

DEPARTMENT OF NUTRITION (GRAD)

The Gillings School's Department of Nutrition is a global leader in research and training. The department is the only nutrition department in the United States situated in both a school of public health and a school of medicine. Members engage in innovative work that capitalizes on both these schools' approaches to health, and thus the department has an unusual breadth of scientific and policy approaches. The department's faculty expertise spans from cell to society and moves from discovery to delivery. The faculty and students work throughout North Carolina and reach populations in China, India, Malawi, Spain, and the Philippines, to name a few.

The Department of Nutrition's mission is to improve and protect the public's health through teaching, research, and practices that foster optimal nutrition. Our vision is to achieve optimal nutrition for all people around the globe.

Master of Public Health (M.P.H.)

The redesigned UNC Gillings School of Global Public Health's master of public health (M.P.H.) program is for people who are passionate about solving urgent local and global public health problems. With a legacy of outstanding education, cutting edge research and globally-recognized leadership, the UNC Gillings School is creating the next generation of public health leaders through our integrated training program and 21st century curriculum. The Department of Nutrition hosts the Nutrition Concentration as well as the Nutrition and Dietetics Concentration. Upon successful completion of the program, Nutrition and Dietetics concentration graduates will be eligible to take the Commission on Dietetic Registration (CDR) credentialing exam to become a Registered Dietitian Nutritionist.

Prerequisite courses that must be complete prior to starting the **Nutrition and Dietetics Concentration** are: Chemistry 1*, Chemistry 2*, Organic Chemistry*, Biochemistry*, Human Anatomy*, Human Physiology*, Microbiology with Lab, Human Nutrition, General Psychology, Intro to Anthropology or Sociology

*For these courses, a lab is recommended but not required for admission. Microbiology lab is required.

Master of Science (M.S.)

The MS degree in Nutrition is offered to those students who wish to increase their knowledge of nutrition science and to acquire skills in laboratory and/or population-based research. This degree is useful for students interested in nutrition research or in career in industry, as well as for students considering pursuit of a doctoral degree in medicine or in other areas of public health and biomedical sciences. MS students will perform advanced research in nutrition and take graduate nutrition courses that will provide the information and experience needed to help them choose their career path. Additionally, for those students who are uncertain about whether they wish to enter the Department's Doctoral program, the MS program offers an excellent opportunity to determine whether a more advanced degree would be appropriate. In summary, the MS program in Nutrition provides students the opportunity to explore nutrition at an advanced level.

Prerequisite courses that must be complete prior to starting the program are: Anatomy and Physiology, Organic Chemistry, Biochemistry, Human Nutrition

The MS is also offered as a dual degree program with the BSPH in Nutrition. The program can be completed in one calendar year (summer, fall, spring) following completion of the BSPH in Nutrition program.

Doctor of Philosophy (PhD)

The doctor of philosophy (Ph.D.) in the Department of Nutrition develops students' research and teaching skills through coursework, research, practice opportunities and preliminary doctoral examinations. Together, these experiences prepare graduates for careers in scientific research or teaching at universities, in federal or state agencies, and in industry or private research institutions. Students may minor in other fields, such as epidemiology. Doctoral program opportunities are available at the UNC-Chapel Hill campus and the Nutrition Research Institute (NRI).

Prerequisite courses that must be complete prior to starting the program are: Anatomy and Physiology, Organic Chemistry, Biochemistry, Human Nutrition

Nutrition, Master's Program (M.S.)

The MS degree in Nutrition is offered to those students who wish to increase their knowledge of nutrition science and to acquire skills in laboratory and/or population-based research. This degree is useful for students interested in nutrition research or in career in industry, as well as for students considering pursuit of a doctoral degree in medicine or in other areas of public health and biomedical sciences. MS students will perform advanced research in nutrition and take graduate nutrition courses that will provide the information and experience needed to help them choose their career path. Additionally, for those students who are uncertain about whether they wish to enter the Department's Doctoral program, the MS program offers an excellent opportunity to determine whether a more advanced degree would be appropriate. In summary, the MS program in Nutrition provides students the opportunity to explore nutrition at an advanced level.

