NUTRITION AND FOOD SCIENCE MAJOR

Program Director: Sara Kao

The department offers three areas of concentration: dietetics, food science, and nutritional science. Each concentration provides for competencies in several areas of work; however, each concentration is designed specifically for certain professional careers.

The dietetics concentration develops an understanding and competency in food, nutrition, dietetics management, clinical nutritional care, community nutrition, counseling and education. The dietetics concentration is approved by the *Accreditation Council for Education in Nutrition and Dietetics (ACEND).* Dietetics program graduates must apply and complete a post-baccalaureate internship prior to taking a national exam to become a registered dietitian. The course work in the dietetics option provides a strong foundation in science. Students share classes with undergraduate students majoring in biology, chemistry, biochemistry, food science; graduate students in nutrition; and those on pre-med or pre-health track.

The food science concentration is concerned with the application of the fundamental principles of the physical, biological, and behavioral sciences and engineering to understand the complex and heterogeneous materials recognized as food. The food science concentration is approved by the Institute of Food Technologists and prepares students for careers in food industry and food safety.

The nutritional science concentration emphasizes the physical and biological sciences in relation to nutrition and the development of laboratory skills in these areas. Students in this concentration frequently elect to go on to graduate or medical school.

Admission to the Major

The major in Nutrition and Food Science is not a Limited Enrollment Program (LEP). Students may either declare the major at the time of application or transfer into the major at any time thereafter. If interested in transferring into the NFSC major, please contact the departmental office and ask to speak with an advisor.

Program Learning Outcomes

1. Competency in integrating laboratory skills into analysis of food.
2. Competency in assessing the nutritional status of a patient and in developing an appropriate nutrition treatment plan for the patient

REQUIREMENTS

All students are required to earn a grade of "C-" or better in courses applied toward satisfaction of the major. This includes all required courses with a prefix of NFSC, as well as certain required courses in supporting fields. A list of these courses for each program may be obtained from the department office.

Course	Title	Credits
Base Curriculum for All Concentrations		
NFSC100	Elements of Nutrition	3
NFSC112	Food: Science and Technology	3
BSCI170 & BSCI171	Principles of Molecular & Cellular Biology and Principles of Molecular & Cellular Biology Laboratory	4
BSCI223	General Microbiology	4
CHEM131	Chemistry I - Fundamentals of General Chemistry	3
CHEM132	General Chemistry I Laboratory	1
CHEM231	Organic Chemistry I	3
CHEM232	Organic Chemistry Laboratory I	1
CHEM241	Organic Chemistry II	3
CHEM242	Organic Chemistry Laboratory II	1
CHEM271	General Chemistry and Energetics	2
CHEM272	General Bioanalytical Chemistry Laboratory	2
Concentration Requirements (select one of the following):		**50-66**
Dietetics		
Food Science		
Nutritional Science		
Total Credits		**80-96**

Concentrations: Dietetics

Course	Title	Credits
NFSC315	Nutrition During the Life Cycle	3
NFSC350	Foodservice Operations	5
NFSC380	Methods of Nutritional Assessment	3
NFSC440	Advanced Human Nutrition	4
NFSC470	Community Nutrition	3
NFSC455	Medical Nutrition Therapy I	4
NFSC456	Medical Nutrition Therapy II	4
NFSC491	Professional Issues and Opportunities in Dietetics	3
BCHM461	Biochemistry I	3
BCHM462	Biochemistry II	3
BMGT364	Managing People and Organizations	3
BSCI330	Cell Biology and Physiology	4
BSCI450	Mammalian Systems Physiology	3
MATH113 or MATH115	College Algebra and Trigonometry Precalculus	3
PSYC100	Introduction to Psychology (SB)	3
EDMS451 or BIOM301	Introduction to Educational Statistics Introduction to Biometrics	3
SOCY100	Introduction to Sociology (SB)	3
Dietetics Restricted Elective (Choose from list below)		**12**
AREC250	Elements of Agricultural and Resource Economics	
BMGT220	Principles of Accounting I	
BMGT360	Strategic Management of Human Capital	
BSCI222	Principles of Genetics	
BSCI422	Principles of Immunology	
EDCP210	Peer Counseling Skills and Mental Health Advocacy	
KNES360	Physiology of Exercise	
NFSC421	Food Chemistry	
NFSC425		
NFSC430	Food Microbiology	

