 0-3 Credits
Grading Scheme: S/U
Under the supervision of a faculty mentor, provides supervision, instruction, and facilitation for obtaining teaching experience in Food Science and Human Nutrition.
Prerequisite: Junior standing or higher and completion of the course for which the student will be assisting.

HUN 2192 Feeding the Planet 3 Credits
Grading Scheme: Letter Grade
This Quest 2 course explores the challenges of eating well around the globe considering environmental and economic factors, as well as access to and availability of nutritious food.
Attributes: Quest 2, General Education - Social Science

HUN 2201 Fundamentals of Human Nutrition 3 Credits
Grading Scheme: Letter Grade
Properties, functions, requirements, interrelationships and metabolism of nutrients. This course affords students the ability to critically examine and evaluate the principles of the scientific method, model construction, and use the scientific method to explain natural experiences and phenomena.
Prerequisite: BSC 2007 or BSC 2005 or BSC 2010 or CHM 1025 or CHM 2045 or APK 2100C or APK 2105C or CHM 1030.
Attributes: General Education - Biological Science

HUN 3403 Nutrition through the Life Cycle 2 Credits
Grading Scheme: Letter Grade
Nutritional needs and concerns throughout stages of the life cycle including pregnancy and lactation, infancy, adolescence, adulthood, and aging; socioeconomic, cultural and psychological influences on food and nutrition behavior.
Prerequisite: HUN 2201.

HUN 4221 Nutrition and Metabolism 3 Credits
Grading Scheme: Letter Grade
Metabolic relationships of nutrients with emphasis upon their functions in biochemical and physiological processes as well as variations in requirements in response to stress. Meets requirements of the American Dietetic Association.
Prerequisite: (BCH 3025 or BCH 4024) and (PCB 4723C or APK 2105C) and (HUN 3403 and HUN 4445).

HUN 4445 Nutrition and Disease: Part 1 3 Credits
Grading Scheme: Letter Grade
Part one of a two-semester sequence that focuses on the biochemical and pathophysiological bases of disease/conditions that require specialized nutrition support/medical nutrition therapy.
Prerequisite: HUN 2201 & (CHM2211 or CHM2200);
Corequisite: APK 2105C or PCB 4723C, BCH 3025 or BCH 4024.

HUN 4446 Nutrition and Disease: Part 2 3 Credits
Grading Scheme: Letter Grade
Part two of the sequence that focuses on the biochemical and pathophysiological bases of disease/conditions that require specialized nutrition support/medical nutrition therapy.
Prerequisite: HUN 4445 and (BCH 3025 or BCH 4024) and (PCB 4723C or APK 2105C).
Corequisite: DIE 4246.
Attributes: Artificial Intelligence

HUN 4813C Laboratory Techniques in Molecular Nutrition 3 Credits
Grading Scheme: Letter Grade
Laboratory techniques relevant to the study of nutrition, ranging from biochemistry, molecular biology, genomics and bioinformatics.
Prerequisite: CHM 2211 and CHM 2211L;
Corequisite: BCH 3025 or BCH 4024.
Attributes: Artificial Intelligence

HUN 4903 Supervised Extension Experience in Nutritional Sciences 0-3 Credits
Grading Scheme: S/U
Firsthand, authentic extension experiences in agricultural and life sciences under the supervision of a faculty member. Projects may involve program planning, development, implementation, and evaluation.
Prerequisite: Instructor permission.

HUN 4905 Special Problems in Human Nutrition 1-5 Credits
Grading Scheme: Letter Grade
Individual research work in various phases of human nutrition.
Prerequisite: Instructor permission.

HUN 4911 Supervised Research in Nutritional Sciences 0-3 Credits
Grading Scheme: S/U
Firsthand, authentic research in nutritional sciences under the supervision of a faculty member. Projects may involve inquiry, design, investigation, scholarship, discovery, or application.
Prerequisite: Instructor permission.

HUN 4915 Honors Thesis Research in Nutritional Sciences 0-3 Credits
Grading Scheme: S/U
Independent research in nutritional sciences leading to an honors thesis. Student is mentored by a faculty member. Projects may involve inquiry, design, investigation, scholarship, discovery or application.
Prerequisite: junior standing, upper division GPA of 3.75 or higher and completed honors thesis proposal on file.

HUN 4936 Topics in Human Nutrition 1-3 Credits
Grading Scheme: Letter Grade
Lectures or laboratory covering selected topics in human nutrition.
Prerequisite: instructor permission.

HUN 4940 Undergraduate Supervised Teaching 0-3 Credits
Grading Scheme: S/U
Under the supervision of a faculty mentor, provides supervision, instruction, and facilitation for obtaining teaching experience in Food Science and Human Nutrition.
Prerequisite: Junior standing or higher and completion of the course for which the student will be assisting.

HUN 4941 Full Time Practical Work Experience in Human Nutrition 1-3 Credits
Grading Scheme: S/U
One-term employment in industry or the health field according to a pre-approved outline. Practical work under supervision as set forth in College of Agricultural and Life Sciences regulations.
Prerequisite: previous arrangement with advisor and department permission; FSHN majors only.