

# Milken Institute School of Public Health

THE GEORGE WASHINGTON UNIVERSITY

## Department of Exercise and Nutrition Sciences

### Bachelor of Science in Nutrition

2023 – 2024

Note: All curriculum revisions will be updated immediately on the website <http://publichealth.gwu.edu>.

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#### Program Mission Statement

The mission of the BS in Nutrition program is to provide undergraduates with an in-depth understanding of food and nutrition. The program provides student with a comprehensive foundation in nutrition and lays the groundwork for integrating nutrition across disciplines. The program consists of a common set of core nutrition courses, while also providing students with opportunity to tailor their coursework towards pursuing future schooling and careers in dietetics, medicine and the health sciences, public health nutrition, and nutrition policy.

#### Goals of the BS Program in Nutrition at GW

The goals of this BS program in Nutrition are to ensure that graduates are able to:

1. Integrate knowledge of multiple physiologic responses to foods and nutrients at the molecular, cellular, and systemic levels.
2. Develop a foundation in the field of public health.
3. Apply nutrition to human health, function, and disease prevention using a public health framework.
4. Develop critical thinking skills in using and evaluating nutrition science research.
5. Utilize effective oral and written communication skills, ethical and complex decision-making abilities.
6. Integrate psychologic, anthropologic, and contextual factors that may influence diet and food choice in promoting healthy nutrition among individuals and populations.

#### Careers

The BS in Nutrition prepares students for professional careers in the field and for entrance into professional graduate programs:

- Medicine (Physician Assistant, Nursing, Physician)
- Pharmacy
- Dietetics
- Public Health
- Federal agencies
- Worksite wellness and health promotion
- Food and nutraceutical industry positions
- Trade associations related to food and nutrition
- Non-profit organizations
- Nutrition advocacy groups
- International organizations

## Degree Requirements

All students accepted to the BS in Nutrition program **complete 120 credit hours** and **maintain a minimum 2.5 grade point average in the core Nutrition courses**. In addition, **students must earn a minimum of a C- in each Nutrition core course**. There are four levels of requirements for the BS with a major in Nutrition: University general education requirements, Nutrition core requirements, Nutrition guided electives, and general electives. General education requirements are taken by all University undergraduate students and form the liberal arts education component of the BS degree with a major in Nutrition. Students with a declared concentration must meet the requirements for the concentration in addition to the four levels of requirements listed above.

Effective for students entering Fall 2023: SPH will only double count courses that are required by an SPH major or minor and required by another major or minor. Courses that may be counted as electives in either major or minor may not be double counted toward any SPH major or minor. There is an exception for the Health Equity Micro Minor. Students may double count courses taken for the Health Equity Micro Minor towards an SPH major or minor if those courses are either required by the SPH major or minor or are on an approved elective list for an SPH major or minor.

Core requirement rule: Students are expected to complete all core courses at GW. Under special circumstances, students may petition their program director for an exception.


### PROGRAM AT A GLANCE 2023-2024 DEPARTMENT OF EXERCISE and NUTRITION SCIENCES BACHELOR OF SCIENCE in NUTRITION

<b>University General Education Requirements (GenEd) Courses (See University Bulletin for General Education Requirements)</b>		
University Writing	UW 1020 UNIVERSITY WRITING OR HONR 1015	4
WID	TWO WID COURSES; These may also be counted in another category	6
Humanities	ONE COURSE IN HUMANITIES <a href="http://bulletin.gwu.edu/university-regulations/general-education/">http://bulletin.gwu.edu/university-regulations/general-education/</a>	3
Mathematics or Statistics*	ONE COURSE IN EITHER MATH OR STATISTICS <i>Can be satisfied with STAT 1051 or STAT 1053 or STAT 1127</i>	3
Science*	ONE NATURAL OR PHYSICAL SCIENCE COURSE WITH LABORATORY EXPERIENCE	4
Social Science*	TWO COURSES IN THE SOCIAL SCIENCES <i>Can be satisfied with ANTH and COMM</i> <a href="http://bulletin.gwu.edu/university-regulations/general-education/">http://bulletin.gwu.edu/university-regulations/general-education/</a>	6
<b>TOTAL GenEd</b>		<b>26</b>

\*Specific course selection may count for both Gen Ed and Nutrition Core.