NFSC498	Selected Topics	
NFSC450	Food and Nutrient Analysis	
Alternate course by approval of advisor		
Total Credits		**69**

Food Science

Course	Title	Credits
NFSC398	Seminar	1
NFSC412	Food Processing Technology	4
NFSC414	Mechanics of Food Processing	4
NFSC421	Food Chemistry	3
NFSC422	Food Product Research and Development	3
NFSC423	Food Chemistry Laboratory	3
NFSC430	Food Microbiology	3
NFSC431	Food Quality Control	4
NFSC434	Food Microbiology Laboratory	3
NFSC450	Food and Nutrient Analysis	3
BCHM463	Biochemistry of Physiology	3
BIOM301	Introduction to Biometrics	3
MATH120	Elementary Calculus I	3
or MATH140	Calculus I	
MATH121	Elementary Calculus II	3
or MATH141	Calculus II	
PHYS121	Fundamentals of Physics I	4
Food Science Restricted Elective (Choose from list below)		**3**
AREC250	Elements of Agricultural and Resource Economics	
BMGT220	Principles of Accounting I	
BMGT360	Strategic Management of Human Capital	
BSCI222	Principles of Genetics	
BMGT364	Managing People and Organizations	
BSCI422	Principles of Immunology	
ENST333	Ecosystem Health and Protection	
KNES360	Physiology of Exercise	
NFSC425		
Alternate course by approval of advisor		
Total Credits		**50**

Nutritional Science

Course	Title	Credits
NFSC315	Nutrition During the Life Cycle	3
NFSC421	Food Chemistry	3
NFSC440	Advanced Human Nutrition	4
NFSC450	Food and Nutrient Analysis	3
BCHM461	Biochemistry I	3
BCHM462	Biochemistry II	3
BCHM464	Biochemistry Laboratory	3
BCHM465	Biochemistry III	3
BIOM301	Introduction to Biometrics	3
BSCI222	Principles of Genetics	4
BSCI330	Cell Biology and Physiology	4
BSCI450	Mammalian Systems Physiology	3
MATH120	Elementary Calculus I	3
or MATH140	Calculus I	
PHYS121	Fundamentals of Physics I	4
Nutritional Science Restricted Elective (Choose from list below)		**3**
BSCI410	Molecular Genetics	
BSCI422	Principles of Immunology	
BSCI430	Developmental Biology	
BSCI447	General Endocrinology	
NFSC380	Methods of Nutritional Assessment	
NFSC455	Medical Nutrition Therapy I	
NFSC470	Community Nutrition	
Alternate course by approval of advisor		
Total Credits		**49**

Nutritional Science restricted elective list

Course	Title	Credits
NFSC380	Methods of Nutritional Assessment	3
NFSC456	Medical Nutrition Therapy II	4
NFSC470	Community Nutrition	3
BSCI410	Molecular Genetics	3
BSCI422	Principles of Immunology	3
BSCI430	Developmental Biology	3
BSCI447	General Endocrinology	3
Or alternate course by approval of advisor		

GRADUATION PLANS

Click here (https://agnr.umd.edu/academics/advising/four-year-plans/) for roadmaps for graduation plans in the College of Agricultural and Natural Resources.

Additional information on developing a graduation plan can be found on the following pages:

- http://4yearplans.umd.edu
- the Student Academic Success-Degree Completion Policy (https://academiccatalog.umd.edu/undergraduate/registration-academic-requirements-regulations/academic-advising/#success) section of this catalog