

Handbook for the BSPH Program in Nutrition:

Nutrition Science and Research Track

and

Nutrition Health and Society Track

2021 ~ 2022

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INTRODUCTION

Program Overview

The Department of Nutrition is one of the top-ranked nutrition departments in the country. The Bachelor of Science in Public Health (BSPH) Program in Nutrition introduces the undergraduate student to the science of nutrition in health and disease and to social and behavioral aspects of eating in the context of public and individual health. The curriculum offers a wide range of courses in two independent tracks:

1. ***Nutrition Science and Research*** track provides students in-depth exposure to the science of nutrition and metabolism and function of nutrients while incorporating required research under the supervision of a faculty member. This track prepares students for graduate study in nutrition, medicine, pharmacy, or dentistry or for entry-level positions in public health and/or dietetics that do not require a registered dietitian.
2. ***Nutrition, Health and Society*** track offers essential education in nutrition while allowing students to explore the role of nutrition in context of a broader interdisciplinary spectrum of social and natural sciences, including sociology, communication, policy and management, anthropology, psychology, sports and exercise sciences, media and journalism, and business and economics. Interdisciplinary research experience is also encouraged.

Degree-Specific Competencies

Competencies define what students should know and be able to do upon completion of their degree program. Competencies guide our curriculum planning process and serve as a measure against which student achievement is assessed. Listed below are the degree-specific competencies for BSPH in Nutrition by track:

The BSPH Nutrition Degree (*Both Tracks*)

- Demonstrate competence in the basic public health core areas of biostatistics, environmental sciences, health policy management, health behavior and health education and epidemiology and the roles these disciplines play in the interdisciplinary field of nutrition and public health.¹
- Describe the nutritional needs of individuals across the life cycle; the psychological, behavioral and social factors that affect food consumption and nutritional status and the programs and services available to help individuals meet their nutritional needs.

The BSPH *Nutrition Science and Research Track*

- Demonstrate knowledge of nutritional biochemistry, the metabolism and function of nutrients and the nutritional components of diseases through advanced courses in nutrition.
- Apply the scientific method in the areas of nutritional biochemistry, nutritional epidemiology and intervention and policy.

The BSPH *Nutrition, Health and Society Track*

- Understand the role of food and nutrition as an essential element of life – from cell, to an individual, to society
- Demonstrate effective communication of nutrition information within social, multiethnic, and environmental dimensions
- Demonstrate knowledge of the roles of the individual, society, government and business in providing accessible, healthy food supplies and in promoting healthy eating

¹ Students in the BSPH program in Nutrition also develop core public health competencies as described in the Gillings Schoolwide Student Handbook

Student Responsibilities

It is the responsibility of students majoring in Nutrition to complete and meet the minimum number of courses required for graduation. Guidance of each student regarding course selection and career options is provided by his/her faculty mentor, by departmental faculty members on the B.S.P.H. Committee, and by the Academic Coordinator. A student should plan his/her coursework with the use of this handbook prior to scheduling pre-registration appointments.

Students who wish to declare a minor and/or second major must do so through the Academic Coordinator. If a student completed this process prior to becoming a Nutrition BSPH student, they must go through the process again within the School of Public Health through the Academic Coordinator.

Grade requirements for admission and graduation:

1. In all prerequisite courses students must receive a C (not C-) or higher. If not, they must repeat the course.
2. In core SPH classes (BIOS 600, EPID 600, SPHG 351, and SPHG 352) – students must receive a C (not C-) or higher. If not, they must repeat the course.
3. In all other courses for the Nutrition major **including** science required courses – students must receive a C (not C-) or higher. If not, the course must be repeated.
4. In other general college courses used to complete the 120-credit hour requirement – students must receive a passing grade.

