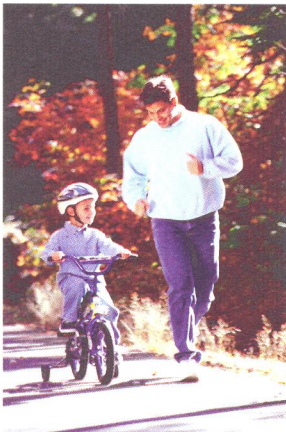
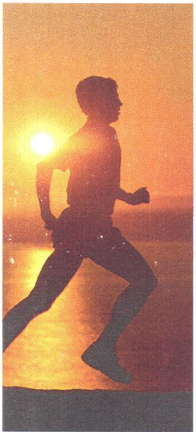
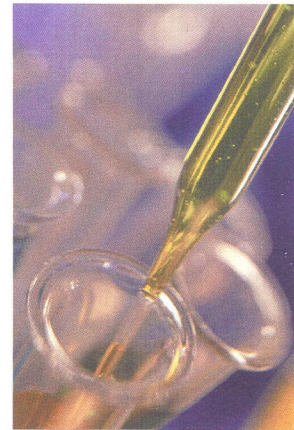


# 2011-2012

## H A N D B O O K

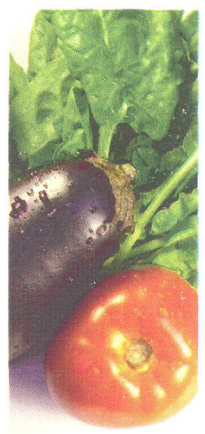
# *Department of Nutrition*



*School of Public Health*

*School of Medicine*

*University of North Carolina  
at Chapel Hill*



## Bachelor of Science *in* Public Health

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# **HANDBOOK FOR THE BACHELOR OF SCIENCE IN PUBLIC HEALTH DEGREE PROGRAM DEPARTMENT OF NUTRITION**

## **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. 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 anytime 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<sup>1</sup>

BIOL 101, 101L  
BIOL 252  
CHEM 101, 101L  
CHEM 102, 102L  
CHEM 261  
MATH 130  
MATH 231  
NUTR 240

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

## **C. 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 departmental registrar. 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. Prerequisite courses (CHEM 101, 101L, BIOL 101, 101L, and MATH 130, 231) – must receive a C (not C-) or higher. If not, they must repeat the course.
2. Required Prerequisite Courses for Admission (NUTR 240, CHEM 102, 102L, 261, and BIOL 252) – must receive a B- or higher to be considered for admission into the program. If not, they must repeat the course.
3. Core SPH classes (BIOS 600, EPID 600, HBHE 600, HPM 600 and ENVR 600) – must receive a C (not C-) or higher. If not, they must repeat the course.
4. Nutrition Program required courses – must receive a C (not C-) or higher. If not, the course must be repeated.
5. Other general college courses used to complete the 120-credit hour requirement – must receive a passing grade.

## **II. ADVISING**

### **A. The Faculty Advisor**

At the time of admission to the bachelor's program, a faculty advisor is assigned to each student. Student and faculty communication is viewed as a mutual responsibility. The student or the advisor schedules meetings on a periodic basis, as required. Joanne Lee, the Student Services Manager, serves as the major source of guidance regarding coursework. The advisor serves as the major source of guidance to the student in the areas of scientific course of study and career planning.

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 lieu of this, the student should consult with the chair of the departmental B.S.P.H. Committee. If this is unsatisfactory, the department chair should be consulted.

## **III. NUTRITION DEPARTMENT COURSE REQUIREMENTS**

### **A. Courses Recommended 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)  
HBHE 600 Health Behavior and Health Education (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	Nutritional Biochemistry (3)
NUTR 600	Human Metabolism: Macronutrients (3)
NUTR 611	Nutrition of Children and Mothers (3)
NUTR 615	Nutrition in the Elderly (1)
NUTR 620	Human Metabolism: Micronutrients (3)

## **C. Additional Required Courses for Pre-Medicine, Pre-Dental, Pre-Pharmacy, Pre-Veterinary as part of the BSPH-Nutrition major**

