# NUTRITION (NUTR)

**NUTR 175. Introduction to Food Studies: From Science to Society. 3 Credits.**
Introduction to food studies covering a variety of topics including how food was consumed over history, land use and aquaculture, food in the arts, food and culture in the American South, food politics, and nutrition science.

*Gen Ed:* GL, NA.

*Grading status:* Letter grade

*Same as:* ANTH 175, AMST 175.

**NUTR 240. Introduction to Human Nutrition. 3 Credits.**
Relationships of human nutrition to health and disease. Integration of biology, chemistry, and social sciences as related to human function. Nutrient composition of foods and safety of the food supply.

*Requisites:* Prerequisites, BIOL 101/101L and CHEM 102/102L.

*Grading status:* Letter grade.

**NUTR 245. Sustainable Local Food Systems: Intersection of Local Foods and Public Health. 3 Credits.**
Examines the intersection of local foods and public health with respect to nutrition and environmental, economic, and community issues. Students explore impacts and potential solutions of the increasingly industrialized and centralized food system, while assisting community partners to increase opportunities for farmers, local food marketers, distributors, and entrepreneurs.

*Gen Ed:* EE- Service Learning.

*Grading status:* Letter grade.

**NUTR 295. Undergraduate Research Experience in Nutrition. 3 Credits.**
Permission of the instructor. For undergraduates enrolled in the department's baccalaureate degree program. Directed readings or laboratory study on a selected topic. May be taken more than once for credit.

*Gen Ed:* EE- Mentored Research.

*Repeat rules:* May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 4 total completions.

*Grading status:* Letter grade.

**NUTR 400. Introduction to Nutritional Biochemistry. 3 Credits.**
Function of the human body focusing on chemical properties, function, and metabolism of nutrients. Biochemistry of nutrients with a limited focus on medical aspects of nutrient metabolism. For advanced undergraduates and graduate students needing to enhance background prior to NUTR 600.

*Requisites:* Prerequisites, BIOL 101, CHEM 101 and 102, and NUTR 240; permission of the instructor for students lacking the prerequisites.

*Grading status:* Letter grade.

**NUTR 405. Fundamentals of Food and Nutrition Policy in Public Health. 3 Credits.**
This course focuses on food and nutrition policy on a federal, state, and local level. Topics covered include policy formation, interest/consumer advocacy groups, key legislation, how research informs policy, equity and diversity, global food policy issues, sustainability and health, advocacy, and current public health nutrition policy hot topics and examples.

*Grading status:* Letter grade.

**NUTR 470. Foundations of Nutrition Interventions. 3 Credits.**
This course is designed to introduce students to clinical trials in nutrition, including experimental designs, nutrition intervention methods, and skills necessary to critically analyze, describe, and evaluate feeding and behavioral nutrition interventions. The course covers concepts, skills and methods related to nutrition interventions, with an emphasis on theory-based interventions at the individual, community, or environmental levels to improve health and nutrition outcomes.

*Grading status:* Letter grade.

**NUTR 600. Human Metabolism: Macronutrients. 3 Credits.**
Cell biochemistry and physiology emphasizing integration of proteins, carbohydrates, and lipids in whole-body metabolism; regulation of energy expenditure, food intake, metabolic adaptations, and gene expression; and macronutrient-related diseases (atherosclerosis, obesity).

*Requisites:* Prerequisite, NUTR 400; permission of the instructor for students lacking the prerequisite.

*Grading status:* Letter grade.

**NUTR 611. Food And Your Life Stages. 3 Credits.**
This course covers nutrition during the life cycle. Units include women during preconception, pregnancy, and lactation; infancy; childhood; adolescence; and older adults (65+). Nutrient and energy needs, assessment of nutritional status, and cultural and socioeconomic barriers are discussed for each phase.

*Requisites:* Prerequisite, NUTR 240.

*Grading status:* Letter grade

*Same as:* MHCH 611.

**NUTR 620. HUMAN METABOLISM: MICRONUTRIENTS. 3 Credits.**
Cell biochemistry and physiology emphasizing metabolism of vitamins and minerals including antioxidant protection, immune function, nutrient control of gene expression, and disease states induced by deficiencies (e.g., iron-deficient anemia).

*Requisites:* Prerequisites, NUTR 400 and 600; permission of the instructor for students lacking the prerequisites.

*Grading status:* Letter grade.

