

NUTRITION AND FOOD SCIENCE (B.S.)

Program Overviews

Applied Nutrition and Wellness Concentration

The B.S. in Nutrition and Food Science with a concentration in Applied Nutrition and Wellness is ideal for those students who are interested in working with groups of people in non-clinical settings. The curriculum gives students the opportunity to acquire knowledge and skills in nutrition education techniques with the aim of promoting overall good health among diverse population groups. Graduates are prepared to develop and coordinate wellness programs within a variety of settings including community health centers, fitness centers, state health departments, harm reduction agencies, supplement stores, or corporate institutions, to name a few.

Students have the unique opportunity to combine their coursework in nutrition with courses from other disciplines by building a minor into their major program. A minor option in Public Health, Sports Nutrition, Communication Studies, Journalism, Business, Political Science, Psychology, or Sociology allows graduates to apply their knowledge of nutrition-based wellness in a tangential but specialized field such as public health programming and policy, nutrition communication, social marketing, substance abuse rehabilitation, supplement industry, or corporate wellness programming.

The specific objectives of the program are:

- To prepare practitioners with skills in performing group-level nutritional needs assessments in the community.
- To prepare practitioners with skills in analyzing gaps in existing policies and planning appropriate population-based nutrition education initiatives.
- To prepare practitioners who are committed to social justice and the elimination of health disparities in their community using advanced-level critical thinking and problem solving skills.
- To contribute to a diverse student body representing multiple cultural, educational and other professional backgrounds.
- To collaborate with other professionals in the field and work together to advance the standing of the health and wellness industry.

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.

Dietetics Concentration

Accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics, the B.S. in Nutrition and Food Science with a concentration in Dietetics prepares students for careers in a variety of clinical, community and wellness settings. As part of the program, students complete a series of courses called the Didactic Program in Dietetics (DPD) and when they graduate receive not only the baccalaureate degree, but also DPD Verification Statement. The DPD Verification Statement enables students to apply to either an ACEND-accredited Graduate Program (GP) or Masters +

Dietetic Internship (DI), the completion of which is the final prerequisite to taking the Registration Examination to become a Registered Dietitian Nutritionist (RDN).

Incoming freshmen and transfer students who are interested in becoming Registered Dietitians must start their course of study in one of the other three concentrations in the B.S. in Nutrition and Food Science Program:

- Applied Nutrition and Wellness,
- Food Systems, or
- Food Science.

To be accepted into the Dietetics concentration, students must earn an overall GPA of at least 3.2 at Montclair State University with no grades lower than a "C" (2.0) by the time of application. Applications are accepted and evaluated every January and May after grades from the semester immediately preceding the application due date are posted. Students can apply for admittance to the Dietetics concentration as many times as they would like

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.

Food Science Concentration

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.

Sustainable Food Systems Concentration

Issues of sustainability and the environment, adequate food supply for the future, growing rates of hunger, malnutrition, and food insecurity, all set against the backdrop of increasingly knowledgeable and demanding consumers in both international and local markets are among the many challenges that are confronting the globalizing food system in the 21st century. This program is designed to provide tomorrow's leaders with the skills and knowledge they will need to manage these challenges and to foster the creation of a sustainable food system locally and globally. Students will gain a holistic knowledge base, enriched with practical training and experiences, to prepare them for careers in the food systems field, including:

- Food service and management
- Supply chain management and alternative distribution, such as farm-to-school/institution networks
- Food policy
- Food education and outreach
- Food production and processing
- Retail and wholesale
- International development
- Community and non-profit organizations

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.