CHEM 241 <sup>2</sup>	Analytical Methods (2)
CHEM 241L <sup>2</sup>	Laboratory in Separations and Analytical Characterization of Organic and Biological Compounds I (1)
CHEM 262 <sup>2</sup>	Introduction to Organic Chemistry II (2)
CHEM 262L <sup>2</sup>	Laboratory in Separations and Analytical Characteristics of Organic and Biological Compounds II (2)
PHYS 104	General Physics, lab required (4)
PHYS 105	General Physics, lab required (4)
BIOL 202	Molecular Biology and Genetics (4)
NUTR 295	Undergraduate Research in Nutrition (3)
NUTR 692H	Honors Research in Nutrition (3)

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<sup>2</sup> These courses will meet the 3 elective course requirements if not used as General College requirements.

## D. Example of BSPH Coursework

### Preprofessional Program Preparing Students for Graduate Study in Medicine, Dentistry, Pharmacy, and Veterinary Medicine

#### Junior Year

<u>Fall Semester</u>		<u>Credits</u>
CHEM 241	Analytical Methods	2
CHEM 241L	Analytical Methods Lab	1
BIOL 202	Molecular Biology and Genetics	4
EPID 600 <sup>3</sup>	Principles of Epidemiology	3
NUTR 295	Nutrition Research	3
Electives	General Electives or Suggested List Below	<u>4</u>
	Total semester credits	17

#### Spring Semester

CHEM 262	Introduction to Organic Chemistry	3
CHEM 262L	Laboratory in Organic Chemistry	1
BIOS 600 <sup>3</sup>	Principles of Statistical Inference	3
HBHE 600 <sup>3</sup>	Health Behavior and Health Education (online)	3
NUTR 295	Nutrition Research	3
NUTR 400	Nutritional Biochemistry (if you did not take it your sophomore year)	3
Electives	General Electives or Suggested List Below	<u>3</u>
	Total semester credits	13-19

#### Senior Year

<u>Fall Semester</u>		<u>Credits</u>
NUTR 295	Nutrition Research	3
NUTR 600	Human Metabolism: Macronutrients	3
NUTR 611	Nutrition of Children and Mothers	3
NUTR 615	Nutrition in the Elderly	1
Electives	General Electives or Suggested List Below	<u>3</u>
	Total semester credits	13

#### Spring Semester

NUTR 620	Human Metabolism: Micronutrients	3
NUTR 692H	Nutrition Research	3
ENVR 600 <sup>3</sup>	Environmental Health (online)	3
HPM 600 <sup>3</sup>	Health Policy and Management (online)	3
Electives	General Electives or Suggested List Below	<u>3</u>
	Total semester credits	12-15

#### **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
PHCO 155	General Principles of Pharmacology I	2
EXSS 376	Physiology of Human Performance & Lab	3
PSYC 504	Health Psychology	3
SOCI 469	Medicine and Society	3

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<sup>3</sup> SPH required course

#### **IV. RESEARCH OPPORTUNITIES FOR UNDERGRADUATES**

To enhance students' general education and also to help them decide whether a research career is something they might pursue in the future, *all* BSPH nutrition students are encouraged to get involved in nutrition research, either as part of the Honors Thesis or as independent research. Students would register for NUTR 696 and then NUTR 295 (or NUTR 692H~Honors) under a specific faculty member section number. Plan on four semesters to complete a research project; about 12-credit hours is a minimum for such a project. See Joanne Lee, Student Services Manager for a complete list of faculty and their current research projects (faculty profiles).

#### **V. UNDERGRADUATE HONORS RESEARCH ~ The Honors Thesis**

For more information, please see Joanne Lee 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 3.2 at the end of the semester preceding the semester in which the student intends to begin Honors work. Students register for nine to twelve-credit hours in acceptable research, readings, and/or NUTR 692H honors course in the Department of 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 your student services manager.

##### ***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?***

The director of the B.S.P.H. program in Nutrition, Dr. Mirek Styblo, administers the Nutrition component of the Public Health Program, under the overall direction of the Associate Dean for Undergraduate Public Health Studies.

##### ***When is the Honors thesis due?***

Most importantly, the final thesis is due in mid-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 Joanne Lee, Student Services Manager for specific deadline dates.