**NUTR 630. Nutrition Communication and Culture. 3 Credits.**
Course teaches the future nutrition professional the art and science of communicating with individuals, groups, and the public. Students will enhance cultural awareness and frame nutrition messages for mass media including social media.

*Requisites:* Prerequisite, NUTR 240; permission of the instructor for students lacking the prerequisite.

*Grading status:* Letter grade.

**NUTR 640. Medical Nutrition Therapy: Chronic Disease Management. 4 Credits.**
A lecture and skills course where students practice skills used in nutrition therapy and the Nutrition Care Process (such as calculating caloric intake and modifying intake, calculating diabetic diets, calculating sodium content of intakes, etc.) under the supervision of a registered dietitian.

*Requisites:* Prerequisites, NUTR 611 and 630; permission of the instructor for students lacking the prerequisites.

*Grading status:* Letter grade.

**NUTR 642. Medical Nutrition Therapy II: Acute Disease Management. 3 Credits.**
Course designed to examine the rationale and implementation of diet therapy and nutrition support in the prevention or treatment of acute diseases.

*Requisites:* Prerequisite, NUTR 640.

*Grading status:* Letter grade.
NUTR 646. Mouse Models of Human Disease. 1 Credit.
This course will focus on the laboratory mouse as a model organism to learn fundamental genetic concepts and understand how state-of-the-art experimental approaches are being used to elucidate gene function and the genetic architecture of biological traits.
Grading status: Letter grade

NUTR 660. Food Service Systems Management. 2 Credits.
Permission of the instructor for nonmajors. Basic concepts of institutional food service systems management applied to small and medium-sized health care facilities in the community.
Requisites: Co-requisite, NUTR 660L.
Grading status: Letter grade.

NUTR 660L. Food Service Systems Management Experience. 1 Credit.
This is a food service management practicum that applies the basic concepts of institutional food service systems. Two laboratory hours per week.
Requisites: Co-requisite, NUTR 660.
Grading status: Letter grade.

NUTR 691H. Honors Research in Nutrition. 3 Credits.
This is an honors course for research for the first semester of senior year, to be followed by NUTR 692H in the second semester. NUTR 691H/692H is a two-course sequence. Enrollment is only for students approved to conduct a senior honors thesis project.
Requisites: Prerequisite, NUTR 295.
Gen Ed: EE- Mentored Research.
Grading status: Letter grade.

NUTR 692H. Honors Research in Nutrition. 3 Credits.
Permission of the instructor. Directed readings or laboratory study of a selected topic. Requires a written proposal to be submitted to and approved by the B.S.P.H. Committee and faculty research director. A written report is required. May be taken more than once for credit. Six laboratory hours per week.
Gen Ed: EE- Mentored Research.
Grading status: Letter grade.

NUTR 695. Nutrition Research. 1-9 Credits.
Permission of the instructor. Individual arrangements with faculty for bachelor and master students to participate in ongoing research.
Repeat rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 8 total completions.
Grading status: Letter grade.

NUTR 696. Readings in Nutrition. 1-9 Credits.
Permission of the instructor. Reading and tutorial guidance in special areas of nutrition.
Repeat rules: May be repeated for credit; may be repeated in the same term for different topics; 12 total credits. 8 total completions.
Grading status: Letter grade.

NUTR 700. Nutrition in Medicine. 2 Credits.
Comprehensive review of nutrition basics with strong clinical perspective. Integrates nutrient biochemistry and metabolism into a framework of nutritional assessment and dietary intervention.
Requisites: Prerequisite, BIOL 252 and NUTR 600.
Grading status: Letter grade.

NUTR 701. Nutrition Practicum Preparation. 2 Credits.
This course provides support for the practicum process and trains students on how to ethically, meaningfully, and professionally engage and prepare for practicum placements. Students will learn how to work within their organization and their stakeholders through building skills in leadership and interprofessional practice. Additionally, students will sharpen their clinical skills in preparation for their hospital-based experience and include mandatory on-boarding requirements.
Requisites: Prerequisite, SPHG 711, SPHG 712, SPHG 713.
Grading status: Letter grade.

NUTR 705. Human Nutrition. 3 Credits.
Fundamental scientific premises of human nutrition. This course covers the basic concepts of macro and micronutrients, food sources, and the evidence-based requirements for a healthy diet. This course integrates nutritional needs of populations, with an emphasis on nutrition-related diseases, including over and undernutrition.
Grading status: Letter grade.

