

Handbook for the BSPH Program in Nutrition

2018 ~ 2019

I. INTRODUCTION

A. Program Overview

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 Department of Nutrition is one of the top-ranked Nutrition Departments in the country. The curriculum offers a wide range of courses on the nutritional and epidemiological aspects of human diseases. A BSPH in Nutrition 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. It also allows students to participate in nutrition research projects or explore other related areas of interest.

The BSPH Program provides:

Courses in preparation for admission into medical school, dental school, veterinary school, pharmacy school or other graduate programs.

B. 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:

1. Demonstrate knowledge of nutritional biochemistry, the metabolism and function of nutrients and the nutritional components of diseases through advanced courses in nutrition.
2. 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
3. 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.
4. Apply the scientific method in the areas of nutritional biochemistry, nutritional epidemiology and intervention and policy.

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

C. Admission Requirements

A four-year course of study leads to the degree of Bachelor of Science in Public Health in Nutrition. Upon successful completion of freshman-sophomore courses at UNC-CH in the General College, interested students may apply to transfer to the School of Public Health to complete their final two years. Those students transferring from another institution must apply to the UNC-CH General College/College of Arts and Sciences first and complete one semester satisfactorily before applying to the School of Public Health. Electives throughout the University as well as within the School of Public Health are required. Applicants should apply in the spring of their sophomore year, or at any time after they have met the prerequisites listed below. The recommended minimum GPA for admission to the BSPH Nutrition Program is a 3.0.

Prerequisite Courses Required for Admission

BIOL 101, 101L

BIOL 252, BIOL 252L
CHEM 101, 101L
CHEM 102, 102L
CHEM 261
MATH 231¹
NUTR 240

¹ Courses in Mathematics not completed during the first two years may be taken during junior year.

D. Student Responsibilities

It is the responsibility of students majoring in Nutrition to complete and meet the minimum number of courses required for graduation (Appendix A). Guidance of each student regarding course selection and career options is provided by his/her faculty advisor, 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 with faculty advisors.

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, HBEH 600, HPM 600 and ENVR 600) – 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.

II. ADVISING

A. The Faculty Advisor and 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. Students may be eligible for Honors research, if they meet the eligibility guidelines. Students would register for NUTR 295 (or NUTR 691/692H~Honors) under a specific faculty member section number. Each student will complete at least one and up to four semesters (3-credits each) on a research 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 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. Student and faculty communication is viewed as a mutual responsibility. The student and the advisor 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 advisor become necessary. Ideally, the student will expedite such a change by discussion with current and intended advisors. In addition, the student must consult with the chair of the departmental BSPH Committee. If this is unsatisfactory, the department chair should be consulted.

III. NUTRITION DEPARTMENT COURSE REQUIREMENTS

A. Courses to Meet School of Public Health Requirements

BIOS 600	Principles of Statistical Inference (3)
EPID 600	Principles of Epidemiology (3)
ENVR 600	Environmental Health (3)
HBEH 600	Social and Behavioral Sciences in Public Health (3)
HPM 600	Health Policy and Management (3)
Plus 3 elective courses outside the School of Public Health	

B. Department of Nutrition Required Courses

NUTR 240	Introduction to Human Nutrition (3)
NUTR 400	Introduction to Nutritional Biochemistry (3)
NUTR 600	Human Metabolism: Macronutrients (3)
NUTR 611	Nutrition Across the Life Cycle (3)
NUTR 620	Human Metabolism: Micronutrients (3)
NUTR 295¹	Undergraduate Research in Nutrition (3)
NUTR 691H*	Honors Research in Nutrition (Fall) (3)
NUTR 692H*	Honors Research in Nutrition (Spring) (3)
BIOL 202	Molecular Biology and Genetics (4)
CHEM 241 ²	Modern Analytical Methods for Separation and Characterization (2)
CHEM 241L ²	Laboratory in Separations and Analytical Characterization of Organic and Biological Compounds (1)
CHEM 262 ²	Introduction to Organic Chemistry II (3)
CHEM 262L ²	Laboratory in Organic Chemistry (1) and Biological Compounds II (2)
PHYS 114 ²	General Physics I: For Students of the Life Sciences (4)
PHYS 115 ²	General Physics II: For Students of the Life Sciences (4)

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

¹ The Capstone course for the degree; students who choose to only participate in one semester of research should complete NUTR 295 in their final semester.

² These courses will meet the 3 elective course requirements if not used as General College requirements. For any semester in which a student does not participate in research (NUTR 295), another elective should be taken.