The MS is also offered as a dual degree program with the BSPH in Nutrition. The program can be completed in one calendar year (summer, fall, spring) following completion of the BSPH in Nutrition program.

Course Requirements

Code	Title	Hours
Public Health Foundation Courses		
SPHG 600	Introduction to Public Health ¹	3
Core Courses		
BIOS 600	Principles of Statistical Inference	2-3
or BBSP 710	Biostatistics for Laboratory Scientists	
NUTR 813	Introduction to Epidemiology for Nutrition Applications	3
or EPID 600	Principles of Epidemiology for Public Health	
or EPID 710	Fundamentals of Epidemiology	
NUTR 600	Human Metabolism: Macronutrients	3
NUTR 620	Human Metabolism: Micronutrients	3
NUTR 722	Nutrition Thesis Seminar	1
NUTR 910	Nutrition Research ²	12
Electives		
Any substantive nutrition course of at least 3 credits ³		9

Thesis/Substitute or Dissertation		
NUTR 993	Master's Research and Thesis	3
Minimum Hours		39

¹ Students with a prior public health degree are not required to take SPHG 600; exemptions are available for those with non-public health degrees from accredited SPHs. Students should discuss with their Academic Coordinator.

² NUTR 910 is a repeatable course every semester for 3 credit hours, for a minimum of 12 credit hours

³ See list of Substantive Nutrition Course Options below

Substantive Nutrition Course Options

Code	Title	Hours
NUTR 812	Introduction to Obesity: Cell to Society	3
NUTR 805	Nutrition Policy	3
NUTR 723	Community Nutrition	3
NUTR 813	Introduction to Epidemiology for Nutrition Applications	3
NUTR 770	Clinical Trials in Nutrition	3
NUTR 715	Medical Nutrition Therapy: Chronic Disease Management	4
NUTR 711	Nutrition Across the Lifecycle	3
NUTR 705	Human Nutrition	3
NUTR 865	Advanced Nutritional Biochemistry: Nutrigenomics and Precision Nutrition	2
NUTR 765	Nutritional Epidemiology for Master's Students	3
NUTR 745	International Nutrition	3
NUTR 749	mHealth for Behavior Change	2
EPID 710	Fundamentals of Epidemiology	3
EPID 716	Epidemiologic Data Analysis	3
BIOC 706	Biochemistry of Human Disease	3
PATH 725	Cancer Pathobiology	3
MHCH 722	Global Maternal and Child Health	3
MHCH 851	Reproductive and Perinatal Epidemiology	3
HPM 751	Dental Public Health and Access to Oral Health	3
HPM 758	Underserved Populations and Health Reform	3
HBEH 765	Cancer Prevention and Control Seminar	3
HBEH 749	mHealth for Behavior Change	2
EPID 705	Introduction to Deductive and Probability Logic in Epidemiology	2
EPID 711	Clinical Measurement and Evaluation	3
EPID 715	Theory and Quantitative Methods in Epidemiology	4
EPID 760	Vaccine Epidemiology	3
EPID 772	Cancer Prevention and Control Seminar	3
EPID 718	Analytic Methods in Observational Epidemiology	3

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (<https://catalog.unc.edu/graduate/degree-programs/#milestonestext>) for more information.