NUTR 711. Nutrition Across the Lifecycle. 3 Credits.
This course covers nutrition during the life cycle. Units include women during preconception, pregnancy, and lactation; infancy; childhood; adolescence; and older adults (65+). Nutrient and energy needs, assessment of nutritional status, and cultural and socioeconomic barriers are discussed for each phase.
Requisites: Prerequisite, NUTR 705 or equivalent.
Grading status: Letter grade.

NUTR 712. Nutrition Communication, Counseling and Culture. 3 Credits.
This course teaches the future nutrition professional the art and science of communicating with individuals, groups, and the public. Students will enhance cultural awareness, practice counseling individuals and facilitating groups, and frame nutrition messages for mass media including social media.
Requisites: Prerequisite, NUTR 705 or equivalent.
Grading status: Letter grade.

NUTR 714. Nutritional Biochemistry, Metabolism and Health. 3 Credits.
Introduction to biochemistry and functions of macro- and micro-nutrients with a limited focus on medical aspects of nutrient deficiencies and metabolism. Focus on chemical structures, chemical properties, metabolism, and functions of macro- and micro-nutrients.
Requisites: Prerequisites, BIOL 252 and 252L, BIOL 422 and 422L, NUTR 240, CHEM 261 and CHEM 430, or permission from the instructor.
Grading status: Letter grade.

NUTR 715. Medical Nutrition Therapy: Chronic Disease Management. 4 Credits.
A lecture and skills course where students practice skills used in nutrition therapy and the Nutrition Care Process (such as calculating caloric intake and modifying intake, calculating diabetic diets, calculating sodium content of intakes, etc.) under the supervision of a Registered Dietitian.
Requisites: Prerequisites, NUTR 711 and 712.
Grading status: Letter grade.

NUTR 720. Public Health Nutrition Management I. 2 Credits.
Focuses on the roles and functions of the public health nutritionist in providing nutrition services at the community level that includes domestic and international nutrition programs, essential public health services, community assessment methods, and community engagement. For the MPH-RD student, it includes 336 hours of field experience.
Requisites: Prerequisites, NUTR 630 and 640, HBEH 600.
Grading status: Letter grade.
NUTR 723. Community Nutrition. 3 Credits.
This course provides graduate students with competencies to assess factors that influence the nutritional status of the population; identify community resources to promote and support nutrition and health; conduct community assets and needs assessments; and design, implement, and evaluate public health nutrition programs.
Requisites: Prerequisite, NUTR 701.
Grading status: Letter grade.

NUTR 728. Nutrition Translational Research and Application. 2 Credits.
Permission of instructor for nonmajors. Designed to focus on translational nutrition research and application, including grant writing, to prepare students in clinical, public health, and policy arenas.
Requisites: Prerequisites, EPID 600, NUTR 725; and NUTR 813 recommended.
Grading status: Letter grade.

NUTR 745. International Nutrition. 3 Credits.
Provides a broad overview of international nutrition research issues, programs, and policies. Topics will include micronutrient deficiencies, child feeding and growth, determinants of under- and over-nutrition, chronic disease and nutrition, food fortification and supplementation, and nutrition intervention programs and policy.
Grading status: Letter grade.

NUTR 746. Taxes, Bans & Burgers: Directed Readings in Global Food Policy. 1 Credit.
Course will explore the social, historical, and political context of how individuals make decisions about what to eat; how this context shapes food policy; and how these policies in turn shape individual behavior, by employing a comparative framework over three countries (China, Mexico, and the U.S.).
Grading status: Letter grade.

NUTR 747. Issues in Global Nutrition. 3 Credits.
A review of the global burden of nutrition-related non-communicable diseases and to contributing global trends in the food system that shape policies and practices affecting nutrition and health outcomes.
Grading status: Letter grade.

NUTR 760. Food Science. 2 Credits.
Introduction to foods, chemical and physical properties, nutritional composition, food safety, production, and regulation.
Requisites: Corequisite, NUTR 760L.
Grading status: Letter grade.

NUTR 760L. Food Science Laboratory. 1 Credit.
Basic culinary techniques. Classes illustrate biochemical processes and food properties covered in lecture. Introduction to new foods and food ideas. Critical evaluation of recipes. Laboratory fee required. Three laboratory hours per week.
Requisites: Corequisite, NUTR 760.
Grading status: Letter grade.