RESEARCH REQUIREMENTS

To enhance students' understanding of the Scientific Method and its application in Nutrition science, and also to help them decide whether a research career is something they might pursue in the future, *all* BSPH nutrition students are required to be involved in nutrition research for at least one semester – namely, the final semester in the program as the student's *Capstone experience*. Many students will complete 3-4 semesters of research during the program. Students may be eligible for Honors research, if they meet the eligibility guidelines. Students register for NUTR 295 (or NUTR 691H/692H in senior year for Honors) under a specific faculty member section number. Each student will complete at least one and up to four semesters (3-credits each) of a capstone project (a total of up to 12-credit hours). In some areas of research, four semesters of research may be required to qualify for and to complete an Honors Thesis. Students are strongly encouraged to discuss the Honors Thesis requirements with their faculty mentors during their first semester in the program.

At the time of admission to the bachelor's program, each student must find a faculty research mentor, preferably a Nutrition faculty member. If a faculty member outside of the Department of Nutrition is identified, the student should seek approval from the BSPH Committee. If approved, the student will also be assigned to a Nutrition faculty member to serve as a secondary mentor. Interdisciplinary research experience is encouraged for students in the *Nutrition, Health and Society* track. An *Independent Study Learning Agreement* form must be prepared by a mentor and his/her student and submitted to the BSPH committee at the beginning of each semester. In this form, the goals of student's research for a given semester, major milestones, and a grading schema will be outlined.

Student and faculty communication is viewed as a mutual responsibility. The student and the mentor schedule meetings on a periodic basis. The Academic Coordinator serves as the major source of guidance regarding coursework. The faculty research mentor serves as the major source of guidance to the student in the areas of

scientific course of study, research, and career planning. For a complete list of Nutrition faculty and their research, please review the faculty profiles online at <http://sph.unc.edu/nutr/unc-nutrition/nutr-our-faculty-and-staff/>.

Several avenues are available to students should a change in faculty mentor become necessary. Ideally, the student will expedite such a change by discussion with current and intended mentors. In addition, the student must consult with the chair of the departmental BSPH Committee. If this is unsatisfactory, the department chair should be consulted.

NUTRITION DEPARTMENT COURSE REQUIREMENTS

Courses to Meet School of Public Health Requirements

SPHG 351	Foundations of Public Health (3)
SPHG 352	Public Health Systems and Solutions (4)
BIOS 600	Principles of Statistical Inference (3)
EPID 600	Principles of Epidemiology (3)

Department of Nutrition Required Courses

Nutrition (Both Tracks)

NUTR 240	Introduction to Human Nutrition (3)
NUTR 611	Nutrition Across the Life Cycle (3)
NUTR 295 ¹	Undergraduate Research in Nutrition (3)
NUTR 691H*	Honors Research in Nutrition (Fall) (3)
NUTR 696*	Nutrition Honors Research Seminar (1)
NUTR 692H*	Honors Research in Nutrition (Spring) (3)

Nutrition Science and Research Track

NUTR 400	Introduction to Nutritional Biochemistry (3)
NUTR 600	Human Metabolism: Macronutrients (3)
NUTR 620	Human Metabolism: Micronutrients (3)
BIOL 202	Molecular Biology and Genetics (4)
CHEM 241	Modern Analytical Methods for Separation and Characterization (2)
CHEM 241L	Laboratory in Separations and Analytical Characterization of Organic and Biological Compounds (1)
CHEM 262	Introduction to Organic Chemistry II (3)
CHEM 262L	Laboratory in Organic Chemistry (1) and Biological Compounds II (2)
PHYS 114	General Physics I: For Students of the Life Sciences (4)
PHYS 115	General Physics II: For Students of the Life Sciences (4)

Nutrition Health and Society Track

NUTR 175	Introduction to Food Studies (3)
NUTR 245	Local Sustainable Food Systems (3)
NUTR 405	Nutrition Policy (3)
NUTR 470	Foundations of Nutrition Interventions (3)
NUTR 630	Nutrition Communication and Culture (3)

Additional 18 credit hours from another field of study

* Required for BSPH Nutrition students planning to complete the honors thesis during their senior year.