- Master's Committee
- Master's Oral Exam / Approved Substitute

- Thesis/Substitute Defense
- Master's Thesis Approved
- Residence Credit
- Exit Survey

Public Health, Master's Program (M.P.H.) – Nutrition and Dietetics Concentration

The Master of Public Health (MPH) in Nutrition was the first degree offered by the Department of Nutrition. Since the first three students received their MPH degrees in 1951, the program enrolls cohorts of about 40 residential students per year. Beginning in 2018, The Nutrition and Dietetics (<https://sph.unc.edu/nutr/mph-rd-program/>) concentration at The Gillings School of Global Public Health at the University of North Carolina at Chapel Hill is one of the first in the country to be an ACEND®-accredited Future Education Model program. The program is recognized throughout the United States for the excellence of its training in public health nutrition. The Commission on Dietetic Registration will require a minimum of a master's degree to take the credentialing exam for registered dietitians beginning on January 1, 2024.

Nutrition is recognized as one of the most important environmental determinants of health throughout the life cycle. It is a key factor in successful pregnancy outcomes, in the physical and mental development of infants and children, and in promoting health throughout the lifespan. Current research stresses nutrition and diet as critical factors in the prevention and treatment of most chronic diseases, including obesity, heart disease, cancer, stroke, diabetes, and osteoporosis. The safety, quality, quantity, and distribution of local, national and world food supplies are major public policy issues.

Completion of the MPH with a concentration in Nutrition and Dietetics provides the graduate with a strong background in the science and practice of public health along with a sound knowledge of the science of human nutrition and food science. Students complete the degree as well as all related internship training within two years and are then eligible to sit for the CDR exam to become a Registered Dietitian.

The mission of the Nutrition and Dietetics concentration in Public Health Nutrition is to prepare registered dietitians to be leaders in nutrition and dietetics through effective classroom education and practical community and clinical experiences both locally and globally.

Course Requirements

Requirements for the **M.P.H.** degree in the **Nutrition and Dietetics*** concentration

Code	Title	Hours
M.P.H. Integrated Core		
SPHG 711	Data Analysis for Public Health ^{Fall 1}	2
SPHG 712	Methods and Measures for Public Health Practice ^{Fall 1}	2
SPHG 713	Systems Approaches to Understanding Public Health Issues ^{Fall 1}	2
SPHG 701	Leading from the Inside-Out ^{Fall 1}	2
SPHG 721	Public Health Solutions: Systems, Policy and Advocacy ^{Spring 1}	2
SPHG 722	Developing, Implementing, and Evaluating Public Health Solutions (MPH Comprehensive Exam administered in class) ^{Spring 1}	4

M.P.H. Concentration		
NUTR 711	Nutrition Across the Lifecycle ^{Fall 1}	3
NUTR 712	Nutrition Communication, Counseling and Culture ^{Fall 1}	3
NUTR 714	Nutritional Biochemistry, Metabolism and Health ^{Spring 1}	3
NUTR 715	Medical Nutrition Therapy: Chronic Disease Management ^{Spring 1}	4
NUTR 723	Community Nutrition ^{Fall 2}	3
NUTR 805	Nutrition Policy ^{Fall 2}	3
NUTR 760 & 760L	Food Science and Food Science Laboratory ^{Spring 2}	3
NUTR 765	Nutritional Epidemiology for Master's Students ^{Spring 2}	3
M.P.H. Culminating Experience		
NUTR 992	Master's (Non-Thesis)	3
Minimum Hours		42

Competencies

Students will develop the following **Nutrition and Dietetics* competencies**, building on the foundational public health knowledge they attain in the Gillings M.P.H. Integrated Core courses. After successful demonstration of these ACEND¹ competencies, students will be eligible to sit for the Registered Dietician credentialing exam.

C1.1.	Applies an understanding of environmental, molecular factors (e.g. genes, proteins, metabolites) and food in the development and management of disease.
C1.2.	Applies an understanding of anatomy, physiology, and biochemistry.
C1.3.	Applies knowledge of microbiology and food safety.
C1.4.	Integrates knowledge of chemistry and food science as it pertains to food and nutrition product development and when making modifications to food.
C1.5.	Applies knowledge of pathophysiology and nutritional biochemistry to physiology, health, and disease.
C1.6.	Applies knowledge of social, psychological, and environmental aspects of eating and food.
C1.7.	Integrates the principles of cultural competence within own practice and when directing services.
C1.8.	Applies knowledge of pharmacology to recommend, prescribe and administer medical nutrition therapy.
C1.9.	Applies an understanding of the impact of complementary and integrative nutrition on drugs, disease, health, and wellness.