NUTR 765. Nutritional Epidemiology for Masters Students. 3 Credits.
This course introduces basic methods of dietary assessment, reviews various topics in nutrition epidemiology, and teaches the skills needed for critical evaluation of the nutritional epidemiologic literature.
Requisites: Prerequisite, SPHG 711, SPHG 712, SPHG 713, SPHG 721, SPHG 722 (MPH Core Courses).
Grading status: Letter grade.

NUTR 770. Clinical Trials in Nutrition. 3 Credits.
This course is designed to introduce students to nutrition interventions and help students develop knowledge and skills necessary to critically analyze, describe, and evaluate behavioral nutrition interventions. The course covers concepts, skills and methods related to nutrition interventions, with an emphasis on theory-based interventions at the individual, community, or environmental levels to improve health and nutrition outcomes.
Grading status: Letter grade.

NUTR 785. Graduate Teaching Experience. 1 Credit.
Permission of the instructor. Individual arrangements with faculty for a graduate student to serve as a teaching assistant for a nutrition course.
Repeat rules: May be repeated for credit.
Grading status: Letter grade.

NUTR 803. Advanced Nutrition Intervention Research Seminar. 1 Credit.
Prevention Interventions. 3 Credits.
This course is designed to introduce students to nutrition interventions and help students develop knowledge and skills necessary to critically analyze, describe, and evaluate behavioral nutrition interventions. The course covers concepts, skills and methods related to nutrition interventions, with an emphasis on theory-based interventions at the individual, community, or environmental levels to improve health and nutrition outcomes.
Grading status: Letter grade.

NUTR 805. Nutrition Policy. 3 Credits.
This course focuses on nutrition policy on a federal, state, and local level. Topics covered include policy formation, interest/consumer advocacy groups, key legislation, how research informs policy, equity and diversity, global food policy issues, sustainability and health, advocacy, and current public health nutrition policy examples. Permission of the instructor for undergraduates.
Grading status: Letter grade.

NUTR 808. Global Cardiometabolic Disease Seminar. 1 Credit.
This core seminar addresses biology, genetics, epidemiology, intervention and policy strategies relevant for addressing global cardiometabolic disease, as well as, professional development and responsible conduct of research in global settings.
Repeat rules: May be repeated for credit. 4 total credits. 4 total completions.
Grading status: Letter grade.

NUTR 810. Physical Activity Epidemiology and Public Health. 3 Credits.
This course provides an overview of major issues in physical activity measurements, population distribution, correlates, impacts (physically and economically), and public health recommendations. Interventions, including relevant theories, will be reviewed. Three lecture hours per week.
Requisites: Prerequisite, EPID 600.
Grading status: Letter grade
Same as: EPID 810.

NUTR 811. Development and Evaluation of Health Promotion and Disease Prevention Interventions. 3 Credits.
Permission of the instructor for non-majors. Doctoral seminar on application of theory and empirical evidence to intervention development, evaluation paradigms, and methods of process and outcome evaluations.
Grading status: Letter grade
Same as: HBEH 811.

NUTR 812. Introduction to Obesity: Cell to Society. 3 Credits.
Provides a broad survey of obesity research including measurement issues, biological, social and economic etiologies, health and economic consequences, and prevention and treatment of obesity.
Grading status: Letter grade.
NUTR 813. Nutritional Epidemiology. 3 Credits.
This course introduces basic methods of dietary assessment, reviews various topics in nutrition epidemiology, and teaches the skills needed for critical evaluation of the nutritional epidemiologic literature.
Requisites: Prerequisites, BIOS 600, and EPID 600 or 710.
Grading status: Letter grade.

NUTR 814. Obesity Epidemiology. 3 Credits.
Examines epidemiology research on the causes, consequences, and prevention of obesity. Emphasis on methodological issues pertinent to obesity research.
Requisites: Prerequisites, BIOS 545, EPID 715, 716 and NUTR 812 or NUTR 813/EPID 813.
Grading status: Letter grade
Same as: EPID 814.

NUTR 818. Analytical Methods in Nutritional Epidemiology. 3 Credits.
Skills and techniques to study how dietary exposures, physical activity, and anthropometric status relate to disease outcomes. Focus is hands-on data analysis using STATA, and interpretation of results from statistical analysis.
Requisites: Prerequisites, BIOS 545, EPID 600 or 710, and NUTR 813.
Grading status: Letter grade
Same as: EPID 818.