C. Example of BSPH Coursework

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
Elective or PHYS 114	General Elective or PHYS 114 General Physics I	<u>3-4</u>
	Total semester credits	16-17

Spring Semester

CHEM 262	Introduction to Organic Chemistry II	3
CHEM 262L	Laboratory in Organic Chemistry	1
BIOS 600 ¹	Principles of Statistical Inference	3
NUTR 295 ²	Nutrition Research	3
NUTR 400	Introduction to Nutritional Biochemistry	3
Elective or PHYS 115	General Elective or PHYS 115 General Physics II	<u>3-4</u>
	Total semester credits	16-17

Senior Year

<u>Fall Semester</u>	<u>Credits</u>	
NUTR 691H ²	Nutrition Research	3
NUTR 600	Human Metabolism: Macronutrients	3
NUTR 611	Nutrition Across the Lifecycle	3
HBEH 600 ¹	Social and Behavior Sciences in Public Health (online)	3
Elective	General Elective	<u>3-4</u>
	Total semester credits	15-16

Spring Semester

NUTR 620	Human Metabolism: Micronutrients	3
NUTR 692H ²	Nutrition Research	3
ENVR 600 ¹	Environmental Health (online)	3
HPM 600 ¹	Health Policy and Management (online)	3
Elective	General Elective	<u>3-4</u>
	Total semester credits	15-16

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

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.

IV. RESEARCH REQUIREMENTS FOR UNDERGRADUATES

V. UNDERGRADUATE HONORS RESEARCH ~ The Honors Thesis

For more information, please see the Academic Coordinator for the *BSPH Nutrition Honors Thesis Handbook*.

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). Students register for NUTR 295 (3 credits) every semester, and then, NUTR 691/692H (3-credits) in their final two semesters while completing an Honors Thesis in Nutrition.

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 15-40 pages long, and in the appropriate style for the topic (e.g., nutritional biochemistry, nutrition epidemiology, or nutrition intervention and policy). An oral defense of the thesis is required. Students may graduate from the University with "honors" or "highest honors," if they complete and successfully defend their theses before a faculty panel. The *BSPH Handbook for the Honors Thesis* with specific guidelines for writing your thesis and for meeting all deadlines for the thesis is available through the Academic Coordinator.

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 in the *BSPH Handbook for the Honors Thesis*. You can see the Academic Coordinator for specific deadline dates.

Who can I do research with?

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 Program 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, as well as, 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.

VI. NUTRITION COALITION

The Nutrition Coalition is an organization of students enrolled in the three-degree programs of the Department of Nutrition. The Coalition meets several times each semester to address student concerns and to plan service and social activities. (<https://studentlife.unc.edu/organization/nutritioncoalition>)

VII. COURSE DESCRIPTIONS

NUTR 175 INTRODUCTION TO FOOD STUDIES; FROM SCIENCE TO SOCIETY (3)

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. Fall. Beck and Faculty.

NUTR 240 INTRODUCTION TO HUMAN NUTRITION (3)

Prerequisites, BIOL 101/101L and CHEM 102/102L. 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. Fall. Beck and Faculty.

NUTR 245 SUSTAINABLE LOCAL FOOD SYSTEMS: INTERSECTION OF LOCAL FOODS AND PUBLIC HEALTH (3)

Examines the intersection of local foods and public health in respect to nutrition, environmental, economic, and community issues. Students explore impacts of the increasingly industrialized and centralized food system, as well as, potential solutions, while assisting community partners increase opportunities for farmers, local food marketers, distributors, and entrepreneurs. Spring. Demarco and Ammerman.

NUTR 295 UNDERGRADUATE RESEARCH EXPERIENCE IN NUTRITION (3)

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. Fall, Spring, Summer. Faculty.

NUTR 400 INTRODUCTION TO NUTRITIONAL BIOCHEMISTRY (3)

Prerequisites, BIOL 101, CHEM 101, 102 and NUTR 240. Permission of the instructor for students lacking the prerequisites. 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. Spring. Styblo and Krupenko, S.

NUTR 600 HUMAN METABOLISM: MACRONUTRIENTS (3)

Prerequisite, NUTR 400. Permission of the instructor for students lacking the prerequisites. 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). Fall. Coleman.

NUTR 611 NUTRITION ACROSS THE LIFE CYCLE (3)

Prerequisite, NUTR 400. 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. Fall. Holliday and Wasser.

NUTR 620 HUMAN METABOLISM: MICRONUTRIENTS (3)

Prerequisite, NUTR 400 and 600. Permission of the instructor for students lacking the prerequisites. 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). Spring. Krupenko, N.