**Who can I do research with?**

See Joanne Lee, Student Services Manager for a complete list of faculty and their current research projects (faculty profiles).

**How do I fund Honors Thesis Research?**

Undergraduate Research Awards 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.

**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 awards given during the academic year. I would encourage you to view the Honor’s website, as well as, communicate with your Student Services Manager about specific deadlines.

**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.

**VII. STUDENT EXPENSES**

The estimated annual expenses for an undergraduate student based on the anticipated increase are as follows:

	<u>Resident</u>	<u>Nonresident</u>
Tuition/Fees per year	\$7,009	\$26,834
Books/Supplies*	\$1,150	\$1,150
Room/Board	\$9,470	\$9,470
Travel (local & home)	\$750	\$1,404
Health Insurance	\$926	\$926
Personal	\$1,328	\$1,328
<b>TOTAL:</b>	<b>\$20,633</b>	<b>\$41,112</b>

\* Additional lab and course fees may be charged.

## **VIII. OTHER INFORMATION**

Information concerning the following areas can be found in The University Bulletin:

- Admissions to General College
- Policies and Procedures for Students
- Protection of privacy, including access to student files
- Grievance Procedures
- Termination Policies
- Disciplinary Action
- Graduation Requirements

## **IX. STATEMENT ON EQUAL EDUCATIONAL OPPORTUNITY**

The University of North Carolina at Chapel Hill is committed to equality of educational opportunity and does not discriminate against applicants, students, or employees based on race, color, national origin, religion, sex, age, or handicap. Any complaints alleging failure of this institution to follow this policy should be brought to the attention of the Assistant to the Chancellor.

Moreover, the University of North Carolina at Chapel Hill is open to people of all races and actively seeks to promote integration by recruiting and enrolling a larger number of minority students.

## **X. LEARNING OBJECTIVES**

### **General Objectives**

1. To build on basic nutrition concepts and knowledge through more advanced courses in the metabolism of nutrients, nutritional biochemistry, and the nutritional components of diseases.
2. To master basic level understanding of biostatistics, environmental sciences, and epidemiology.
3. To broaden learning in other areas of knowledge that impact on public health nutrition, such as the nutritional needs of individuals across the life cycle, and psychologic, anthropologic, and social factors that affect food consumption and nutritional status.

### **Core-Specific Objectives**

1. To experience an investigational approach to modern nutrition through laboratory experiments designed to find new knowledge in a variety of areas of nutritional science.
2. To become proficient in basic science courses commonly serving various disciplines at the professional level, e.g., organic chemistry, and anatomy and physiology.

## **XI. COURSE DESCRIPTIONS**

### **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 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 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 nutrient interaction. 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 Drobna.

### **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 and Faculty.

### **NUTR 611 NUTRITION OF CHILDREN AND MOTHERS (3)**

*Prerequisite, NUTR 400.* Permission of the instructor for students lacking the prerequisites. Biologic bases for nutrient requirements and dietary recommendations as they vary throughout the life cycle. Covers the nutritional needs of women during childbearing years, infants, children, and adolescents. Fall. Gordon-Larsen and Siega-Riz.

### **NUTR 615 NUTRITION IN THE ELDERLY (1)**

*Prerequisites, NUTR 400.* Permission of the instructor for students lacking the prerequisites. Special dietary and nutritional needs and conditions of the elderly. Includes overview of biology and demography of aging, discussion of nutritional requirements, and assessment of the elderly as well as nutrition in health and various disease states of the elderly. Fall. Holliday.

### **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. Makowski.

### **NUTR 630 NUTRITION ASSESSMENT AND COUNSELING SKILLS (3)**

*Prerequisite, NUTR 240.* Permission of the instructor for students lacking the prerequisites. Functions of a dietitian working with individuals, emphasizing interviewing, assessment, nutrition care planning, counseling, and service documentation in prevention and therapeutic situations. Practice in the use of current dietary analysis software programs and development of educational materials included. Fall. Holliday.

