NUTRITIONAL SCIENCE (HHSCI)

Nutritional science looks at the connection between diet and health. Students learn how diet can play a crucial role in the cause, treatment, and prevention of many diseases. The pre-health and research coursework in the degree program prepares students for work in research laboratories, graduate study in nutrition or biological sciences, or entrance into health professional programs, such as medical, dental, physician assistant, and pharmacy schools. Students gain a strong science education along with human nutrition expertise.

The department also offers a nutrition minor (https://catalog.iastate.edu/collegeofagricultureandlifesciences/foodscienceandhumannutrition/#undergraduateminortext).

Student Learning Outcomes

Upon graduation, students should be able to:

- Communicate effectively in their field of study using written, oral, visual and/or electronic forms.
- Demonstrate proficiency in ethical data collection and interpretation, literature review and citation, critical thinking and problem solving.
- Participate effectively in a group or team.
- Integrate creativity, innovation, or entrepreneurship in ways that produce value.
- Explain how human activities impact the natural environment and how societies are affected.
- Meet program specific learning outcomes for the Nutritional Science major.

The department also offers a nutrition minor (https://catalog.iastate.edu/collegeofhumansciences/foodscienceandhumannutrition/#undergraduateminortext).

Degree Requirements

Administered by the Department of Food Science and Human Nutrition

Total Degree Requirement: 120 cr.

Students must fulfill International Perspectives and U.S. Cultures and Communities requirements by selecting coursework from approved lists. These courses may also be used to fulfill other area requirements. Only 65 cr. from a two-year institution may apply to the degree which may include up to 16 technical cr.; 9 P-NP cr. of electives; 2.00 minimum GPA.

International Perspectives: 3 cr.
U.S. Cultures and Communities: 3 cr.
Communications and Library: 13 cr.

ENGL 1500	Critical Thinking and Communication	3
ENGL 2500	Written, Oral, Visual, and Electronic Composition	3
Select from:		3
ENGL 3020	Business Communication	
ENGL 3090	Proposal and Report Writing	
ENGL 3140	Technical Communication	
LIB 1600	Introduction to College Level Research	1
SPCM 2120	Fundamentals of Public Speaking	3
Total Credits		**13**

Humanities and Social Sciences: 6-12 cr.

Select Humanities courses from approved list		3
Select Social Science course from approved list		3
If CHHS student, select:		6
Additional Humanities course		
Additional Humanities or Social Science course		

Ethics: 3 cr.

FSHN 3420	World Food Issues: Past and Present	3

Mathematical Sciences: 6-12 cr.

Select at least 3 credits from:		3-8
MATH 1400	College Algebra	
MATH 1430	Preparation for Calculus	
MATH 1600	Survey of Calculus	
MATH 1650	Calculus I	
MATH 1650 & MATH 1660	Calculus I and Calculus II	
Select at least 3 credits from:		3-4
STAT 1010	Principles of Statistics	
STAT 1040	Introduction to Statistics	
Total Credits		**6-12**

Physical Sciences: 13 cr.

CHEM 1770	General Chemistry I	4
CHEM 1770L	Laboratory in General Chemistry I	1
CHEM 1780	General Chemistry II	3
CHEM 1780L	Laboratory in College Chemistry II	1
CHEM 2310	Elementary Organic Chemistry	3
or CHEM 3310	Organic Chemistry I	
CHEM 2310L	Laboratory in Elementary Organic Chemistry	1
or CHEM 3310L	Laboratory in Organic Chemistry I	
Total Credits		**13**

Biological Sciences: 24-29 cr.

BIOL 2110	Principles of Biology I	3
BIOL 2110L	Principles of Biology Laboratory I	1
BIOL 2120	Principles of Biology II	3

BIOL 2120L	Principles of Biology Laboratory II	1
BIOL 2550	Fundamentals of Human Anatomy	3
BIOL 2550L	Fundamentals of Human Anatomy Laboratory	1
Select at least 3 credits from:		3-4
BIOL 2560 & 2560L	Fundamentals of Human Physiology and Fundamentals of Human Physiology Laboratory	
or BIOL 335C	Principles of Human and Other Animal Physiology	
BIOL 3130	Principles of Genetics	3
Select at least 3 credits from:		3-6
BBMB 3010	Survey of Biochemistry	
BBMB 3030	General Biochemistry	
BBMB 3160	Principles of Biochemistry	
BBMB 4040 & BBMB 4050	Biochemistry I and Biochemistry II	
MICRO 2010	Introduction to Microbiology	2-3
or MICRO 3020	Biology of Microorganisms	
MICRO 3000L	Introductory Microbiology Laboratory	1
Total Credits		**24-29**

Food Science and Human Nutrition: 31 cr.

