

DEPARTMENT OF NUTRITION AND FOOD SCIENCES

<http://www.uvm.edu/nfs/>

The mission of the Nutrition and Food Sciences Department is to provide our students with evidence-based instruction and practice, conduct cutting-edge research, and engage in career building outreach programs in the field of nutrition and food sciences. We conduct cutting-edge research that contributes to the public's health by advancing knowledge in nutrition related diseases prevention and treatment, safe and innovative foods and sustainable nutrition practices.

The academic requirements for the major reflect the focus and commitment to the science of nutrition and food technology with supporting social sciences. All students will engage in hands-on laboratory and field experiences and participate in a senior capstone course. The Nutrition and Food Sciences Department prepares students to be leaders in the fields of nutrition and food sciences to meet the current and future needs.

Departmental majors are prepared for careers in health care, food industry, research, food access, and biotechnology industry, and entry into post-baccalaureate professional or graduate programs.

The department offers three (3) concentrations:

DIETETICS CONCENTRATION

Dietetics is the study of nutrients and other compounds in foods and their application to health, wellness, disease prevention and treatment. This concentration provides the only program in Vermont for students to complete an accredited Didactic Program in Dietetics (DPD). The DPD partially satisfies the requirements to become a Registered Dietitian Nutritionist (RDN). Students majoring in Nutrition and Food Sciences (Dietetics concentration) must successfully complete the Didactic Program in Dietetics (DPD) to receive a Verification Statement of Eligibility. The program prepares graduates for careers in health care, biomedical, research, academia, and public health.

The Didactic Program in Dietetics (DPD) is accredited by the:

Accreditation Council for Education and Dietetics (ACEND)

Academy of Nutrition and Dietetics

120 South Riverside Plaza, Suite 5400

Chicago, IL 60606-6995

1-800-877-1600, ext. 5400

This concentration is the initial step towards credentialing eligibility. To be eligible for RDN credentialing, students must complete an ACEND accredited graduate program (minimum master's degree) and pass the National Registration Examination for Dietitian Nutritionists. Registered Dietitian Nutritionists provides medical

nutrition therapy (MNT) to clients and patients for the treatment and prevention of diseases.

FOOD SCIENCES CONCENTRATION

Food sciences is the study of the physical, chemical, and biological properties of foods. Students pursuing Food Sciences concentration will be trained in food safety, quality improvement, food processing, and production of sustainable nutritious foods. Students will be provided with hands-on laboratory experience, food industry practicum and internships.

NUTRITION, SUSTAINABILITY AND SOCIETY CONCENTRATION

The Nutrition, Sustainability and Society concentration studies the intersectionality of nutrition, health, social, economic, and ecological factors. Coursework and learning experiences support holistic critical thinking skills and analysis to develop and promote food pathways with access to healthy nutritious foods. **This concentration does not prepare students to become a Registered Dietitian Nutritionist (RDN).**

MAJORS

NUTRITION AND FOOD SCIENCES MAJORS

Nutrition and Food Sciences B.S.

MINORS

NUTRITION AND FOOD SCIENCES MINORS

Nutrition and Food Sciences

Food Systems

GRADUATE

Dietetics M.S.D.

Nutrition and Food Sciences M.S.

Nutrition and Food Sciences AMP

Food Systems M.S.

Food Systems AMP

Food Systems Ph.D.

See the online Graduate Catalogue for more information

Courses

NFS 1033. What's Brewing in Food Science. 3 Credits.

This course will explore food science via the production of beer and other fermented beverages. Students will also identify mechanisms to modify their drinking habits.

NFS 1034. Food Safety for Food Service. 1 Credit.

This course will prepare students for the ServSafe Certification Exam. The topics include food safety and proper food handling in a restaurant setting.

NFS 1043. Fundamentals of Nutrition. 3 Credits.

The study of standard guidelines to select foods that maximize human health and the functions of the essential nutrients needed to sustain human life. Prerequisites: High school chemistry and biology. Catamount Core: N1.

NFS 1044. Survey of the Field. 1 Credit.

Nutrition and Food Sciences introduction to the professional field and career opportunities in dietetics, nutrition and food science. Required of all First-Year and transfer students. Fall. Prerequisite: Nutrition and Food Science majors and Dietetics, Nutrition and Food Science majors only, or Instructor permission.

NFS 1050. Cheese and Culture. 3 Credits.

The history of cheesemaking is used as a lens through which to view current conflicts in European and American attitudes towards foods.

NFS 1053. Basic Concepts of Foods. 0 or 3 Credits.

Introduces the basic concepts of food central to the disciplines of nutrition, food science and food systems. Introduces these basic concepts in the same way as everyday Americans - through the process of meal preparation.

NFS 1072. Kitchen Science. 3 Credits.

Integrated lecture-lab course that explores the scientific concepts underlying why foods do what they do in the kitchen. Applications include topics such as ice cream, gluten, and molecular gastronomy. Labs and final project provide opportunities to design, conduct, and evaluate experiments investigating culinary phenomena. Prerequisite: Nutrition and Food Sciences major or Instructor permission. Catamount Core: N2.