C1.10.	Applies knowledge of math and statistics.
C1.11.	Applies knowledge of medical terminology when communicating with individuals, groups, and other health professionals.
C1.12.	Demonstrates knowledge of and is able to manage food preparation techniques.
C1.13.	Demonstrates computer skills and uses nutrition informatics in the decision making process.
C1.14.	Integrates knowledge of nutrition and physical activity in the provision of nutrition care across the life cycle.
C1.15.	Applies knowledge of nutritional health promotion and disease prevention for individuals, groups, and populations.
C1.16.	Gains a foundational knowledge on public and global health issues and nutritional needs.
C2.1.	Applies a framework to assess, develop, implement, and evaluate products, programs, and services.
C2.2.	Selects, develops, and/or implements nutritional screening tools for individuals, groups, or populations.
C2.3.	Utilizes the nutrition care process with individuals, groups or populations in a variety of practice settings.
C2.4.	Implements or coordinates nutritional interventions for individuals, groups or populations.
C2.5.	Prescribes, recommends and administers nutrition-related pharmacotherapy.
C3.1.	Directs the production and distribution of quantity and quality food products.
C3.2.	Oversees the purchasing, receipt and storage of products used in food production and services.
C3.3.	Applies principles of food safety and sanitation to the storage, production and service of food.
C3.4.	Applies and demonstrates an understanding of agricultural practices and processes.
C4.1.	Utilizes program planning steps to develop, implement, monitor and evaluate community and population programs.

C4.2.	Engages in legislative and regulatory activities that address community, population and global nutrition health and nutrition policy.
C5.1.	Demonstrates leadership skills to guide practice.
C5.2.	Applies principles of organization management.
C5.3.	Applies project management principles to achieve project goals and objectives.
C5.4.	Leads quality and performance improvement activities to measure, evaluate and improve a program services, products and initiatives.
C5.5.	Develops and leads implementation of risk management strategies and programs.
C6.1.	Incorporates critical thinking skills in practice.
C6.2.	Applies scientific methods utilizing ethical research practices when reviewing, evaluating and conducting research.
C6.3.	Applies current research and evidence-informed practice to services.
C7.1.	Assumes professional responsibilities to provide safe, ethical and effective nutrition services.
C7.2.	Uses effective communication, collaboration and advocacy skills.

* ACEND (<https://www.eatrightpro.org/acend/>), 2017 Accreditation Standards for Graduate Degree Programs in Nutrition and Dietetics (FG) Future Education Model.

Recommended Checklist

Code	Title	Hours
Supervised Experiential Learning		
	Food Service Placement	
	Clinical Nutrition Placement	
	Public Health Placement	
	Advanced Placement	

Admissions

Please visit Applying to the Gillings School (<https://sph.unc.edu/students/how-to-apply/>) first for details and information. Application to the residential M.P.H. is a 2-step process. Please apply separately to (1) SOPHAS and (2) UNC–Chapel Hill (via the Graduate School application). Visit the Graduate School website (<https://gradschool.sites.unc.edu/master-of-public-health/>) for more details. If you are interested in the online M.P.H., please visit the MPH@UNC (<https://onlinemph.unc.edu/>) website and fill out an inquiry form.

Milestones

- Master's Committee
- Master's Written Examination/Approved Substitute (Comprehensive Exam)
- Thesis Substitute (Culminating Experience)
- Residence Credit
- Exit Survey
- Master's Professional Work Experience (Practicum)

Public Health, Master's Program (M.P.H.) – Nutrition Concentration

Our mission is to improve and protect the public's health through teaching, research and practices that foster optimal nutrition. To that end, the Nutrition concentration, offered on-campus and online (<https://sph.unc.edu/resource-pages/master-of-public-health/nutrition-concentration/#twou-form-2136-xdkefq>), focuses on nutrition science, as well as on behavior change, communication, advocacy, policy and the effects of dietary culture on the individual and within the community.

