Nutrition Sciences (BS)

To see more about what you will learn in this program, visit the Learning Outcomes website (https://apps.oirp.ncsu.edu/pgas/)!

The Nutrition Science Bachelor of Science degree has two sub-plans to choose from: the Science track or the Applied track. The Science curriculum is designed for those students with an interest in graduate school or post-graduate training in a human health profession for which physics and 4 semesters of chemistry are required. The Applied curriculum is designed for those interested in health-related jobs immediately after graduation, obtaining further training to become a Registered Dietitian after graduation, or going on for post-graduate training in a human health profession for which no physics courses and only 3 semesters of chemistry are required.

Plan Requirements

Code	Title	Hours	Counts towards
Orientation			
LSC 103	Exploring Opportunities in the Life Sciences	1	
Communication		**3**	
COM 110	Public Speaking		
COM 112	Interpersonal Communication		
ENG 333	Communication for Science and Research		
Mathematics & Sciences			
BIO 181	Introductory Biology: Ecology, Evolution, and Biodiversity [1]	4	
BIO 183	Introductory Biology: Cellular and Molecular Biology [1]	4	
CH 101 & CH 102	Chemistry - A Molecular Science and General Chemistry Laboratory [1]	4	
CH 201 & CH 202	Chemistry - A Quantitative Science and Quantitative Chemistry Laboratory	4	
CH 221 & CH 222	Organic Chemistry I and Organic Chemistry I Lab [1]	4	
CH 223 & CH 224	Organic Chemistry II and Organic Chemistry II Lab	4	
PY 211	College Physics I	4	
PY 212	College Physics II	4	
MA 121	Elements of Calculus	3	
or MA 131	Calculus for Life and Management Sciences A		
ST 311	Introduction to Statistics	3	
PSY 200	Introduction to Psychology	3	
Required Courses			
LSC 101	Critical and Creative Thinking in the Life Sciences [1]	2	
FS 201	Introduction to Food Science [1]	3	
NTR 301	Introduction to Human Nutrition [1]	3	
NTR 302	Introduction to Nutrition Research, Communication, and Careers [1]	3	
NTR 401	Advanced Nutrition and Metabolism [1]	3	
GN 311	Principles of Genetics	4	
MB 351 & MB 352	General Microbiology and General Microbiology Laboratory	4	
NTR 490	Senior Capstone Experience in Nutrition [1]	4	
Restricted Electives			
Restricted Nutrition Elective (p. 2) [1]		3	
Application Electives (p. 2)		6	
ZO 250	Animal Anatomy and Physiology	4	
Nutrition Electives (p. 4) [1]		9	
GEP Courses			
ENG 101	Academic Writing and Research [1]	4	
GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)		6	
GEP Social Sciences (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-social-sciences/)		3	

GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)	2
GEP Additional Breadth (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/) (Humanities/Social Sciences/Visual and Performing Arts)	3
GEP Interdisciplinary Perspectives (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-interdisciplinary-perspectives/)	3
GEP U.S. Diversity (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-us-diversity/) (verify requirement)	
GEP Global Knowledge (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-global-knowledge/) (verify requirement)	
Foreign Language Proficiency (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/foreign-language-proficiency/) (verify requirement)	
Free Electives	
Free Electives (12 Hr S/U Lmt) [2]	6
These electives cannot be remedial nor can they be taken at an elementary level after you have taken comparable coursework at a more advanced level. They can be taken S/U unless they are being used to fulfill the requirements for a minor.	
Total Hours	**120**

1 A grade of C- or higher is required.

2 Students should consult their academic advisors to determine which courses fill this requirement.

Restricted Nutrition Elective

Code	Title	Hours	Counts towards
ANS 454	Lactation, Milk and Nutrition	3	
ANS 554	Lactation, Milk and Nutrition	3	
FS 555	Exercise Nutrition	3	
FS 557	Nutraceuticals and Functional Foods	3	
NTR 320	Nutrition Education	3	
NTR 330	Public Health Nutrition	3	
NTR 410	Maternal and Infant Nutrition	3	
NTR 419	Human Nutrition and Chronic Disease	3	
NTR 454	Lactation, Milk and Nutrition	3	
NTR 510	Maternal and Infant Nutrition	3	
NTR 555	Exercise Nutrition	3	
NTR 557	Nutraceuticals and Functional Foods	3	