NFS 1073. Farm to Table: Food Sys. 3 Credits.

This course provides an introduction to the contemporary food system, focusing on the interdependence of all components, from farm to table. Catamount Core: D2, S1, SU.

NFS 1990. Special Topics. 1-18 Credits.

Introductory level special topics courses.

NFS 1991. Internship. 1-3 Credits.

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

NFS 1993. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

NFS 2113. U.S. Food Policy and Politics. 3 Credits.

Provides a systems perspective on U.S. food policies and politics across the food system. Focuses on understanding the U.S. food policy process, policymakers, stakeholders, issues, goals and feedbacks between food policy and politics. Prerequisites: NFS 1073 or CDAE 1020 or CDAE 1040. Cross-listed with: FS 2010.

NFS 2114. Human Health in the Food Syst. 3 Credits.

Explores the multifaceted and evolving intersection of food systems, dietary quality, food availability and human health outcomes. Investigates how political, economic, social and cultural drivers in the food system influence human health outcomes. Prerequisites: NFS 1043 or NFS 1073. Cross-listed with: FS 2030.

NFS 2143. Nutrition in the Life Cycle. 3 Credits.

Nutritional needs of people throughout the life cycle. Physiological and environmental factors which affect nutritional status. Designed for Nutrition majors. Prerequisite: NFS 1043.

NFS 2153. Principles of Food Technology. 3 Credits.

Food processing technologies and underlining principles of changes in microbiological quality and safety, chemical composition and nutritional value, and interaction of functional additives and ingredients. Prerequisite: CHEM 1580; organic chemistry.

NFS 2154. Principles Food Technology Lab. 1 Credit.

Experiential learning of principles of major modern food processing and preservation technologies, essential skills of food quality and safety assurance, and new product development. Pre/Co-requisite: NFS 2153.

NFS 2156. Deadly Food: Outbreak Investig. 3 Credits.

Investigates how U.S. public health officials discover, investigate, and solve foodborne outbreaks. Introduces common pathogens and foods involved in outbreaks in the U.S., the laboratory and investigative methods officials use to solve the outbreaks, and the government agencies involved. The second half of the semester will focus on case studies. Pre/Co-requisites: NFS 1053, NFS 1072, MMG 2010, ASCI 1000; or Instructor permission.

NFS 2163. Sports Nutrition. 3 Credits.

Timing and composition of meals for training and pre- and post-competition. Prerequisite: NFS 1043 or Instructor permission.

NFS 2183. Introduction to Biochemistry. 3 Credits.

Exploring biological processes at the molecular level and how they are controlled. Topics include enzymes, gene expression, and metabolism of carbohydrates and lipids. Restricted to Nutrition and Food Sciences and Dietetics, Nutrition and Food Sciences majors; others by Instructor permission. Prerequisites: CHEM 1580; or CHEM 2580 and CHEM 2585; or other acceptable coursework in organic chemistry.

NFS 2195. Foods for Planetary Health. 3 Credits.

Introduces students to the key tradeoffs inherent to developing dietary patterns that align with planetary health. Incorporates the four pillars of sustainability in an exploration of major foods, dietary patterns, and food systems. Students will learn how to evaluate sources of information and data related to sustainable dietary patterns and engage in discussions about key topics related to the growing interest in aligning human and planetary health. Prerequisite: NFS 1043. Co-requisite: NFS 2196.

NFS 2196. Planetary Health Foods Lab. 1 Credit.

Introduces students to different strategies and important concepts involved in developing a lifetime practice of sustainable cooking. Considers the 4 pillars of sustainability and the key tradeoffs involved in concert with the Foods for Planetary Health seminar course. Students are introduced to these concepts and strategies in the same way as everyday Americans - through the process of meal preparation. Co-requisite: NFS 2195.

NFS 2990. Special Topics. 1-18 Credits.

Lectures, laboratories, readings, or projects relating to contemporary areas of study. Credits negotiable. Enrollment may be more than once, maximum of 12 hours in NFS 2990 and NFS 3990 combined. Prerequisite: Department permission.

NFS 2991. Internship. 1-18 Credits.

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisite: Department permission.

NFS 2993. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

NFS 2994. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

NFS 2995. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Department permission.

NFS 3203. Food Microbiology. 3 Credits.

Foodborne pathogens and spoilage microorganisms of commercial and epidemiological relevance. Conditions favorable to microbial growth, evaluation of foods for microbial content, and measures to prevent/reduce/eliminate potential microbe related food borne illness. Positive uses of microbes in the production of foods are also discussed (i.e. fermentation). Prerequisite: NFS 2153, NFS 2156 or NFS 2183.

NFS 3204. Food Microbiology Lab. 1 Credit.

Introduces microbiological techniques such as Gram Stain, Streak for Isolation, dilutions, aseptic technique as well as means of identifying the microbial content of food products. Pre/Co-requisite: NFS 3203.

NFS 3205. Functional Foods:Prncpl & Tech. 3 Credits.

Examines the constituents that make food products functional and provides laboratory techniques needed to create a functional food. Prerequisites: NFS 2153, NFS 2154, or Instructor permission.

