

# NUTRITIONAL SCIENCES (NUTR)

## Degrees Offered: Ph.D., M.S., and Graduate Certificate

*This program is offered in Durham.*

The Department of Agriculture, Nutrition, and Food Systems offers advanced degrees in Nutritional Sciences at the Masters and Doctoral levels, as well as a Didactic Program in Dietetics Graduate Certificate.

At the Masters level, students will engage in a research project related to the nutritional sciences and gain a comprehensive understanding of nutritional science through coursework. Students can earn a master's degree through three unique pathways: M.S. in Nutritional Sciences, M.S. in Nutrition and Dietetics, and M.S. in Nutrition. All three options emphasize active participation in hypothesis-driven research of publishable quality.

The Ph.D. in Nutritional Sciences trains students to gain advanced knowledge and develop research expertise in such areas as nutritional epidemiology, gut microbiome-host interactions, nutritional assessment, behavioral nutrition, and community nutrition as it pertains to chronic disease risk (e.g., cardiovascular disease, obesity, cognitive function) and food access, dietary patterns, and policy.

In addition, a Didactic Program in Dietetics Graduate Certificate provides prerequisites coursework to apply to a dietetic internship.

<https://colsa.unh.edu/agriculture-nutrition-food-systems>

## Programs

- [Nutritional Sciences \(Ph.D.\)](#)
- [Nutrition \(M.S.\)](#)
- [Nutrition and Dietetics \(M.S.\)](#)
- [Nutritional Sciences \(M.S.\)](#)
- [Didactic Program in Dietetics \(Graduate Certificate\)](#)

## Courses

### Nutrition (NUTR)

#### NUTR 800 - Career Development in Dietetics

**Credits:** 1

Preparation for applying to dietetic internship programs and/or graduate school. Topics include writing resumes and personal statements, interviewing, professional skills, and navigating the online internship application.

**Grade Mode:** Letter Grading

#### NUTR 809 - Nutritional Epidemiology

**Credits:** 4

This course introduces basic concepts and methods in key areas of nutritional epidemiology, and discusses practical considerations related to designing, analyzing, and evaluating population-based nutrition studies. Research methods used in nutritional epidemiology will be taught to provide students with the ability to critically evaluate the nutritional epidemiological evidence. Learning will be enhanced by practical experiences in the collection, management, and analysis of nutritional epidemiological data during lab and in-class activities.

**Prerequisite(s):** NUTR 400 with a minimum grade of D- and (PSYC 402 with a minimum grade of D- or SOC 502 with a minimum grade of D- or BIOL 528 with a minimum grade of D-).

**Grade Mode:** Letter Grading

#### NUTR 810 - Advanced Diabetes Care

**Credits:** 2

Advanced Diabetes Care is a 2-credit course designed to build on foundational knowledge of diabetes care and education. During the semester, students will explore the pathophysiology of diabetes as well as modern medications and technology used to improve blood sugar management. Students will apply their knowledge of diabetes and nutrition to interpret data and deliver effective, compassionate care.

**Prerequisite(s):** NUTR 400 with a minimum grade of D- and BMS 507 with a minimum grade of D- and BMS 508 with a minimum grade of D-.

**Grade Mode:** Letter Grading

#### NUTR 815 - Advanced Sports Nutrition

**Credits:** 4

The focus of the course is placed on the application of evidence-based knowledge to sport-specific scenarios. Insight and skills gained in this course will expand students' abilities in assisting and recommending proper nutritional strategies for athletes during training and competition. Additionally, this discusses strategies to combat common issues athletes may encounter, such as injuries, illness, eating disorders, and gastrointestinal discomfort.

**Grade Mode:** Letter Grading

#### NUTR 820 - Community Nutrition

**Credits:** 4

Identification of causes of complex public health nutrition problems (such as food insecurity and escalating obesity rates) and cost-effective community-based interventions required to solve them. Provides skills and tools needed to assess design and evaluate community nutrition and wellness interventions.

**Prerequisite(s):** NUTR 400 with a minimum grade of D-.

**Grade Mode:** Letter Grading

#### NUTR 829 - Dietetics: Intro to Dietetics Principle and Practice

**Credits:** 2

Dietetics professionals are engaged in multiple arenas that demand familiarity with community food access, public health, food system challenges and health care practices. Resources and strategies to identify reliable sources of information, critical thinking skills, professional development and professional standards of behavior will be considered throughout the course. Simulation and extensive practicum-based training are critical components of this course as students prepare for extensive practicum placements in food service, community and clinical care settings.