Course Requirements

Requirements for the M.P.H. degree in the **Nutrition** concentration

Code	Title	Hours
M.P.H. Integrated Core		
SPHG 711	Data Analysis for Public Health ^{Fall 1}	2
SPHG 712	Methods and Measures for Public Health Practice ^{Fall 1}	2
SPHG 713	Systems Approaches to Understanding Public Health Issues ^{Fall 1}	2
SPHG 701	Leading from the Inside-Out ^{Spring 1}	2
SPHG 721	Public Health Solutions: Systems, Policy and Advocacy ^{Spring 1}	2
SPHG 722	Developing, Implementing, and Evaluating Public Health Solutions (MPH Comprehensive Exam administered in class) ^{Spring 1}	4
M.P.H. Practicum		
SPHG 703	MPH Pre-Practicum Assignments ^{Spring 1}	0.5
SPHG 707	MPH Post-Practicum Assignments ^{Fall 2}	0.5
M.P.H. Concentration		
NUTR 713	Nutrition Communication, Culture and Equity ^{Fall 1}	3
NUTR 711	Nutrition Across the Lifecycle ^{Fall 2}	3
NUTR 723	Community Nutrition ^{Fall 2}	3
NUTR 805	Nutrition Policy ^{Fall 2}	3
NUTR 765	Nutritional Epidemiology for Master's Students ^{Spring 2}	3
M.P.H. Electives		
	Elective (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC)	3
	Elective (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC)	3
	Elective (Graduate-level courses, 400+ level at Gillings, 500+ level at UNC)	3
M.P.H. Culminating Experience		

SPHG 992	Master's (Non-Thesis) (Nutrition MPH Culminating Experience) ^{Spring 2}	3
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Total Hours 42

Competencies

Students will develop the following **Nutrition competencies**, building on the foundational public health knowledge they attain in the Gillings M.P.H. Integrated Core courses.

Column 1	Column 2
NUTR01.	Assess the scientific evidence for nutritional guidelines/ recommendations.
NUTR02.	Assess dietary intake and nutrition status of individuals and populations.
NUTR03.	Evaluate how social, cultural, environmental, and community factors have an impact upon dietary intake and nutrition-related outcomes in individuals, families, and communities.
NUTR04.	Independently plan, develop, and evaluate nutrition-related health promotion/disease prevention services, products, programs, or interventions (including policy analysis), using appropriate evidence or data.
NUTR05.	Demonstrate proficiency in writing evidence-based nutrition-related professional and consumer communications, using a variety of communication platforms.
NUTR06.	Gain a foundational knowledge of public and global health issues, policies, and nutritional needs.

Admissions

Please visit Applying to the Gillings School (<https://sph.unc.edu/students/how-to-apply/>) first for details and information. Application to the residential M.P.H. is a 2-step process. Please apply separately to (1) SOPHAS and (2) UNC–Chapel Hill (via the Graduate School application). Visit the Graduate School website (<https://gradschool.sites.unc.edu/master-of-public-health/>) for more details. If you are interested in the online M.P.H., please visit the MPH@UNC (<https://onlinemph.unc.edu/>) website and fill out an inquiry form.

Milestones

- Master's Committee
- Master's Written Examination/Approved Substitute (Comprehensive Exam)
- Thesis Substitute (Culminating Experience)
- Residence Credit
- Exit Survey
- Master's Professional Work Experience (Practicum)

Dual-Degree Programs

• Bachelor (B.S.P.H. in Nutrition) + M.S. in Nutrition

The M.S. is also offered as a dual degree program with the B.S.P.H. in Nutrition. The program can be completed in one calendar year (summer, fall, spring) following completion of the B.S.P.H. in Nutrition program.