Degree Requirements Overview

Code	Title	Credits
New Student Seminar		1
SEEDS General Education Requirements		21-24
Major Requirements		49-79
Free Electives		49-16
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 one concentration from the list below.		
Total Credits		15

Concentrations

Applied Nutrition and Wellness

Code	Title	Credits
Required Courses		
NUFD 285	Nutrition in Chronic Disease Prevention	3
NUFD 299	Professional Development for Careers in Nutrition, Food Science and Wellness	3
NUFD 381	Applied Nutrition in the Lifecycle	3
NUFD 409	Internship in Nutrition and Food Science	3
NUFD 410	Policy and Advocacy for Nutrition Based Wellness Programs	3
Application Elective		
Complete one course from the following:		3
NUFD 426	Fundamentals of Healthy Cuisine	
NUFD 477	Social Marketing in Nutrition	
Supervision Elective		
Complete two courses from the following:		6
NUFD 411	Managing Programs	
NUFD 412	Nutrition Education Techniques	
NUFD 496	Special Topics in Health and Wellness	
Collateral Courses		
BIOL 243	Human Anatomy and Physiology	4
CHEM 113	Fundamentals of Chemistry	4
STAT 109	Statistics	3
Required Minor		
Select one of the required minors (see below)		18
Total Credits		53

Required Minor (complete one)

Business Minor (<http://catalog.montclair.edu/programs/business-minor/>)

Communication Studies Minor (<http://catalog.montclair.edu/programs/communication-studies-minor/>)

Entrepreneurship Minor (<http://catalog.montclair.edu/programs/entrepreneurship-minor/>)

Gerontology Minor (<http://catalog.montclair.edu/programs/gerontology-minor/>)

Journalism Minor (<http://catalog.montclair.edu/programs/journalism-minor/>)

Political Science Minor (<http://catalog.montclair.edu/programs/political-science-minor/>)

Psychology Minor (<http://catalog.montclair.edu/programs/psychology-minor/>)

Public Administration Minor (<http://catalog.montclair.edu/programs/public-administration-minor/>)

Public Health Minor (<http://catalog.montclair.edu/programs/public-health-minor/>)

Social Work Minor (<http://catalog.montclair.edu/programs/social-work-minor/>)

Sociology Minor (<http://catalog.montclair.edu/programs/sociology-minor/>)

Sports Nutrition Minor (<http://catalog.montclair.edu/programs/sports-nutrition-minor/>)

Dietetics

Code	Title	Credits
Required Courses		
NUFD 255	Meal Design and Management	3
NUFD 381	Applied Nutrition in the Lifecycle	3
NUFD 382	Advanced Nutrition	4
NUFD 383	Applied Community Nutrition	3
NUFD 398	Dietetics Professional Seminar	3
NUFD 399	Medical Nutrition Applications	3
NUFD 403	Planning and Evaluating Programs	3
NUFD 482	Nutrition Counseling	3
NUFD 488	Medical Nutrition Therapy I	3
Required Electives		
Complete three courses from the following:		9
NUFD 412	Nutrition Education Techniques	
NUFD 450	Quantity Food Applications	
NUFD 452	Organization and Management of Foodservice Systems	
NUFD 496	Special Topics in Health and Wellness	
Collateral Courses		
BIOL 243	Human Anatomy and Physiology	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
PSYC 101	Introduction to Psychology	3
Total Credits		64

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

² Students in the combined BS/MS program take Graduate Swing courses in lieu of major electives.

Sustainable Food Systems Concentration

Code	Title	Credits
Required Courses		
NUFD 299	Professional Development for Careers in Nutrition, Food Science and Wellness	3
NUFD 376	Quantity Food Purchasing and Production	3
NUFD 409	Internship in Nutrition and Food Science	3
NUFD 452	Organization and Management of Foodservice Systems	3
NUFD 476	Food Ethics, Sustainability and Alternatives	3
NUFD 492	Food Systems and Agribusiness Issues	3
Culinary Laboratory Electives		
Complete two courses from the following:		6
NUFD 310	International Cultures and Cuisines	
NUFD 353	Catering and Banquet Management	
NUFD 387	Edible Innovations: Emerging Food Technologies	
NUFD 426	Fundamentals of Healthy Cuisine	
NUFD 450	Quantity Food Applications	
Required Electives		
Complete one course from the following:		3
NUFD 202	Food in World History	
NUFD 286	Gender in Food and Nutrition Issues	
NUFD 465	Urban Agriculture and Sustainable Food Systems	
NUFD 470	Special Topics in Nutrition and Food Science	
NUFD 494	Concepts of the Sommelier	
Collateral Courses		
CHEM 113	Fundamentals of Chemistry	4
STAT 109	Statistics	3
Total Credits		34

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.