**Repeat Rule:** May be repeated up to 1 time.

**Grade Mode:** Letter Grading

**Special Fee:** Yes

**NUTR 830 - From Seed to Sea: Examining Sustainable Food Systems**  
**Credits: 4**

Integration of diverse human and natural system interactions in a seminar-based course to understand issues in food system sustainability. Examination of food system structure and function from coupled human and natural systems perspective. Current and topical issues of food and agriculture include: exploration of using natural resources to meeting growing population demands; conflicting views on meeting food and nutrition requirements; impacts of increased stress on natural resources; inequities and discrimination in the food system; impact on dietary guidelines on the environment. Introductory nutrition course required.

**Grade Mode:** Letter Grading

**NUTR 831 - Dietetics: Clinical Theory and Practice**

**Credits: 10**

Integration of clinical theory and practice in dietetics care. Bi-weekly seminars, on-line assignments and supplemental readings provide a mechanism to examine the nutritional basis of diet and disease relationships and consider appropriate nutritional interventions. Clinical rotations (500-600 hours) provide the opportunity to explore the application of nutritional science principles and practices within inpatient and outpatient environments. Staff responsibility, coupled with an in-depth case study presentation of a current patient with multiple nutrition risk factors, serves as the capstone practicum project.

**Prerequisite(s):** NUTR 829 with a minimum grade of D- or NUTR 832 with a minimum grade of D-.

**Grade Mode:** Letter Grading

**Special Fee:** Yes

**NUTR 832 - Dietetics: Food Service and Community**

**Credits: 10**

Pre-professional work experiences with continued examination and application of theory and practice in the dietetic profession. Concepts include foodservice management topics such as facility and human resources management, translation of nutrition into foods/menus, procurement, distribution and service within delivery systems, and food safety and sanitation. Community nutrition topics include nutrition screening and assessment, nutrition counseling and education, food security and sustainability, program development and evaluation, as well as exploration of health promotion and disease prevention theory and application. Assignments and supplemental reading reinforce practicum experiences. Practicum experience (500-600 hours) is integrated into the course design.

**Prerequisite(s):** NUTR 829 with a minimum grade of D- or NUTR 831 with a minimum grade of D-.

**Grade Mode:** Letter Grading

**NUTR 836 - Sustainable Food Systems and Culinary Arts Practicum**

**Credits: 3**

The Sustainable Food Systems and Culinary Arts experience is designed to provide both theoretical and practical information that builds upon core values of population and planetary health. Students will use a food systems lens to review food costs, evaluate food access and food security, consider the role of culture and place in food selection and conduct nutrient analysis. They will expand their culinary skills, while integrating knowledge of local, organic and sustainable food concepts.

**Grade Mode:** Letter Grading

**Special Fee:** Yes

**NUTR 840 - Nutrition for Children with Special Needs**

**Credits: 4**

Understand the nutrition concerns and care of children with special health needs and the need for medical nutrition therapy. Insight and skills gained in this course will expand students' abilities in assessing and recommending proper nutritional strategies for children affected by a variety of medical conditions. Specifics of the nutrition care process for these conditions will be examined. Introductory nutrition course and enrollment in graduate program required prior to taking this course.

**Grade Mode:** Letter Grading

**NUTR 850 - Nutritional Biochemistry**

**Credits: 4**

Digestion, absorption, transport, and utilization of food nutrients. Role of macro- and micro-nutrients as substrates and catalyst for metabolic pathways, and the role of these pathways in maintaining human health at the cellular, organ and whole-body levels. Two semesters anatomy and physiology; one semester biochemistry required.

**Equivalent(s):** ANSC 850

**Grade Mode:** Letter Grading

**NUTR 851 - Nutritional Biochemistry of Micronutrients**

**Credits: 4**

Investigation of the nutritional and biochemical aspects of micronutrient metabolism. All essential vitamins and minerals, as well as some phytonutrients and quasi-nutrients are explored in depth. Nutrients are examined for their molecular, cellular, and metabolic and biomedical functions, as well as the biochemical and clinical consequences of their deficiency or excess.

**Prerequisite(s):** NUTR 850 with a minimum grade of D-.

**Grade Mode:** Letter Grading

**NUTR 855 - Concepts and Controversies in Weight Management**

**Credits: 4**

Overview of the risk factors associated with obesity; evidence-based recommendations for assessment and treatment of obesity. Counseling skills important to successful weight management and non-diet approaches are also explored.