Application Electives

Code	Title	Hours	Counts towards
Application Electives I			
AEC 360	Ecology	4	
AEE 230	Introduction to Cooperative Extension	3	
AEE 325	Planning and Delivering Non-Formal Education	3	
AEE 478	Advanced Issues in Extension Education	3	
ANS 415	Comparative Nutrition	3	
ANS 515	Comparative Nutrition	3	
ANT 374	Disease and Society	3	
ARE 201	Introduction to Agricultural & Resource Economics	3	
ARE 201A	Introduction to Agricultural & Resource Economics	3	
BCH 351	General Biochemistry	3	
BIO 414	Cell Biology	3	
BIO 424	Endocrinology	3	
BIO 488	Neurobiology	3	
BIO 588	Neurobiology	3	
COM 332	Relational Communication	3	
COM 362	Communication and Gender	3	
COM 441	Ethical Issues in Communication	3	

COM 466	Nonprofit Leadership & Development	3
CS 224	Seeds, Biotechnology and Societies	3
CS 230	Introduction to Agroecology	3
CS 430	Advanced Agroecology	4
FS 330	Science of Food Preparation	3
FS 402	Chemistry of Food and Bioprocessed Materials	4
FS 403	Analytical Techniques in Food & Bioprocessing Science	4
FS 405	Food Microbiology	3
FS 416	Quality Control in Food and Bioprocessing	3
FS 421	Food Preservation	3
FS 502	Chemistry of Food and Bioprocessed Materials	4
FS 505	Food Microbiology	3
FS 516	Quality Control in Food and Bioprocessing	
FS 521	Food Preservation	3
GPH 201	Fundamentals of Global Public Health	3
HESM 478	Exercise Physiology and Sports Science	3
HI 360	U.S. Agricultural History	3
HI 380	History of Nonprofits, Philanthropy, and Social Change	3
MB 405	Food Microbiology	3
MB 505	Food Microbiology	3
NTR 415	Comparative Nutrition	3
NTR 515	Comparative Nutrition	3
PB 213	Plants and Civilization	3
PB 215	Medicinal Plants	3
PB 360	Ecology	4
PHI 325	Bio-Medical Ethics	3
PHI 420	Global Justice	3
PO 415	Comparative Nutrition	3
PO 515	Comparative Nutrition	3
PRT 200	Health, Wellness and the Pursuit of Happiness	3
PS 203	Introduction to Nonprofits	3
PS 231	Introduction to International Relations	3
PS 236	Issues in Global Politics	3
PS 312	Introduction to Public Administration	3
PSY 311	Social Psychology	3
PSY 312	Applied Psychology	3
PSY 360	Community Psychology Principles and Practice	3
PSY 376	Developmental Psychology	3
PSY 410	Learning and Motivation	3
PSY 411	The Psychology of Interdependence and Race	3
PSY 420	Cognitive Processes	3
PSY 430	Biological Psychology	3
PSY 431	Health Psychology	3
SOC 241	Sociology of Agriculture and Rural Society	3
SOC 241A	Sociology of Agriculture and Rural Society	3
SOC 311	Community Relationships	3

SOC 342	International Development	3
SOC 350	Food and Society	3
SOC 351	Population and Planning	3
SOC 381	Sociology of Medicine	3
SOC 404	Families and Work	3
SOC 440	Social Change	3
STS 323	World Population and Food Prospects	3
STS 325	Bio-Medical Ethics	3
WGS 200	Introduction to Women's, Gender, and Sexuality Studies	3
WGS 330	Women and Health	3
WGS 362	Communication and Gender	3
Application Electives II (Max: 3 Units)		
GPH 425	Global Health and Physiology	6

Nutrition Electives

Code	Title	Hours	Counts towards
ANS 454	Lactation, Milk and Nutrition	3	
ANS 554	Lactation, Milk and Nutrition	3	
FS 555	Exercise Nutrition [1]	3	
FS 557	Nutraceuticals and Functional Foods [1]	3	
IDS 211	Eating through American History	3	
NTR 220	Food and Culture [1]	3	
NTR 320	Nutrition Education [1]	3	
NTR 330	Public Health Nutrition [1]	3	
NTR 410	Maternal and Infant Nutrition [1]	3	
NTR 419	Human Nutrition and Chronic Disease [1]	3	
NTR 420	Applied Nutrition Education [1]	3	
NTR 421	Life Cycle Nutrition [1]	3	
NTR 454	Lactation, Milk and Nutrition [1]	3	
NTR 510	Maternal and Infant Nutrition	3	
NTR 521	Life Cycle Nutrition	3	
NTR 555	Exercise Nutrition [1]	3	
NTR 557	Nutraceuticals and Functional Foods [1]	3	

Semester Sequence

This is a sample.

