

NUTRITION AND FOOD SCIENCE - FOOD SCIENCE CONCENTRATION (B.S.)

The B.S. in Nutrition and Food Science with concentration in Food Science prepares students for careers in the food and beverage, agricultural, and processing industries as well as food regulatory agencies such as the U.S. Food and Drug Administration (FDA) and U.S. Department of Agriculture (USDA). Food science is a multidisciplinary field with the overarching goals of improving the safety and quality of food products, developing new food products, and designing new, safer and more energy-efficient food preservation methods. Food scientists strive to improve the microbial and chemical safety of foods as well as to enhance the quality of foods through traditional and emerging technologies.

Students in the Food Science concentration will gain in-depth knowledge of the physical, chemical, and biochemical nature of food and the standards of nutritional processing, safety, food quality, and food security and develop their aptitudes in areas such as food processing, food accessibility, food quality, food safety, food sensory experiences, and food regulations.

Private industry has increased its demand for food scientists because their expertise is necessary for developing healthy food products and increasing crop yields, along with assuring quality and safety. Research in food genomics and agricultural sustainability is also expected to increase the number of available food science positions. Also, many food scientists are expected to retire in the next 10 years, creating even more job availability in private industry and regulatory agencies such as the FDA and USDA.

Graduates from the Food Science concentration can pursue careers in food science, quality assurance, food chemistry, food product development, food processing and production, food corporation management, food safety, research and development, and sensory analysis.

This concentration can also serve as the first part of an accelerated BS/MS program (<http://catalog.montclair.edu/programs/nutrition-food-science-combined-bs-ms/>). Contact nufs@montclair.edu for more information about this option.

For details about this program, including program description, admission requirements, and contact information, click here (<https://www.montclair.edu/academics/programs/bs-nutrition-and-food-science/>).

Degree Requirements Overview

Code	Title	Credits
	New Student Seminar	1
	SEEDS General Education Requirements	21-24
	Major Requirements	66
	Free Electives	32-29
Total Credits		120

Major Requirements

Code	Title	Credits
Nutrition and Food Science Core		
NUFD 130	Introduction to Nutrition and Food Science Profession	1
NUFD 150	Food Composition and Scientific Preparation	3
NUFD 153	Dynamics of Food and Society	3
NUFD 192	Nutrition with Laboratory	4
NUFD 240	Sanitation Management and Food Microbiology: Certification	1
NUFD 404	Introduction to Research	3
Concentration Requirements		
Complete Concentration Requirements below.		53
Total Credits		68

Food Science Concentration

Code	Title	Credits
Required Courses		
NUFD 358	Principles of Food Science	3
NUFD 409	Internship in Nutrition and Food Science	3
NUFD 436	Sensory Evaluation of Foods	3
NUFD 446	Food Processing and Preservation	3
NUFD 456	Research in Foods	3
NUFD 466	Food Product Development	3
Electives		
Complete three courses from the following: ²		9
NUFD 299	Professional Development for Careers in Nutrition, Food Science and Wellness	
NUFD 426	Fundamentals of Healthy Cuisine	
NUFD 450	Quantity Food Applications	
NUFD 452	Organization and Management of Foodservice Systems	
NUFD 465	Urban Agriculture and Sustainable Food Systems	
NUFD 473	Food Regulations and Compliances	
NUFD 476	Food Ethics, Sustainability and Alternatives	
Collateral Courses		
BIOL 100	Biological Sciences	4
BIOL 255	Survey of Microbiology	4
CHEM 113	Fundamentals of Chemistry	4
CHEM 130	Fundamentals of Organic Chemistry	4
CHEM 270	Fundamentals of Biochemistry	5
STAT 109	Statistics	3
Total Credits		51

New Student Seminar

Code	Title	Credits
Students in the Adult Learner program must take GNED 100.		
Complete one course from the following. Some courses may be restricted by major. Consult with an academic advisor.		1
ADVS 198	Pathways to Success	
CHEM 190	Freshman Seminar in Chemistry	
FYS 100	First Year Seminar	

GNED 100	Adult Academic Success Seminar
GNED 199	New Student Seminar
HPEM 199	Freshman Seminar in Health and Physical Education
IDS 155	Pathways to Adult Learning
JUST 199	New Student Seminar
MATH 102	New Student Experience for Mathematical Sciences
MUGN 199	Freshman Seminar for Music Majors
NURS 199	Introduction to Nursing
POLS 199	Freshman Seminar in Political Science and Law

SEEDS General Education Requirements

Click here for a list of courses that fulfill the SEEDS requirements. (<http://catalog.montclair.edu/programs/seeds-general-education-requirements/>)

Code	Title	Credits
Foundations		
<i>Effective Writing I</i>		
	Complete one Effective Writing I course.	3
<i>Effective Writing II</i>		
	Complete one Effective Writing II course.	3
<i>Interactive Communication</i>		
	Complete one Interactive Communication course.	3
<i>Quantitative Reasoning</i>		
	Fulfilled by STAT 109 in the major	
<i>Political and Civic Life</i>		
	Complete one Political and Civic Life course.	3
<i>World Language</i>		
	Complete two sequential classes in one World Language when starting at the Beginner I or Beginner II level. Complete one class when starting at the Intermediate/Advanced Level.	3-6
Exploration		
	Complete one course from four different Exploration categories:	6
<i>Analyzing Cultures and Societies</i>		
	Fulfilled by NUFD 153 in the major.	
<i>Creative Expression</i>		
<i>Ethical Inquiry</i>		
<i>Historical Thinking</i>		
<i>Literary and Artistic Analysis</i>		
<i>Scientific Reasoning</i>		
	Fulfilled by NUFD 192 in the major.	
Total Credits		21-24

Recommended Roadmap to Program of Study Completion

This recommended degree plan is provided as an outline for students to follow in order to complete their program of study requirements within **four years** and 120 credits. This plan is a recommendation and must be used in consultation with their academic advisor. Important note: Students should be aware this plan assumes no pre-requisite coursework is required. If pre-requisite coursework is needed, students may have additional requirements to fulfill which do not appear on the plan.

First Year		
Fall	Credits Spring	Credits
New Student Seminar	1 NUFD 153 (Fulfills SEEDS: Exploration 1 – Analyzing Cultures and Societies)	3
SEEDS: Effective Writing I	3 NUFD 192 (Fulfills SEEDS: Exploration 2 - Scientific Reasoning)	4
NUFD 130	1 STAT 109 (Fulfills SEEDS: Quantitative Reasoning)	3
NUFD 150	3 Free Elective	3
CHEM 113	4 Free Elective	2
Free Elective	3	
15		15

Second Year		
Fall	Credits Spring	Credits
SEEDS: Exploration 3	3 SEEDS: Effective Writing II	3
NUFD 240	1 BIOL 255	4
BIOL 100	4 CHEM 270	5
CHEM 130	4 Free Elective	3
Free Elective	3	
15		15

Third Year		
Fall	Credits Spring	Credits
SEEDS: World Language 1	3 SEEDS: World Language 2	3
SEEDS: Exploration 4	3 SEEDS: Interactive Communication	3
NUFD 358	3 NUFD 409	3
NUFD 436	3 NUFD 446	3
Free Elective	3 Free Elective	3
15		15

Fourth Year		
Fall	Credits Spring	Credits
SEEDS: Political and Civic Life	3 NUFD 466	3
NUFD 404	3 Concentration Elective	3
NUFD 456	3 Concentration Elective	3
Concentration Elective	3 Free Elective	3
Free Elective	3 Free Elective	3
15		15

Total Credits 120