¹ The Capstone course for the degree; can also be NUTR 692H, if completing honors thesis. All students, regardless of how many semesters of research they choose to complete, must take the research course in their final semester of the program as the Capstone course.

Example of BSPH Coursework

Nutrition Science and Research Track

Junior Year

<u>Fall Semester</u>		<u>Credits</u>
CHEM 241	Modern Analytical Methods	2
CHEM 241L	Laboratory in Separation and Analytical Characterization of Organic...	1
BIOL 202	Molecular Biology and Genetics	4
EPID 600 ¹	Principles of Epidemiology	3
NUTR 295 ²	Nutrition Research	3
SPHG 351 ¹	Foundations of Public Health	<u>3</u>
	Total semester credits	16

Spring Semester

CHEM 262	Introduction to Organic Chemistry II	3
CHEM 262L	Laboratory in Organic Chemistry	1
NUTR 295 ²	Nutrition Research	3
NUTR 400	Introduction to Nutritional Biochemistry	3
SPHG 352 ¹	Public Health Systems and Solutions	<u>4</u>
	Total semester credits	14

Senior Year

Fall Semester

	<u>Credits</u>	
NUTR 691H ²	Nutrition Research	3
NUTR 696 ³	Nutrition Honors Research Seminar	1
NUTR 600	Human Metabolism: Macronutrients	3
NUTR 611	Nutrition Across the Lifecycle	3
PHYS 114	General Physics I: For Students of the Life Sciences	4
BIOS 600 ¹	Principles of Statistical Inference	<u>3</u>
	Total semester credits	16-17

Spring Semester

NUTR 620	Human Metabolism: Micronutrients	3
NUTR 692H ²	Nutrition Research	3
PHYS 115	General Physics II: For Students of the Life Sciences	4
Elective	General Elective	<u>3-4</u>
	Total semester credits	13-14

Suggested Elective Courses:

CLAS 125	Word Form and Etymology (also available as self-paced)	3
CLAS 126	Medical Word Formation and Etymology (also available as self-paced)	3
ANTH 147	Comparative Healing System	3
ANTH 470	Medicine & Anthropology	3
GEOG 445	Medical Geography	3

¹ SPH required course – students should plan to take SPHG 351, SPHG 352, and EPID 600 during the first year

² Students who do not take four semesters of research should complete their minimum required one semester during the spring of their senior year. An additional elective should be taken during semesters in which students are not registered for nutrition research.

³ Students completing an Honors Thesis should take NUTR 696 to guide them in developing specific aims and other preliminary research and thesis planning.

Nutrition Health and Society Track

Junior Year

<u>Fall Semester</u>		<u>Credits</u>
Additional Coursework	Elective Credits	3
NUTR 175	Intro to Food Studies	3
NUTR 240	Intro to Human Nutrition	3
BIOS 600 ¹	Principles of Statistical Inference	3
SPHG 351 ¹	Foundations of Public Health	<u>3</u>
	Total semester credits	15

Spring Semester

Additional Coursework	Elective Credits	3
NUTR 245	Sustainable Local Food Systems	3
EPID 600 ¹	Principles of Epidemiology	3
SPHG 352 ¹	Public Health Systems and Solutions	<u>4</u>
	Total semester credits	16

Senior Year

<u>Fall Semester</u>		<u>Credits</u>
Additional Coursework	Elective Credits	6
NUTR 630	Nutrition Communication and Culture	3
NUTR 611	Nutrition Across the Lifecycle	3
NUTR 405	Nutrition Policy	<u>3</u>
	Total semester credits	15

Spring Semester

Additional Coursework	Elective Credits	6
NUTR 470	Foundations of Nutrition Interventions	3
NUTR 295	Nutrition Capstone	<u>3</u>
	Total semester credits	12

Suggested Elective Credits:

An additional six courses (18 credit hours) are required from other fields of interest. Students are encouraged to obtain a minor in another field of study, such as Anthropology; Psychology (Cognitive Science or Neuroscience); Entrepreneurship; Food Studies; Social and Economic Justice; Exercise and Sport Science; Coaching Education; Composition, Rhetoric, and Digital Literacy; Education; Global American Studies; Medicine, Literature, and Culture; Health & Society (Sociology) or others as approved by the Program Director of Undergraduate Studies.