First Year		
Fall Semester		**Hours**
LSC 101	Critical and Creative Thinking in the Life Sciences [1]	2
LSC 103	Exploring Opportunities in the Life Sciences	1
BIO 181	Introductory Biology: Ecology, Evolution, and Biodiversity [1]	4
CH 101	Chemistry - A Molecular Science [1]	3
CH 102	General Chemistry Laboratory	1
MA 121 or MA 131	Elements of Calculus or Calculus for Life and Management Sciences A	3
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		1
	Hours	**15**
Spring Semester		
BIO 183	Introductory Biology: Cellular and Molecular Biology [1]	4
NTR 301	Introduction to Human Nutrition [1]	3
ENG 101	Academic Writing and Research	4
CH 221	Organic Chemistry I	3
CH 222	Organic Chemistry I Lab	1
	Hours	**15**
Second Year		
Fall Semester		
NTR 302	Introduction to Nutrition Research, Communication, and Careers [1]	3
CH 223	Organic Chemistry II	3
CH 224	Organic Chemistry II Lab	1
ST 311	Introduction to Statistics	3
PSY 200	Introduction to Psychology	3
Free/Minor Elective		3
	Hours	**16**
Spring Semester		
FS 201	Introduction to Food Science	3
Nutrition Elective (p. 4)		3
Application Elective (p. 2)		3

GEP Interdisciplinary Perspectives (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-interdisciplinary-perspectives/)		3
Physiology Elective (p. 1)		4
	Hours	**16**
Third Year		
Fall Semester		
NTR 401	Advanced Nutrition and Metabolism [1]	3
Nutrition Elective (p. 4)		3
Application Elective (p. 2)		3
Writing/Speaking Elective (p. 1)		3
Free/Minor Electives		3
	Hours	**15**
Spring Semester		
GN 311	Principles of Genetics	4
Restricted Nutrition Elective (p. 2)		3
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		1
GEP Additional Breadth (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/) (Humanities/Social Sciences/Visual and Performing Arts)		3
CH 201	Chemistry - A Quantitative Science	3
CH 202	Quantitative Chemistry Laboratory	1
	Hours	**15**
Fourth Year		
Fall Semester		
PY 211	College Physics I	4
MB 351	General Microbiology	3
MB 352	General Microbiology Laboratory	1
Nutrition Elective (p. 4)		3
GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)		3
	Hours	**14**
Spring Semester		
PY 212	College Physics II	4
NTR 490	Senior Capstone Experience in Nutrition [1]	4
GEP Social Sciences (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-social-sciences/)		3
GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)		3
	Hours	**14**
	Total Hours	**120**

1. A grade of C- or better is required

Career Opportunities

Consumer demand for safe, high quality, nutritious foods and biopharmaceutical products, as well as for educational programs designed to promote healthy eating, creates a variety of career opportunities in the food, pharmaceutical and the allied health industries. Industrial opportunities include management, research and development, process supervision, quality control and assurance, procurement, distribution, and sales. Public health opportunities include educational program development, delivery, and assessment. In addition, graduates hold positions with government agencies and many with advanced degrees have teaching and/or research positions in colleges and universities.

Nutrition Sciences

Nutrition professionals provide evidence-based guidance on what we should eat, study relationships between diet and health, assess eating behavior, design and evaluate community nutrition programs, teach nutrition and healthy eating skills, and advocate for policies that support good nutrition.

Nutrition students gain a strong foundation by studying chemistry, statistics, genetics, physiology and psychology. They develop skills for applying that knowledge through research, internships and service-learning programs.

Graduates are prepared to tackle health challenges head-on, with a sound understanding of nutrient functions, nutrition in disease processes, life cycle and exercise nutrition, research methods, principles of nutrition education and public health.

Our students have the flexibility to choose between two options when pursuing their B.S. in Nutrition Science. The **Nutrition Science** option is designed to fulfill the prerequisites for medical school and other health professional programs, such as dentistry, physical therapy and pharmacy.

The **Applied Nutrition** option helps students become qualified to consult or develop programming for public health initiatives on healthy eating and other health-related activities to improve quality of life and lower health care costs. It is also designed for students planning to pursue post-graduate programs to become a nurse, physician assistant or registered dietitian.

Graduates in nutrition are competitive job and professional school applicants because of their deep understanding of the physical, social and life sciences as they relate to human health. They stand out due to the many opportunities to apply their knowledge to the major health challenges facing our country and the world today.

- Note: Only entering freshmen studying Biochemistry, Nutrition Sciences, or Plant Biology participate in the Life Sciences First Year Program (https://departments.sciences.ncsu.edu/lsfy/).

Scholarships

The department provides both merit and financial need scholarships to encourage and assist students preparing for careers in Food, Bioprocessing, or Nutrition Science.