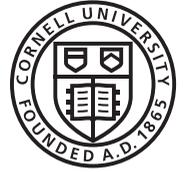


Nutritional Sciences



Food for thought about science and health

Program highlights: Diet and Disease | Economic and global influences on human health | Human health and nutrition | Nutrition and fitness counseling | Nutrition and public health | Nutritional biochemistry | Social influences on human nutrition

Overview

The Nutritional Sciences (NS) major provides a thorough foundation in the life sciences and teaches students how the relationship between food and nutrition affects the health and well-being of individuals, families, and populations. In addition to studying nutrition from a molecular level, students study the cultural, political, economic, and social components that determine how people and communities access, afford, are educated around, and make decisions about nutrition. NS majors learn to critically interpret research and apply it to societal issues, government policies, and people's everyday lives.

The Nutritional Science program is offered by the College of Human Ecology and the College of Agriculture and Life Sciences (CALS). The NS program in the College of Human Ecology focuses on the consumption of nutrition and its impact on human health and interactions. Students in CALS combine their work in nutrition with coursework in food systems, agriculture and the broader life sciences.

The flexible curriculum accommodates a variety of academic opportunities and career paths. Coursework in biology, chemistry, the humanities, social sciences, and nutritional sciences provides a solid foundation whether a student's long-term interest is medicine or a related health career, fitness and sports nutrition, dietetics, clinical nutrition, nutritional education and communications, nutritional biochemistry, or nutrition and food in business. Students personalize their program with electives in psychology, human development, statistics, policy analysis and management, languages, economics, business, communications, government, and international development.

Sample Courses

Nutrition and the Life Cycle (NS 1220) focuses on the biology of the life cycle including development, growth, maturation, and aging, and its impact on nutritional requirements of humans from the zygote to the elderly. How to meet these nutritional requirements is discussed relative to the feeding issues and context of each major life stage. This course emphasizes the critical analyses of beneficial and adverse outcomes of various nutrient intakes and dietary patterns on nutritional status and well-being through the integration of nutrition and other health sciences.

Social Science Perspectives on Food and Nutrition (NS 2450) teaches students to use theories, concepts, and methods from the social sciences to examine food, eating, and nutrition. The food choice process model is used as a framework to examine the scope of social science aspects of nutrition. As a result, students will be able to explain how social science concepts and theories apply to food and nutrition issues and explain individual, social, cultural, economic, and historical patterns of food, eating, and nutrition and demonstrate basic principles and procedures for conducting qualitative interviews and survey research to understand food choice, including protecting human participants in research.

Nutrient Metabolism (NS 3310) examines the biochemical, physiological, molecular, and genomic aspects of human nutrition. The topics of food sources, digestion, metabolism, and function of nutrients (i.e., carbohydrates, proteins, lipids, vitamins, and minerals) are also covered, as are the metabolic and chronic diseases related to nutrition.

Introduction to Physiochemical and Biological Aspects of Foods (NS 3450) offers a comprehensive introduction to the physical, chemical, and nutritional properties of foods and to the principles and practice of food science and technology. Topics include chemistry and functionality of commodities and ingredients, chemical, physical and biological phenomena that affect food quality, techniques of processing and preservation, microbiology and fermentation, food safety, regulation, and contemporary issues.

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College of Human Ecology: Examining human life from a scientific, social and design perspective

Research

Faculty research areas of specialization include malnutrition and health issues in developing countries; the role of diet in reducing the risk of heart disease, cancer, diabetes, and other diseases; obesity and body weight regulation; the basic biochemistry of cells and sub-cellular components; the relationship of diet and exercise to body composition; maternal and child nutrition; and the design of educational materials.

Undergraduates play a critical role in the development, implementation, and analysis of research inquiries as participants on faculty research teams, as well as independent research projects.

Research examples

- Potential associations between coffee consumption and academic performance in undergraduate students
- Potential influence of childhood parental feeding styles on eating behavior among female undergraduates
- Peripheral neuropathy induced by Vitamin B12 deficiency using mouse models

Honors program

The Honors Program is designed to challenge academically talented students who have a strong interest in research. During their junior year, each student in the Program participates in a course on professional research in the health sciences and plans an independent research project under the direction of a faculty member. Each student completes a thesis and presents a seminar on the research problem at the end of their senior year.

Experiential Opportunities

Students learn to put theory into practice, explore career opportunities, and learn more about themselves and the global community through experiential learning.

Students can study abroad through Cornell University-sponsored programs, an overseas university, or a program sponsored by another institution. Off-campus study is also offered through one of Cornell's internship-based programs such as *Cornell in Washington* in Washington, DC; the *Capital Semester* in Albany, NY; or Human Ecology's summer program, *Practicing Medicine* in New York City.

Field placements

Field placements have included counseling clients in a wellness or fitness program; developing nutrition education materials for children; and teaching school-age children in a child care program about nutrition.

Internship examples

Diet Aide, The Canterbury Retirement Home

Food Intern, Northeast Emergency Food Bank

Intern, Cornell Cooperative Extension

Intern, Harbor Entertainment

Volunteer, LA BioMed at Harbor UCLA Medical Center

Professional Pathways

Nutritional Sciences students prepare for a career in many nutrition-related fields, including medicine/health careers, research, fitness and sports nutrition, nutrition counseling, clinical nutrition, dietetics, nutritional biochemistry, community nutrition and nutrition education.

Our program offers a Didactic Program in Dietetics (DPD) for students interested in dietetics. Completing this program, as well as supervised practice—typically through the Dietetic Internship (DI)—allows students to take the Registered Dietitian exam, which is the most widely held credential of nutrition practitioners.

Courses in kinesiology, exercise physiology, and biomechanics of human movement at nearby Ithaca College enable students in the major to complete a minor in Applied Exercise Science and prepare for graduate studies in physical therapy.

Graduate/Professional school

In recent years, graduates have been offered admission to many medical schools, including Cornell, Johns Hopkins, Yale, Stanford, University of Chicago, and MCP Hahnemann University. They have also been admitted to a wide range of prestigious dietetic internships and graduate programs in public health and physical therapy.

Sample career paths

Cardiac rehab nutritionist, Cedars-Sinai Medical Center

Clinical dietitian, Massachusetts General Hospital

Clinical research associate, Regeneron Pharmaceutical Inc

Health care/pharmaceutical consultant, Covance Market Access Services

Nutrition information specialist, U.S. Department of Agriculture

Nutritional epidemiologist, Center for Nutrition Policy and Promotion

Pediatrician, Private Practice

Physical therapist, Athletico Sports Medicine and Physical Therapy Center

Researcher, Fred Hutchinson Cancer Research Center