¹ SPH required course – students should plan to take SPHG 351, SPHG 352, and EPID 600 during the first year

UNDERGRADUATE HONORS RESEARCH: The Senior Honors Thesis

For more information, please see the Honors Carolina website.
(<https://honorscarolina.unc.edu/research/senior-honors-thesis/>)

Who is eligible for the Honors Program?

The Department of Nutrition provides an opportunity for honors study for qualified students. To be eligible for admission to the Honors program, students must have, at a minimum, a cumulative grade point average of 3.3 at the beginning of their senior year and maintain the GPA throughout the major if they intend to pursue Honors. Students must also be granted signed approval by their mentor/advisor (see Academic Coordinator for appropriate paperwork). Ideally, students register for NUTR 295 (3 credits) in the first year, and then, NUTR 691/692H (3-credits) in their final two semesters while completing an Honors Thesis in Nutrition. Typically, students complete at least 3 semesters of research to complete an Honors Thesis, but exception may be possible per Faculty Mentor's and BSPH Committee's approval. NUTR 696 should also be taken in fall of senior year.

How do I register for the Honors Program credit and what is required?

Students are required to carry out a special project and prepare a thesis based on the project. Length of the honors thesis will depend on the type of project that the student is involved with. All nutrition honors theses are written as scientific manuscripts that are generally between 20-40 pages long, and in the appropriate style for the topic (e.g., nutritional biochemistry, nutrition epidemiology, or nutrition intervention and policy, or interdisciplinary topics for the Nutrition, Health and Society track). An oral defense of the thesis before the Faculty Mentor and a second reader (suggested by the Faculty Mentor – see below) is required. Students may graduate from the University with "honors" or "highest honors," if they complete and successfully defend their theses.

Students who wish to complete an Honors Thesis should submit a title and aims approved by their faculty mentor to the Academic Coordinator by the summer between junior and senior year. The student and faculty mentor should select a second reader for the thesis and notify the Academic Coordinator by November of senior year. Second Readers can be other faculty members, doctoral students, or postdocs.

How many students are awarded honors each year?

Generally, most students who register for the Honors Program are awarded "honors" each year. However, a student may earn "highest honors" based on their exceptional performance on the honors thesis and presentation.

Who directs the Honors Program in the Nutrition Department?

Professor Miroslav (Mirek) Styblo, Director of the BSPH program in Nutrition, administers the Nutrition component of the Public Health Program, under the overall direction of the Assistant Dean of Student Affairs in Gillings School of Global Public Health.

When is the Honors thesis due?

Most importantly, the final thesis is due in early-April, so all students wishing to graduate with "honors" or "highest honors" must keep this timing in mind. There are also specific deadlines by the Honor's Office that can be found on their website.

With whom can I do research?

Nutrition faculty profiles along with their research interests, resume, etc. can be found at: <http://sph.unc.edu/nutr/unc-nutrition/nutr-our-faculty-and-staff/>. Additional information on faculty research and availability can be provided by the Academic Coordinator or BSPH Committee.

How do I fund Honors Thesis Research?

Undergraduate Research Awards from Honors Carolina may be used to support any legitimate cost directly connected to the undertaking of the honors project: laboratory equipment or supplies, computer software or time, costs related to field research, artistic supplies or equipment, books or periodicals not available through normal library sources, illustrations--among others. Travel will be supported only where such travel is absolutely essential to the project and only for the actual cost of transportation. Except in unusual circumstances, individual awards will not exceed \$500. Any equipment or non-expended supplies purchased under the program become the property of the department at the conclusion of the project. University accounts will be set up for all successful applicants in their departments as the means of dispersing funds. Applications for Research Awards become available and are typically due during the month of September through the Honors Carolina Program.