## Nutrition Core

BS in Nutrition Core Courses (34 credits, same for all concentrations)					
PUBH 1010	First Year Experience Course	1			
PUBH 1101	Introduction to Public Health	3	PSYC 1001	General Psychology	3
BISC 1111*	Intro Biology: Cells & Molecules <sup>3</sup>	(G)	EXNS 2123	Nutrition and Chronic Disease	3
EXNS 1110	Applied Anatomy & Physiology I & Lab	4	EXNS 2124	Nutrition throughout the Lifecycle	3
EXNS 1111	Applied Anatomy & Physiology II & Lab	4	EXNS3111W	Exercise and Nutrition Science Research Methods	3
CHEM 1110 <sup>1,2</sup>	Fundamentals of Chemistry	2	EXNS 4112	Nutrition Senior Capstone Seminar	1
EXNS 1109**	Professional Foundations in Nutrition	1	COMM*	1040 or 1041 (satisfies Social Science & Oral Communication requirement)	(G)
EXNS 2119	Introduction to Nutrition Science	3	ANTH*	1002 or 1003 or 1004 (satisfies Social Science & Global/Cross Cultural Perspective requirement)	(G)
EXNS 2120	Assessment of Nutritional Status	3	STAT*	1051 or 1053 or 1127	(G)
<b>Total Nutrition Core</b>					<b>34</b>
<p>*This course fulfills a General Education requirement (G).</p> <p>**Students who have taken EXNS 1103, Professional Foundations in Exercise Science, should not take EXNS 1109 Professional Foundations in Nutrition Science.</p> <p><sup>1</sup>Optional for students pursuing the Nutrition Science concentration or Pre-medical Professional concentration (can be waived with score of <math>\geq 95</math> on ALEKS examination), as these students are required to take General Chemistry 1 (CHEM 1111) and General Chemistry 2 (CHEM 1112)</p> <p><sup>2</sup>Students pursuing the Nutrition Science concentration or Pre-medical Professional concentration who elect not to take CHEM 1110 are required to replace these 2 credits with 2 additional credits of guided electives.</p>					

Students have the option to pursue the following four curriculums within the BS in Nutrition program:

- BS in Nutrition, no concentration
- BS in Nutrition, Nutrition Science concentration
- BS in Nutrition, Pre-Medical Professional concentration
- BS in Nutrition, Applied Nutrition concentration

### **No Concentration**

Students majoring in nutrition and who do not declare a concentration must fulfill the following graduation requirements.

<b>BS in Nutrition – No Concentration – Must Fulfill the Following Degree Requirements</b>	
General Education Requirements	26 credits
BS in Nutrition Core Curriculum	34 credits
Nutrition Guided Electives	18 credits
General Electives	42 credits
<b>Total Number of Credits</b>	<b>120 credits</b>

### **Nutrition Science Concentration**

Students majoring in nutrition who declare the Nutrition Science concentration must fulfill the following graduation requirements. The Nutrition Science concentration is recommended for students wishing to pursue an advanced degree in dietetics and become a registered dietitian. Please note that as of 2024, it is required that students have a Master's degree to become a Registered Dietitian.

<b>Nutrition Science Concentration Requirements</b>					
BISC 1112	Intro Biology: Biology of Organisms	4	CHEM 2152	Organic Chemistry II	3
CHEM 1111	General Chemistry I	4	CHEM 2154	Organic Chemistry II Lab	1
CHEM 1112	General Chemistry II	4	BISC 3165 or CHEM 3165	Biochemistry	3
CHEM 2151	Organic Chemistry I	3	EXNS 4199	Metabolism in Exercise and Nutrition Sciences	3
CHEM 2153	Organic Chemistry I Lab	1	BISC 2336	Introduction to Microbiology	3
			BISC 2337	Introduction to Microbiology Lab	1
<b>Total Nutrition Science Concentration Requirements</b>					<b>30</b>

<b>BS in Nutrition – Nutrition Science Concentration – Must Fulfill the Following Degree Requirements</b>	
General Education Requirements	26 credits
BS in Nutrition Core Curriculum	34 credits
Nutrition Science Concentration Courses	30 credits
Nutrition Guided Electives	12 credits
General Electives	18 credits
<b>Total Number of Credits</b>	<b>120 credits</b>

### **Pre-Medical Professional (PMP) Concentration**

Students majoring in nutrition who declare the Pre-medical Professional concentration must fulfill the following graduation requirements. The Pre-medical Professional concentration is recommended for students wishing to apply to medical school or who plan to pursue other medical professions following completion of their undergraduate studies.