**Equivalent(s):** NUTR 856

**Grade Mode:** Letter Grading

**NUTR 860 - Behavioral Nutrition and Counseling**

**Credits: 4**

Apply current theories and techniques of counseling appropriate to nutrition. Emphasis on effective communication, client-centered counseling methods, motivational interviewing, behavior change, and factors affecting nutritional intake. Nutrition psychology and principles of group counseling/facilitation will also be explored.

**Grade Mode:** Letter Grading

**NUTR 873 - Clinical Nutrition**

**Credits: 4**

Principles and mechanisms of disease that result in altered nutrient requirements in humans. One semester introductory nutrition; two semesters anatomy & physiology; one semester biochemistry required.

**Equivalent(s):** ANSC 873

**Grade Mode:** Letter Grading

**NUTR 875 - Practical Applications in Medical Nutrition Therapy****Credits:** 4

Combination of lecture and supervised practical experience in medical nutrition therapy in a New England hospital. Emphasizes nutritional counseling, assessment, and instruction of patients with nutrition-related disorders.

**Equivalent(s):** ANSC 875**Grade Mode:** Letter Grading**NUTR 876 - Advanced Pathophysiology and Clinical Care****Credits:** 4

Designed to integrate scientific principles and clinical knowledge with emphasis on clinical decision-making related to providing optimal nutrition care. Course will emphasize understanding the pathophysiology of diseases and mastery of their nutritional implications and interventions. Students build and expand on knowledge and emphasize applications into their clinical care process. Active participation in lecture discussions and lab simulation is an integral part of class.

**Prerequisite(s):** (NUTR 773 with a minimum grade of D- or NUTR 873 with a minimum grade of D-) and (NUTR 775 with a minimum grade of D- or NUTR 875 with a minimum grade of D-) and (NUTR 750 with a minimum grade of D- or NUTR 850 with a minimum grade of D-).

**Grade Mode:** Letter Grading**Special Fee:** Yes**NUTR 880 - Critical Issues in Nutrition****Credits:** 4

Critical review and analysis of controversial topics in nutrition; emphasis on developing oral and written communications skills and critical thinking skills.

**Prerequisite(s):** NUTR 873 with a minimum grade of D-.**Equivalent(s):** ANSC 880**Grade Mode:** Letter Grading**NUTR 895 - Investigations****Credits:** 1-4

Investigations.

**Grade Mode:** Letter Grading**NUTR 899 - Master's Thesis****Credits:** 1-6

Graduate students must enroll for a total of 6 credits for this course.

Students may enroll in 1-6 credits per semester.

**Repeat Rule:** May be repeated for a maximum of 6 credits.**Grade Mode:** Graduate Credit/Fail grading**NUTR 927 - Nutrition and Gut Microbes in Human Health****Credits:** 4

This course explores the role of nutrition and the gut microbiota in underlying biochemical, metabolic, and immunological processes of chronic and infectious diseases. The course first provides an overview of organs, systems, metabolic processes, and their modulation by nutrients and the gut microbiota, with a focus on human health. The second half of the course covers the mechanistic links between nutrition, the gut microbiota, and chronic and infectious diseases, where students have an opportunity to apply the concepts learned in the first half of the course. To be successful in this course students will need to have taken courses in biochemistry, nutrition, or nutritional biochemistry, or have instructor permission.

**Grade Mode:** Letter Grading**NUTR 960 - Research Methods in Nutritional Science I****Credits:** 4

Course is designed to provide students with an understanding of research methods, terminology, and improved ability to be consumers of research literature, and the skills necessary to conduct applied nutrition research studies (e.g. writing a research proposal, interpreting research results and critically evaluating research), as well as communicate scientific information (research presentation). Students will gain experience with data collection methodologies relevant to human nutrition.

**Grade Mode:** Letter Grading**NUTR 961 - Research Methods in Nutritional Science II****Credits:** 4

Course is designed to provide students with an understanding of research methods, terminology, and improved ability to be consumers of research literature, and the skills necessary to conduct applied nutrition research studies (e.g. writing a research proposal, interpreting research results and critically evaluating research), as well as communicate scientific information (research presentation). Students will gain experience with data collection methodologies relevant to human nutrition.

**Prerequisite(s):** NUTR 960 with a minimum grade of D-.**Grade Mode:** Letter Grading**NUTR #995 - Non-thesis Investigations****Credits:** 1-4

Advanced investigations in a research project, exclusive of thesis project. Elective only after consultation with the instructor. (Offered both fall and spring semesters.)

**Repeat Rule:** May be repeated for a maximum of 4 credits.**Equivalent(s):** NUTR 896**Grade Mode:** Letter Grading

## Faculty

Please see <https://colsa.unh.edu/agriculture-nutrition-food-systems/faculty-staff-directory> for faculty.