Please note: Projects with an international dimension may qualify for a supplemental award of up to \$500 from The University Center for International Studies (UCIS) in addition to the Undergraduate Research Award from the Honors Office. Priority for these supplementary grants from UCIS will be given to proposals which pertain to an international topic and which involve travel either within the United States or abroad. A student must receive an Undergraduate Research Award in order to receive the supplemental award from UCIS. If a student receives both awards, the letter of notification from the Honors Office will contain that information. Because the summer can obviously be a convenient time for students to undertake a research trip, students pursuing an international topic should be encouraged to apply for this round of Undergraduate Research Awards.

The application is available on the Honors Carolina website: <http://www.honors.unc.edu>.

There are two rounds of honors research awards given during the academic year. Students are encouraged to view the Honor's website and communicate with the Academic Coordinator about specific deadlines.

Students are encouraged to apply for other research awards from the School or the University (e.g., the Summer Undergraduate Research Fellowship (SURF), which is awarded by the Office of Undergraduate Research) or from professional societies to support their research projects. The Academic Coordinator or Faculty Research Mentor will assist students in identifying and applying for these awards.

What are the major milestones for completing an Honors Thesis and when do they occur?

- Junior Year
 - Fall Semester – begin thinking about whether or not you want to do the Honors Thesis; consult your faculty mentor
 - Spring Semester – meet with your faculty mentor and discuss title and aims.
- Senior Year
 - Fall Semester – Finalize your title/aims and determine who your second reader is going to be; notify the Academic Coordinator in November.
 - Register for NUTR 691H and NUTR 696
 - Data collection/Experiment/Analysis/Begin writing thesis
 - Spring Semester
 - Register for NUTR 692H
 - Complete thesis writing by end of February and submit draft to faculty mentor and second reader
 - Defend thesis by mid-March to faculty mentor and second reader
 - Submit electronic thesis to Honors Carolina Digital Repository by designated deadline (typically in early to mid-April).

Course Plan for the BSPH Nutrition Science and Research Track

Course #	Course name	Credit Hours	Suggested Term	Pertinent Notes
General Education Requirements				
	<i>Please refer to Tar Heel Tracker to ensure completion of all General Education Requirements</i>			
Pre-Requisite Courses				
BIOL 101	Principles of Biology	3		
BIOL 101L	Principles of Biology Lab	1		
CHEM 101	General Descriptive Chemistry I	3		
CHEM 101L	General Descriptive Chemistry I Lab	1		
CHEM 102	General Descriptive Chemistry II	3		
CHEM 102L	General Descriptive Chemistry II Lab	1		
BIOL 252	Fundamentals of Human Anatomy & Physiology	3		
BIOL 252L	Fundamentals of Human Anatomy & Physiology Lab	1		
CHEM 261	Introduction to Organic Chemistry I	3		
NUTR 240	Introduction to Human Nutrition	3		Offered Fall only
SPH Core Courses				
SPHG 351	Foundations of Public Health	3	Fall Year 1	Should be taken first fall
SPHG 352	Public Health Systems & Solutions	4	Spring Year 1	Should be taken first spring
EPID 600	Principles of Epidemiology	3	Spring Year 1	Should be taken first year
BIOS 600	Principles of Statistical Inference	3	Fall Year 1	
NUTR Courses				
MATH 231	Calculus of Functions of One Variable	4		
NUTR 400	Introduction to Nutritional Biochemistry	3	Spring Year 1	Offered Spring only
NUTR 600	Human Metabolism: Macronutrients	3	Fall Year 2	Offered Fall only
NUTR 611	Nutrition Across the Lifecycle	3	Fall Year 2	Offered Fall only
NUTR 620	Human Metabolism: Micronutrients	3	Spring Year 2	Offered Spring only
BIOL 202	Molecular Biology & Genetics	4	Fall Year 1	
CHEM 241	Modern Analytical Methods for Separation & Characterization	2	Fall Year 1	
CHEM 241L	Lab in Separations & Analytical Characterization	1	Fall Year 1	
CHEM 262	Introduction to Organic Chemistry II	3	Spring Year 1	
CHEM 262L	Introduction to Organic Chemistry II Lab	1	Spring Year 1	
PHYS 114	General Physics I: For Students of the Life Sciences	4	Fall Year 2	
PHYS 115	General Physics II: For Students of the Life Sciences	4	Spring Year 2	
Research & Capstone*				
NUTR 295	Undergraduate Research in Nutrition (1-4 semesters)			Must be taken at least once during the program and should be done in