Nutrition, Doctoral Program (Ph.D.)

The doctor of philosophy (Ph.D.) in the Department of Nutrition develops students' research and teaching skills through coursework, research, practice opportunities and preliminary doctoral examinations, and original research presented in a doctoral dissertation. Together, these experiences prepare graduates for careers in scientific research or teaching at universities, in federal or state agencies, and in industry or private research institutions. Students may minor in other fields, such as epidemiology. Doctoral program opportunities are available at the UNC–Chapel Hill campus and the Nutrition Research Institute (NRI).

Course Requirements

Code	Title	Hours
School of Public Health Core Course ¹		
SPHG 600	Introduction to Public Health ²	3
Core Courses ¹		
NUTR 600 & NUTR 620	Human Metabolism: Macronutrients and Human Metabolism: Micronutrients ³	6
NUTR 885	Doctoral Seminar (Two semesters for 4 credits total)	4
NUTR 813	Introduction to Epidemiology for Nutrition Applications ⁴	3
or NUTR 816	Nutritional Epidemiology	
or EPID 710	Fundamentals of Epidemiology	
NUTR 770	Clinical Trials in Nutrition	3
Choose one of the following Biostatistics Courses: 2		
BIOS 600	Principles of Statistical Inference	
or BIOS 645	Principles of Experimental Analysis	
or BBSP 710	Biostatistics for Laboratory Scientists	
NUTR 880	Elements of Being a Scientist ⁵	3
Electives		
Specialization Requirements (minimum of 25 credit hours):		
NUTR 910	Nutrition Research	16
These include a minimum of 9 credit hours in courses that develop a specific substantive or methodology expertise and a minimum of 16 credit hours in research rotations or mentored research with faculty taken as NUTR 910. 9		
Thesis/Substitute or Dissertation		
NUTR 994	Doctoral Research and Dissertation (Two semesters for 3 credits each)	6
Minimum Hours		55

¹ All **core courses**, including the SPHG requirement, must be completed prior to taking the doctoral comprehensive examinations (typically at the end of the Spring semester following the second year of study).

² Students with a prior public health degree are not required to take SPHG 600; exemptions are available for those with non-public health

degrees from accredited SPHs. Students should discuss with their Academic Coordinator.

³ Students intending to pursue a population-focused program related to nutrition interventions and policy have an additional option to substitute NUTR 714 for the NUTR 600/620 core course requirement. This substitution requires approval of the student's advisor and the Doctoral Committee.

⁴ NUTR 813 is intended for students with no prior coursework in Epidemiology. Students with a prior course in Epidemiology should take NUTR 816. Students intending to complete the Epidemiology minor should take EPID 710.

⁵ Students must have completed all core course requirements and have passed the doctoral comprehensive examinations to enroll in NUTR 880.

Milestones

The following list of milestones (non-course degree requirements) must be completed; view this list of standard milestone definitions (<https://catalog.unc.edu/graduate/degree-programs/#milestonestext>) for more information.

- Doctoral Committee
- Doctoral Oral Comprehensive Exam
- Doctoral Written Exam
- Prospectus Oral Exam
- Advanced to Candidacy
- Dissertation Defense
- Doctoral Dissertation Approved/Format Accepted
- Residence Credit
- Exit Survey
- Doctoral IRB Compliance
- Doctoral Intradepartmental Review
- Doctoral Teaching Experience

Distinguished Professors

Alice Ammerman, Mildred Kaufman Distinguished Professor

Penny Gordon-Larsen, W. R. Kenan, Jr. Distinguished Professor, Vice Chancellor for Research

Stephen Hursting, AICR/WCRF Distinguished Professor

Elizabeth Mayer-Davis, Cary C. Boshamer Distinguished Professor, Dean of Graduate School