NUTR 630 NUTRITION COMMUNICATION, COUNSELING AND CULTURE (3)

Prerequisite, NUTR 240. Permission of the instructor for students lacking the prerequisite. 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. Fall. Sayre

NUTR 640 MEDICAL NUTRITION THERAPY(4)

Prerequisite, NUTR 630. Course designed to examine the rationale and implementation of diet therapy and nutrition support in the prevention or treatment of chronic diseases. Spring. Holliday.

NUTR 650 FOOD SCIENCE AND CULINARY ARTS (2)

Prerequisite, NUTR 400. Introduction to foods, chemical and physical properties, nutritional composition, food safety, production, and regulation. NUTR 650 Lab required. Spring. Faculty

NUTR 650L FOOD SCIENCE AND CULINARY ARTS LAB (1)

Concurrent with NUTR 650. Classes illustrate biochemical processes and food properties covered in lecture. Introduction to new foods and food ideas. Critical evaluation of recipes. Lab fee required. Three lab hours per week. Spring. Faculty

NUTR 670 NUTRITION AND HEALTH BEHAVIOR (3)

Introduction to social and behavioral science theories, research and interventions aimed at promoting health through nutrition. Spring. Ward and Valle.

NUTR 692H HONORS RESEARCH IN NUTRITION (3)

Permission of instructor. Directed readings or laboratory study of a selected topic. Requires a written proposal to be submitted to and approved by BSPH Committee and faculty research director. A written report is required. May be taken more than once for credit. Six laboratory hours per week. Fall, spring, summer. Faculty.

NUTR 695 NUTRITION RESEARCH (VAR. 1-9)

Permission of the instructor. Individual arrangements with faculty for bachelor and master students to participate in ongoing research. Fall, spring, and summer. Faculty.

NUTR 696 READINGS IN NUTRITION (VAR. 1-9)

Permission of the instructor. Reading and tutorial guidance in special areas of nutrition. Fall, spring, and summer. Faculty.

APPENDIX A:

SCHOOL OF PUBLIC HEALTH – NUTRITION (BSPH)			
(120 hours)		Effective 2018	
NAME	PID	Optional 2nd Major or Minor	Advisor

FOUNDATIONS

English Comp. and Rhetoric	Foreign Language* HSFL(s) _____		Quant. Reas. (QR)	Lifetime Fitness (LFIT)
ENGL 105 _____	1. _____	3. _____	MATH 231 (**, #) _____	(1 hr.)
	2. _____	4. _____		

* Through Level 3

#Math courses may be completed during junior year.

APPROACHES

Phys. and Life Sciences (PL) (**)	Social and Behavioral Sciences (***)	Humanities/Fine Arts
CHEM 101 _____ CHEM 101L _____	Hist. Analysis (HS):	Visual & Performing Arts (VP):
BIOL 101 _____ BIOL 101L _____	Soc. Sci./Hist. Analysis (SS/HS):	Literary Arts (LA):
	Soc. Sci./Hist. Analysis (SS/HS):	Philosophical Reasoning (PH):

** Grade of C or better (not C-) required.

*** From at least two depts.

CONNECTIONS ##

Communication Int. (CI)	Quant. Int. (QI) <u>or</u> 2nd Quant. Reas. (QR)	Exp. Education (EE)	Global Issues (GL)
BIOL 101L _____	MATH 231 (**, #) _____	NUTR 295 _____	
US Diversity (US)	North Atlantic World (NA)	World before 1750 (WB)	Beyond the NA (BN)
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Must satisfy GL, US, EE, and two additional Connections.

MAJOR

(FALL/SPRING)

Pre-requisite Courses	Public Health Core (*)	Nutrition Courses (*)	Additional Requirements (*)	Honors Research (Up to 4 semesters, 12-hours) (*)	Electives (≥3 outside SPH)
BIOL 252 _____ BIOL 252L _____	BIOS 600 _____	NUTR 400 _____	CHEM 241 _____ CHEM 241L _____	NUTR 295 _____ OR Elective _____	
CHEM 102 _____ CHEM 102L* _____	ENVR 600 (online) _____	NUTR 600 _____	CHEM 262 _____ CHEM 262L _____	NUTR 295 _____ OR Elective _____	
CHEM 261 _____	EPID 600 _____	NUTR 611 _____	BIOL 202 _____	NUTR 295 _____	For students who do not complete 4 semesters of research, additional electives may be substituted:
NUTR 240 _____	HBEH 600 (online) _____	NUTR 620 _____	PHYS 114 _____ or PHYS 118 _____	NUTR 295 _____ -OR-	
	HPM 600 (online) _____		PHYS 115 _____ or PHYS 119 _____	NUTR 691H _____ NUTR 692H (see note below)	

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*Grade of C or better (not C-) required.

Planning Notes:

FALL	SPRING	SUMMER	FALL	SPRING