				the final semester as a capstone
NUTR 691H	Honors Research in Nutrition (Fall – only for those students completing a Senior Honors Thesis)			
NUTR 692H	Honors Research in Nutrition (Spring – only for those students completing a Senior Honors Thesis)			
NUTR 696	Nutrition Honors Research Seminar		Fall Year 2	Fall only; taken only by students who plan to compete the Honors Thesis
Additional formal coursework				
	Total credits required for graduation = 72 for the major, 120 for the degree			

*Research hours must be formally agreed upon by a faculty mentor prior to registration, with an Independent Study Agreement completed and approved by the first Friday of courses for the semester. Students wishing to complete a Senior Honors Thesis should plan to complete at least 3 consecutive semesters of research and be otherwise eligible.

Course Plan for the BSPH Nutrition, Health and Society Track

Course #	Course name	Credit Hours	Suggested Term	Pertinent Notes
General Education Requirements				
	<i>Please refer to Tar Heel Tracker to ensure completion of all General Education Requirements</i>			
Pre-Requisite Courses				
BIOL 101	Principles of Biology	3		
BIOL 101L	Principles of Biology Lab	1		
CHEM 101	General Descriptive Chemistry I	3		
CHEM 101L	General Descriptive Chemistry I Lab	1		
CHEM 102	General Descriptive Chemistry II	3		
CHEM 102L	General Descriptive Chemistry II Lab	1		
BIOL 252	Fundamentals of Human Anatomy & Physiology	3		
BIOL 252L	Fundamentals of Human Anatomy & Physiology Lab	1		
SPH Core Courses				
SPHG 351	Foundations of Public Health	3	Fall Year 1	Should be taken first fall
SPHG 352	Public Health Systems & Solutions	4	Spring Year 1	Should be taken first spring
EPID 600	Principles of Epidemiology	3	Spring Year 1	Should be taken first year
BIOS 600	Principles of Statistical Inference	3	Fall Year 1	
NUTR Courses				
NUTR 175	Introduction to Food Studies	3	Fall Year 1	Offered Fall only
NUTR 240	Introduction to Human Nutrition	3	Fall Year 1	Offered Fall only
NUTR 245	Sustainable Local Food Systems	3	Spring Year 1	
NUTR 611	Nutrition Across the Lifecycle	3	Fall Year 2	
NUTR 630	Nutrition Counseling, Communication, and Culture	3	Fall Year 2	
NUTR 405	Nutrition Policy	3	Fall Year 2	
NUTR 470	Nutrition and Health Behavior	3	Spring Year 2	
Research & Capstone*				
NUTR 295	Nutrition Capstone (1-4 semesters)		Final Term	Must be taken at least once during the program and should be done in the final semester as a capstone
NUTR 691H	Honors Capstone in Nutrition (Fall – only for those students completing a Senior Honors Thesis)			
NUTR 692H	Honors Capstone in Nutrition (Spring – only for those students completing a Senior Honors Thesis)			
NUTR 696	Nutrition Honors Research Seminar		Fall Year 2	Fall only; taken only by students who plan to compete the Honors Thesis