Barry Popkin, W.R. Kenan Jr. Distinguished Professor

Susan Smith, Dickson-Harris Teeter Distinguished Professor

June Stevens, AICR/WCRF Distinguished Professor

Professors

Linda Adair, Director of Graduate Studies

Andrea M. Azcarate-Peril*

Cynthia Bulik*

Kyle S. Burger, Associate Chair for Research

Shufa Du

John French

Anthony Hackney*

Thomas Keyserling*

Martin Kohlmeier

Sergey Krupenko

Nobuyo Maeda*

Philip May

Shu Wen Ng

S. Raza Shaikh, Chair

Abbie Smith-Ryan*

Mirek Styblo

Susan Sumner

Deborah Tate

Amanda Thompson*

Associate Professors

John Batsis*

Melissa Bauserman*

Ian Carroll, B.S.P.H. and M.S. Program Co-Director

Amanda Holliday, M.P.H.-N.D. Program Director

Folami Ideraabdullah*

Natalia Krupenko

Sandra Mooney

Carmen Samuel-Hodge

Lindsey Smith Taillie, Associate Chair for Academics

Kimberly Truesdale, M.P.H.-NUTR Program Director

Carmina Valle

Saroja Voruganti

Assistant Professors

Seema Agrawal

Ximena Bustamante Marin, B.S.P.H. and M.S. Program Co-Director

Michael Coleman

Molly De Marco

Anna Kahkoska

Stephanie Martin

Katie Meyer

Brooke Nezami

Wimal Pathmasiri

Blake Rushing

Nipin Saini

Jessica Soldavini

Isis Trujillo

Matthew Ulgherait

Heather Wasser

*Primary appointment is in another UNC department, faculty's secondary appointment is Nutrition.

NUTR

Advanced Undergraduate and Graduate-level Courses

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.

Rules & Requirements

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.

Rules & Requirements

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.

Rules & Requirements

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).

Rules & Requirements

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.

Rules & Requirements

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).

Rules & Requirements

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.

Rules & Requirements

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

Grading Status: Letter grade.

NUTR 646. Mouse Models of Human Disease. 1 Credits.

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.

Rules & Requirements

Grading Status: Letter grade.

Same as: GNET 646.

NUTR 660L. Food Service Systems Management Experience. 1 Credits.

This is a food service management practicum that applies the basic concepts of institutional food service systems. Two laboratory hours per week.

Rules & Requirements

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.

Rules & Requirements

 **IDEAs in Action Gen Ed:** RESEARCH.

Making Connections Gen Ed: EE- Mentored Research.

Requisites: Prerequisite, NUTR 295.

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.

Rules & Requirements

 **IDEAs in Action Gen Ed:** RESEARCH.

Making Connections 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.

Rules & Requirements

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.

Rules & Requirements

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.

Graduate-level Courses**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.

Rules & 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.

Rules & Requirements

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.

Rules & Requirements

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.

Rules & Requirements

Requisites: Prerequisite, NUTR 705 or equivalent.

Grading Status: Letter grade.

NUTR 713. Nutrition Communication, Culture and Equity. 3 Credits.

This course teaches the future nutrition professional the art and science of communicating with individuals, groups, and the public. Students will explore the role of nutrition in different cultures and how to frame nutrition messages for mass media including social media. The course will also focus on nutrition justice and nutritional health equity.

Rules & Requirements

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.

Rules & Requirements

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.

Rules & Requirements

Requisites: Prerequisites, NUTR 711 and NUTR 712.

Grading Status: Letter grade.

NUTR 722. Nutrition Thesis Seminar. 1 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. Restricted to first year MS students and senior BSPH Honors students.

Rules & Requirements

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.

Rules & Requirements

Requisites: Prerequisite, SPHG 701.

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.

Rules & Requirements

Grading Status: Letter grade.