<b>Pre-Medical Professional (PMP) Concentration Requirements</b>					
BISC 1112	Intro Biology: Biology of Organisms	4	CHEM 2152	Organic Chemistry II	3
CHEM 1111	General Chemistry I	4	CHEM 2154	Organic Chemistry II Lab	1
CHEM 1112	General Chemistry II	4	BISC 3165 or CHEM 3165	Biochemistry	3
CHEM 2151	Organic Chemistry I	3	PHYS 1011	General Physics 1	4
CHEM 2153	Organic Chemistry I Lab	1	PHYS 1012	General Physics 2	4
MATH $\geq$ 1220	Calculus with Precalculus (or higher-level MATH)	3	EXNS 1113	Medical Terminology	3
<b>Total Pre-Medical Professional Concentration Requirements</b>					<b>37</b>

#### Advising Notes for Pre-Medical Professional (PMP) Concentration students

1. Students who receive AP credit for BISC 1111/BISC 1112 do not need to repeat these courses at GW. However, medical schools will expect that you have a minimum of 8 credit hours of upper level BISC coursework with lab components.
2. Consult your Milken Institute SPH Undergraduate Program Advisor prior to the first term's course registration and in future terms as needed. Students are expected to consult a program advisor in all matters affecting the program of studies, such as changes, substitutions, or withdrawals.
3. Students following the PMP concentration must consult with the University Pre-Health advising team (<https://prehealth.gwu.edu/>) regarding pre-health expectations and procedures.
4. Students are responsible to ensure their curricular choices ultimately fulfill all requirements of any specific medical professional graduate program to which they desire to apply. Often specific schools and/or programs have specific requirements that must be met.

<b>BS in Nutrition – Pre-Medical Professional Concentration – Must Fulfill the Following Degree Requirements</b>	
General Education Requirements	26 credits
BS in Nutrition Core Curriculum	34 credits
Pre-medical Professional Concentration Courses	37 credits
Nutrition Guided Electives	5 credits
General Electives	18 credits
<b>Total Number of Credits</b>	<b>120 credits</b>

### **Applied Nutrition Concentration**

Students majoring in nutrition who declare the Applied Nutrition concentration must fulfill the following graduation requirements. The Applied Nutrition concentration is recommended for students interested in the application of nutrition to public health and is well-suited to students with interests in nutrition policy, health promotion, nutritional epidemiology and the role of the food system in influencing dietary and health outcomes.

<b>Applied Nutrition Concentration Requirements</b>					
EXNS 1114	Community Nutrition	3	EXNS 2127	Introduction to Food Policy	3
EXNS 2126W	International Nutrition	3	PUBH 2112	Principles of Health Education/ Promotion	3
EXNS 2122	Food Systems in Public Health	3	PUBH 3131	Introduction to Epidemiology: Measuring Health and Disease	3
<b>Total Applied Nutrition Concentration Requirements</b>					<b>18</b>

<b>BS in Nutrition – Applied Nutrition Concentration – Must Fulfill the Following Degree Requirements</b>	
General Education Requirements	26 credits
BS in Nutrition Core Curriculum	34 credits
Applied Nutrition Concentration Courses	18 credits
Nutrition Guided Electives	18 credits
General Electives	24 credits
<b>Total Number of Credits</b>	<b>120 credits</b>

# Milken Institute School of Public Health

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## BS in NUTRITION GUIDED ELECTIVES, 2023-2024

The courses listed below have been identified as highly relevant to the BS in Nutrition curriculum. Guided elective credits are required to be selected from this list.

General electives can also be selected from this list, or any other undergraduate course at the University.

NOTE: Courses offered online may only be taken in the summer term.