NUTR 845. Nutritional Metabolism. 3 Credits.
A problem-based approach to examine current topics in biochemistry relevant to nutrition and metabolism. Students interpret data and design experiments related to recent advances in nutritional biochemistry.
Requisites: Prerequisite, NUTR 600.
Grading status: Letter grade.

NUTR 861. Advanced Nutritional Biochemistry: Nutrition and Immunology. 2 Credits.
Presents an understanding of basic immunology and the role of nutrition in modifying the immune response.
Requisites: Prerequisites, NUTR 600 and 620.
Grading status: Letter grade.

NUTR 863. Adv Nutr Biochemistry: Microenvironments-Inflammation in Obesity, Atherosclerosis, and Cancer. 2 Credits.
Will examine the interaction of cells in the microenvironment and recent advances in the role of metabolism and inflammation.
Requisites: Prerequisite, NUTR 600; permission of the instructor for students lacking the prerequisite.
Grading status: Letter grade.

NUTR 864. Adv Nutr Biochemistry: Oxidative Stress and Nutritional Antioxidants in Human Health and Disease. 2 Credits.
Course provides basic information about the cellular and molecular mechanisms that are responsible for generation of reactive oxygen and nitrogen species, about key cellular structures targeted by these species, and about the role of oxidative stress and antioxidants in etiology and prevention of human diseases.
Requisites: Prerequisites, BIOL 101, CHEM 102, and NUTR 400; Permission of instructor for non-majors.
Grading status: Letter grade.

NUTR 865. Advanced Nutritional Biochemistry: Nutrigenetics and Nutrigenomics. 2 Credits.
Permission of the instructor. Course focuses on nutrigenetics and nutrigenomics with an emphasis on the genetic and dietary interactions predisposing one to increased risk of disease.
Grading status: Letter grade
Same as: GNET 865.

NUTR 867. Advanced Nutritional Biochemistry: Vitamins and Disease. 2 Credits.
Focuses on the molecular processes involving B and D-group vitamins, mechanisms of pathologies caused by their deficiency, as well as the latest studies on nutritional requirements, population consumption levels, and use of the vitamins for treatment and prevention of human disease.
Requisites: Prerequisites, NUTR 600 and 620; permission of the instructor for students lacking the prerequisites.
Grading status: Letter grade.

NUTR 868. Advanced Nutritional Biochemistry: Nutrition and Cancer. 2 Credits.
The course will cover the biology of cancer as well as the metabolic and physiological functions of nutritional factors and how they impact the cancer process. The course will focus on aspects of current research that are relevant to links between nutritional factors, with emphasis on mechanism-based cancer prevention approaches.
Requisites: Prerequisite, NUTR 600 or equivalent.
Grading status: Letter grade.

NUTR 880. Elements of Being a Scientist. 3 Credits.
Permission of the instructor. For doctoral students prepared with Ph.D. aims/focus. Focuses on key elements that contribute to a successful career as a scientific researcher. These include scientific presentations, NIH proposal grant writing, evaluating published manuscripts, sources of funding, peer review, use of animals and humans in research, and scientific ethics.
Grading status: Letter grade.

NUTR 885. Doctoral Seminar. 2 Credits.
The changing landscape of nutritional science research has increased the demand of early-career investigators to be more transdisciplinary, perform highly rigorous research, and be prepared for less-traditional research positions. With a framework of performing reproducible research, this course introduces students to the concepts and skills to perform and understand rigorous nutrition research. The course also covers aspects of research ethics, effective use of UNC research resources, work-life balance and research innovation.
Repeat rules: May be repeated for credit. 4 total credits. 2 total completions.
Grading status: Letter grade.

NUTR 910. Nutrition Research. 1-9 Credits.
Individual arrangements with faculty for doctoral students to participate in ongoing research.
Grading status: Letter grade.

NUTR 920. Research Rotations for Nutritional Biochemistry Doctoral Students. 1-3 Credits.
Two laboratory or research group rotations supervised by nutritional biochemistry faculty. Provides a breadth of research experience for students prior to selecting dissertation adviser. Up to six laboratory hours per week.
Grading status: Letter grade.

NUTR 992. Master's (Non-Thesis). 3 Credits.
NUTR 993. Master's Research and Thesis. 3 Credits.
NUTR 994. Doctoral Research and Dissertation. 3 Credits.