NUTR 746. Taxes, Bans & Burgers: Directed Readings in Global Food Policy. 1 Credits.

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.).

Rules & Requirements

Grading Status: Letter grade.

NUTR 749. mHealth for Behavior Change. 2 Credits.

This special topics seminar examines the impact and potential of mobile health interventions and apps for health behavior change. The overall course objective is to understand state of the science and future potential to leverage mobile phones and wearable technologies in innovative and powerful behavior change interventions to improve health. The course considers adaptation of eHealth interventions for mobile delivery, unique opportunities with mHealth, data collection via mobile devices and sensors, and using the data.

Rules & Requirements

Grading Status: Letter grade.

Same as: HBEH 749.

NUTR 760. Food Science. 2 Credits.

Introduction to foods, chemical and physical properties, nutritional composition, food safety, production, and regulation.

Rules & Requirements

Requisites: Corequisite, NUTR 761L.

Grading Status: Letter grade.

NUTR 760L. Food Science Laboratory. 1 Credits.

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.

Rules & Requirements

Requisites: Corequisite, NUTR 760.

Grading Status: Letter grade.

NUTR 761L. Food Science Laboratory. 1 Credits.

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.

Rules & Requirements

Requisites: Corequisite, NUTR 760.

Grading Status: Letter grade.

NUTR 765. Nutritional Epidemiology for Master's 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.

Rules & Requirements

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.

Rules & Requirements

Grading Status: Letter grade.

NUTR 785. Graduate Teaching Experience. 1 Credits.

Permission of the instructor. Individual arrangements with faculty for a graduate student to serve as a teaching assistant for a nutrition course.

Rules & Requirements

Repeat Rules: May be repeated for credit.

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.

Rules & Requirements

Grading Status: Letter grade.

NUTR 808. Global Cardiometabolic Disease Seminar. 1 Credits.

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.

Rules & Requirements

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.

Rules & Requirements

Requisites: Prerequisite, EPID 600.

Grading Status: Letter grade.

Same as: EPID 810.

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.

Rules & Requirements

Grading Status: Letter grade.

NUTR 813. Introduction to Epidemiology for Nutrition Applications. 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.

Rules & Requirements

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.

Rules & Requirements

Requisites: Prerequisites, BIOS 545, EPID 715, 716 and NUTR 812 or NUTR 813.

Grading Status: Letter grade.

Same as: EPID 814.

NUTR 816. Nutritional Epidemiology. 3 Credits.

This course covers key concepts in nutritional epidemiology, including dietary assessment and analytic approaches. The goal is to teach and reinforce the application of conceptual understanding to the critical evaluation of nutritional epidemiology literature. Comfort with basic epidemiologic and biostatistical concepts and methods is assumed.

Rules & Requirements

Requisites: Prerequisite, EPID 710, EPID 716, BIOS 600, or equivalent.

Grading Status: Letter grade.

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.

Rules & Requirements

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.

Rules & Requirements

Requisites: Prerequisite, NUTR 600.

Grading Status: Letter grade.

NUTR 865. Advanced Nutritional Biochemistry: Nutrigenomics and Precision Nutrition. 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.

Rules & Requirements

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.

Rules & Requirements

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.

Rules & Requirements

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.

Rules & Requirements

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.

Rules & Requirements

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.

Rules & Requirements

Repeat Rules: May be repeated for credit.

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.

Rules & Requirements

Grading Status: Letter grade.

NUTR 992. Master's (Non-Thesis). 3 Credits.**Rules & Requirements**

Repeat Rules: May be repeated for credit.

NUTR 993. Master's Research and Thesis. 3 Credits.**Rules & Requirements**

Repeat Rules: May be repeated for credit.

NUTR 994. Doctoral Research and Dissertation. 3 Credits.**Rules & Requirements**

Repeat Rules: May be repeated for credit.

Contact Information

Department of Nutrition

Visit Program Website (<http://www.sph.unc.edu/nutr/>)