Applied Nutrition and Wellness Concentration

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

Second Year		
Fall	Credits Spring	Credits
SEEDS: Exploration 3	3 SEEDS: Political and Civic Life	3
SEEDS: Interactive Communication	3 NUFD 285	3
NUFD 240	1 NUFD 299	3
BIOL 243	4 Free Elective	3
Free Elective	4 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 NUFD 409	3
NUFD 381	3 NUFD 410	3
Minor course	3 Minor Course	3
Free Elective	3 Free Elective	3
15		15

Fourth Year		
Fall	Credits Spring	Credits
NUFD 404	3 Supervision Elective	3
Application Elective	3 Supervision Elective	3
Minor Course	3 Minor Course	3
Minor Course	3 Minor Course	3
Free Elective	3 Free Elective	3
15		15

Total Credits 120

Dietetics Concentration

First Year		
Fall	Credits Spring	Credits
SEEDS: New Student Seminar	1 SEEDS: Effective Writing II	3

SEEDS: Effective Writing I	3 SEEDS: Interactive Communication	3
SEEDS: Political and Civic Life	3 NUFD 150	3
NUFD 130	1 NUFD 153 (Fulfills SEEDS: Exploration 2 – Analyzing Cultures and Societies)	3
NUFD 192 (Fulfills SEEDS: Exploration 1 - Scientific Reasoning)	4 CHEM 130	4
CHEM 113	4	
16		16

Second Year

Fall	Credits	Spring	Credits
SEEDS: World Language 1	3	SEEDS: World Language 2	3
SEEDS: Exploration 3	3	SEEDS: Exploration 4	3
NUFD 240	1	NUFD 255	3
CHEM 270	5	PSYC 101	3
STAT 109 (Fulfills SEEDS: Quantitative Reasoning)	3	Free Elective	3
15		15	

Third Year

Fall	Credits	Spring	Credits
NUFD 381	3	NUFD 403	3
NUFD 383	3	NUFD 482	3
BIOL 243	4	BIOL 255	4
Free Elective	3	Free Elective	4
13		14	

Fourth Year

Fall	Credits	Spring	Credits
NUFD 382	4	NUFD 398	3
NUFD 399	3	NUFD 404	3
Required Elective course	3	NUFD 488	3
Required Elective course	3	Required Elective course	3
Free Elective	3	Free Elective	3
16		15	

Total Credits 120

Food Science Concentration

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

Sustainable Food Systems Concentration

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: Interactive Communication	3 SEEDS: World Language 1	3
SEEDS: Effective Writing II	3 SEEDS: Political and Civic Life	3
NUFD 240	1 SEEDS: Exploration 3	3
Free Elective	4 Free Elective	3
Free Elective	4 Free Elective	3
	15	15

Third Year

Fall	Credits Spring	Credits
SEEDS: Exploration 4	3 SEEDS: World Language 2	3
NUFD 299	3 NUF 452	3
NUFD 376	3 Required Elective course	3
Free Elective	3 Free Elective	3
Free Elective	3 Free Elective	3
	15	15

Fourth Year

Fall	Credits Spring	Credits
NUFD 404	3 NUF 409	3
NUFD 492	3 NUF 476	3
Culinary Laboratory Elective	3 Culinary Laboratory Elective	3
Free Elective	3 Free Elective	3
Free Elective	3 Free Elective	3
	15	15

Total Credits 120