### ANTHROPOLOGY

ANTH 1005	Biological Bases of Human Behavior	4
ANTH 3413	Evolution of the Human Brain	3
ANTH 3504	Illness, Healing, and Culture	3

### BIOLOGICAL SCIENCES

BISC 2202	Cell Biology	3
BISC 2207	Genetics	3
BISC 2213	Biology of Cancer	3
BISC 2214	Developmental Biology	3
BISC 2220	Developmental Neurobiology	3
BISC 2320	Neural Circuits & Behavior	3
BISC 2322	Human Physiology	3
BISC 2336 <sup>1</sup>	Introduction to Microbiology	3
BISC 2337 <sup>1</sup>	Introduction to Microbiology Lab	1
BISC 2581	Human Gross Anatomy	3
BISC 2583	Biology of Proteins	3
BISC 3165 <sup>1,2</sup>	Introductory Biochemistry	3
BISC 3209	Molecular Biology	3
BISC 3212	Immunology	3
BISC 3262	Biochemistry Lab	2
BISC 3263	Special Topics in Biochemistry	2
BISC 3320	Human Neurobiology	2

<sup>1</sup>Required course for Nutrition Science concentration

<sup>2</sup>Required course for Pre-medical Professional concentration

### CHEMISTRY

CHEM 3166 or CHEM 3166W	Biochemistry II	3
CHEM 3262	Biochemistry Lab	2
CHEM 3263W	Special Topics in Biochemistry	2
CHEM 3564	Lipid Biotechnology	0-2
CHEM 4122	Instrumental Analytical Chemistry	3

**EMERGENCY HEALTH SERVICES**

EHS 1002	CPR & First Aid	1
EHS 1040	EMT Basic	3
EHS 1041	EMT Basic Lab	1
EHS 1058	EMT Instructor Development	2
EHS 2108	Emergency Medical Clinical Scribe	3
EHS 2110	Emergency Department Critical Care Assessment and Procedures	4

**EXERCISE & NUTRITION SCIENCES**

EXNS 1113 <sup>1</sup>	Medical Terminology	3
EXNS 1114 <sup>2</sup>	Community Nutrition	3
EXNS 1118	Sport and Nutrition	3
EXNS 2111	Exercise Physiology I and Lab	4
EXNS 2112	Exercise Physiology II and Lab	4
EXNS 2116	Exercise and Health Psychology	3
EXNS 2122 <sup>2</sup>	Food Systems in Public Health	3
EXNS 3101 <sup>3</sup>	Independent Study	3
EXNS 3110 <sup>3</sup>	Field Experience	2
EXNS 2126W <sup>2</sup>	International Nutrition	3
EXNS 2127 <sup>2</sup>	Introduction to Food Policy	3
EXNS 3995 <sup>3</sup>	Undergraduate Research Course	1-6
EXNS 4199 <sup>4</sup>	Topics in EXNS (ONLY: Metabolism in Exercise and Nutrition Sciences)	3

<sup>1</sup>Required course for Pre-medical Professional concentration

<sup>2</sup>Required course for Applied Nutrition concentration

<sup>3</sup>Only three credits of EXNS 3101, EXNS 3110, or EXNS 3995 count toward guided electives. Additional credits in these courses will count towards the general electives.

<sup>4</sup>Required course for Nutrition Science concentration

**HEALTH & WELLNESS**

HLWL 1102	Stress Management	3
HLWL 1106	Drug Awareness	3
HLWL 1108	Weight & Society	3
HLWL 1114	Personal Health & Wellness	3
HLWL 1117	Lifetime Fitness	3

**HEALTH SCIENCES**

HSCI 2101	Psychological Aspects of Health and Illness (Residential and Online)	3
HSCI 2102	Pathophysiology (ONLINE ONLY)	3
HSCI 2110	Disease Prevention/Health Promotion (ONLINE ONLY)	3
HSCI 2112W	Writing in the Health Sciences (ONLINE ONLY)	3
HSCI 3113	Health Policy and the Healthcare System (ONLINE ONLY)	3



**PSYCHOLOGY**

PSYC 2011 OR 2011W	Abnormal Psychology	3
PSYC 2013	Developmental Psychology	3
PSYC 2014	Cognitive Psychology	3
PSYC 2015	Biological Psychology	3
PSYC 2570	Peer Education	3
PSYC 3128	Health Psychology	3

**PUBLIC HEALTH**

PUBH 1102	History of Public Health	3
PUBH 2110	Public Health Biology	3
PUBH 2112 <sup>1</sup>	Principles of Health Education and Health Promotion	3
PUBH 2113	Impact of Culture Upon Health	3
PUBH 2117	Service Learning in Public Health	3
PUBH 3130	Health Services Management and Economics	3
PUBH 3131 <sup>1</sup>	Epidemiology: Measuring Health and Disease	3
PUBH 3135W	Health Policy	3
PUBH 3151W	Current Issues in Bioethics	3

<sup>1</sup>Required course for Applied Nutrition concentration