**NUTR 640 MEDICAL NUTRITION THERAPY I: CHRONIC DISEASE MNGT. (3)**

*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 642 MEDICAL NUTRITION THERAPY II: ACUTE DISEASE MNGT. (3)**

*Prerequisite, NUTR 640.* Course designed to examine the rationale and implementation of diet therapy and nutrition support in the prevention or treatment of acute diseases. Fall. Holliday.

**NUTR 644 MEDICAL NUTRITION THERAPY CASE SEMINAR (1)**

*Prerequisite, NUTR 642.* Course designed to introduce the student to clinical nutrition practice. Students learn case-based medical nutrition therapy, professional interdisciplinary communication and documentation skills. Spring. Holliday.

**NUTR 650 FOOD SCIENCE, PRODUCTION AND MEAL PREPARATION (2)**

*Prerequisite, NUTR 400.* Permission of the instructor for students lacking the prerequisites. Introduction to foods, food composition and properties; factors affecting selection, handling and prep of foods; food safety; basic food industry knowledge; meal planning. NUTR 650 Lab required. Fall. Mojica.

**NUTR 650L FOOD SCIENCE, PRODUCTION AND MEAL PREPARATION LAB (1)**

*Concurrent with NUTR 650.* Permission of the instructor for students lacking the prerequisites. This is the lab that accompanies NUTR 650. This lab applies the basic concepts of meal preparation, food production and food science. Lab fee required. Three lab hours per week. Fall. Mojica.

**NUTR 660 FOOD SERVICE SYSTEMS MANAGEMENT (2)**

*Permission of the instructor for non-majors.* Basic concepts of institutional food service systems management applied to small and medium-sized health care facilities in the community. Fall/Spring. Mojica.

**NUTR 660L FOOD SERVICE SYSTEMS MANAGEMENT EXPERIENCE (1)**

*Corequisite, NUTR 660.* This is a food service management practicum that applies the basic concepts of institutional food service systems. Two lab hours per week. Fall/Spring. Mojica.

**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.**

<b>SCHOOL OF PUBLIC HEALTH – NUTRITION (BSPH)</b> (120 hours)			
NAME	PID	Optional 2 <sup>nd</sup> Major or Minor _____	Advisor

**FOUNDATIONS**

English Comp. and Rhetoric	Foreign Language(*) HSFL(s) _____	Quant. Reas. (QR)	Lifetime Fitness (LFIT)
ENGL 101 _____	1. _____	MATH 130 _____ (**, #)	(1 hr.)
ENGL 102 _____	2. _____		
	3. _____		
	4. _____		

\* Through Level 3 unless placed into Level 4 of HSFL

**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)	Foreign Lang. Int. (FI)	Quant. Int. (QI) <u>or</u> 2nd Quant. Reas. (QR)	Exp. Education (EE)
BIOL 101/101L _____	N/A	MATH 231 OR 241 (**, #) _____	
US Diversity (US)	North Atlantic World (NA)	World before 1750 (WB)	Beyond the NA (BN)
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			Global Issues (GL)

## Must satisfy GL, US, EE, and two additional Connections.

**MAJOR**

Pre-requisite Courses (***)	Public Health Core	Nutrition Courses	Science Courses Required	Honors Research (Core 2 Required)	Electives (≥3 outside SPH)
BIOL 252 _____	BIOS 600 _____	NUTR 400 _____	CHEM 241 _____ CHEM 241L _____	NUTR 295 _____	
CHEM 102 _____ CHEM 102L _____	ENVR 600 (online) _____	NUTR 600 _____	CHEM 262 _____ CHEM 262L _____	NUTR 295 _____	
CHEM 261 _____	EPID 600 _____	NUTR 611 _____	BIOL 202 _____	NUTR 295 _____	
NUTR 240 _____	HBHE 600 (online) _____	NUTR 615 _____	PHYS 104 _____ or PHYS 116 _____	NUTR 295 _____	
***Grade of B- or better required.	HPM 600 (online) _____	NUTR 620 _____	PHYS 105 _____ or PHYS 117 _____	- OR - NUTR 692H _____	
			Plus Honors Research *		

The Nutrition (pre-professional) program provides courses in preparation for admission into medical school, dental school, veterinary school, pharmacy school or other graduate programs.

Planning Notes:

FALL	SPRING	SUMMER	FALL	SPRING