NFS 3223. Nutrition Educ & Counseling. 3 Credits.

Use of appropriate education theory, techniques, and media in nutrition education and counseling theories and negotiation, interviewing and counseling skills in individual and group counseling. Pre/Co-requisites: NFS 2143; minimum Junior standing.

NFS 3243. Advanced Nutrition. 3 Credits.

Study of nutrients and their specific functions in metabolic process integrating cellular physiology, biochemistry, and nutrition. Prerequisites: ANPS 1190, ANPS 1200, and NFS 2183; minimum Junior standing.

NFS 3246. Weight Inclusive Nutrition. 3 Credits.

Teaches an approach to nutrition through a weight-inclusive lens. Examines how diet culture influences our view of foods, eating choices, and our bodies. Discusses the principles of Health at Every Size and Intuitive Eating. Prerequisites: NFS 1043; minimum Junior standing.

NFS 3250. Foodservice Systems. 4 Credits.

Emphasis on the foodservice system model for understanding quality control; food procurement, production, and marketing; management and evaluation of foodservice facilities, human and financial resources. Prerequisites: NFS 1043, NFS 1053, NFS 2143, minimum Junior standing.

NFS 3254. Global Food Safety. 3 Credits.

Overview of food safety issues, policies, and opportunities around the globe, with a focus on bacterial, viral, and parasite-based food safety challenges. Prerequisites: NFS 2113 or NFS 2114; NFS 2153, MMG 1020, or MMG 2010.

NFS 3261. Clinical Nutrition 2. 3 Credits.

Builds further understanding of various disease conditions and how different food patterns relate to the prevention and management of common diseases. For specific disease states students will examine how diet should be modified to prevent, treat, or manage the disease condition. Prerequisite: NFS 3260.

NFS 3262. Community Nutrition. 3 Credits.

Study of U.S. public health nutrition policies, programs and practices. Emphasis on community nutrition program planning including needs assessment, intervention development and evaluation. Prerequisite: Minimum Junior or Graduate standing.

NFS 3283. HACCP: Theory & Application. 3 Credits.

This course addresses the development of a HACCP plan. Requirements of both the USDA-FSIS and FDA are examined. A mock HACCP plan will be developed. Prerequisites: NFS 3203 and Instructor permission.

NFS 3890. Community Practicum. 1-3 Credits.

Professional field experience in a community nutrition organization. Credit negotiable but not to exceed three per semester. Enrollment may be more than once, maximum of six credits. Prerequisite: Instructor permission.

NFS 3990. Special Topics. 1-18 Credits.

Lectures, laboratories, readings, or projects relating to contemporary areas of study. Credits negotiable. Enrollment may be more than once, maximum of twelve hours in NFS 2990 and NFS 3990 combined. Prerequisite: Department permission.

NFS 3991. Internship. 1-18 Credits.

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisite: Departmental permission.

NFS 3993. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

NFS 3994. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

NFS 3995. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

NFS 4245. Nutrition for Global Health. 3 Credits.

An upper-level course designed to expose students to contemporary issues in public health nutrition in a global setting, with an emphasis on maternal and child nutrition in low and middle-income countries. The course has a particular focus on the interplay between demographic, nutritional and epidemiologic transitions. Use of case studies from different countries and world regions to explore public health nutrition issues of importance, and efforts to control and prevent hunger, malnutrition, and diet-related problems
Prerequisites: NFS 1043, NFS 2143, NFS 3243; Senior Nutrition and Food Sciences majors and minors only. Catamount Core: GC1.

NFS 4260. Clinical Nutrition 1. 3 Credits.

The first of a two-course series exploring concepts in pathophysiology of disease, with a focus on nutrition interventions. Explores foundational aspects of nutritional assessment and the overall nutritional care process. Prerequisites: NFS 2143, Senior standing, NFS Dietetics Concentration major.

NFS 4261. Clinical Nutrition 2. 3 Credits.

The second of a two-course series exploring concepts in pathophysiology of disease, with a focus on nutrition interventions. Builds on foundational aspects of nutritional assessment and the overall nutrition care process. Major organ system dysfunction including cardiovascular, renal, endocrine, pulmonary, central nervous system and immune processes/metabolic stress will be discussed. Prerequisites: NFS 4260, Nutrition and Food Science major with Dietetics concentration, Senior standing.

NFS 4262. Community Nutrition. 3 Credits.

Students preparing for careers in nutrition and dietetics are expected to gain competency for professional practice in a wide range of disciplines and be able to effectively translate sciences including epidemiology, food, nutrition, and human behavior, in a manner that strives to improve the health, nutrition, and well-being of individuals and groups within communities. Prerequisites: NFS 2143, Nutrition and Food Science major with Dietetics or Nutrition, Sustainability and Society concentration, Senior standing.

NFS 4286. NFS Senior Seminar. 1 Credit.

Designed to help students through the process of identifying what they'd like to do with their degree after graduating from UVM, as well as prepare students to complete the required materials for future opportunities. Prerequisites: Nutrition and Food Sciences major; Senior standing.

NFS 4990. Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.