FSHN 1100	Professional and Educational Preparation	1
FSHN 1670	Introductory Human Nutrition and Health	3
FSHN 2650	Metabolism, Nutrition and Health	3
FSHN 2670	Clinical Perspectives on Nutrition	1
FSHN 3600	Advanced Nutrition and the Regulation of Metabolism in Health and Disease	3
FSHN 3610	Nutrition and Health Assessment	2
FSHN 3620	Nutrition and Health Throughout the Lifecycle	3
FSHN 4670	Molecular Basis of Nutrition in Disease Etiology and Health Promotion	3
FSHN 4920	Research Concepts in Human Nutrition	2
Select at least 10 additional credits from:		10
FSHN 2030	Contemporary Issues in Food Science and Human Nutrition	
FSHN 2420	The US Food System	
FSHN 2600X	Sports Nutrition	
FSHN 3010	Precision Medicine in Integrated Health	
FSHN 3640	Nutrition and Prevention of Chronic Disease	
FSHN 3650	Obesity and Health	
FSHN 3670	Medical Terminology for Health Professionals	
FSHN 4300	U.S. Health Systems and Policy	
FSHN 4600	Global Nutrition, Health and Sustainability	
FSHN 4610	Medical Nutrition and Disease I	
FSHN 4630	Community Nutrition and Health	
FSHN 4640	Medical Nutrition and Disease II	
FSHN 4660	Nutrition Counseling and Education Methods	
FSHN 4900C	Independent Study: Nutrition	
FSHN 4990	Undergraduate Research	
NUTRS 5040	Nutrition and Epigenetic Regulation of Gene Expression	
NUTRS 5100	Advanced Nutrition and Metabolism in Health and Disease: Macronutrients	
NUTRS 5110	Advanced Nutrition and Metabolism in Health and Disease: Micronutrients	
BIOL 3140	Principles of Molecular Cell Biology	
CHEM 3320	Organic Chemistry II	
CHEM 3320L	Laboratory in Organic Chemistry II	
PHYS 1310 & 1310L	General Physics I and General Physics I Laboratory	
or PHYS 2310 & 2310L	Introduction to Classical Physics I and Introduction to Classical Physics I Laboratory	
PHYS 1320 & 1320L	General Physics II and General Physics II Laboratory	
or PHYS 2320 & 2320L	Introduction to Classical Physics II and Introduction to Classical Physics II Laboratory	
Total Credits		**31**

Electives: 1-24 cr. Select from any university coursework to earn at least 120 total credits. Students planning to apply to health professional programs should review entrance requirements and select appropriate courses as electives.

Go to FSHN courses. (https://catalog.iastate.edu/azcourses/fs_hn/)

Nutritional Science, B.S.

First Year

Fall	Credits	Spring	Credits
FSHN 1100	1	FSHN 1670	3
CHEM 1770	4	CHEM 1780	3
CHEM 1770L	1	CHEM 1780L	1
BIOL 2110	3	BIOL 2120	3
BIOL 2110L	1	BIOL 2120L	1
ENGL 1500	3	MATH 1400, 1430, 1600, or 1650	3-4
LIB 1600	1		
Humanities	3		
	17		**14-15**

Second Year

Fall	Credits	Spring	Credits
CHEM 2310 or 3310	3	FSHN 2650	3
CHEM 2310L or 3310L	1	FSHN 2670	1
BIOL 3130	3	BBMB 3010, BBMB 3030, BBMB 3160, or BBMB 4040 and 4050 the next year	3
STAT 1010 or 1040	3-4	Social Science	3
ENGL 2500	3	Humanities (CHHS) or elective	3
SPCM 2120	3	Elective*	2
	16-17		**15**

Third Year

Fall	Credits	Spring	Credits
BIOL 2550	3	BIOL 2560 and 2560L, or 3350	3-4
BIOL 2550L	1	FSHN 3610	2
FSHN 3600	3	FSHN 3620	3
FSHN 3420	3	Humanities/Social Sci. (CHHS) or elective (CALS)*	3
MICRO 2010 or 3020	2-3	Additional course from approved list**	3
MICRO 3000L	1		
Elective*	3		
	16-17		**14-15**

Fourth Year

Fall	Credits	Spring	Credits
FSHN 4920	2	FSHN 4670	3
Additional course from approved list**	3	ENGL 3020, 3090, or 3140	3
Additional course from approved list**	3	U.S. Cultures and Communities (if not already taken) or elective*	3
Additional course from approved list**	1	Elective*	3-4
Elective*	3	Elective*	3
Elective*	3		
	15		**15-16**

* Choose elective courses to total equal to or greater than 120 credits.

** Select at least 10 additional credits from: BIOL 3140, CHEM 3320, CHEM 3320L, FSHN 2030, FSHN 2420, FSHN 2600X, FSHN 3010, FSHN 3640, FSHN 3650, FSHN 3670, FSHN 4300, FSHN 4600, FSHN 4610, FSHN 4630, FSHN 4640, FSHN 4660, FSHN 4900C, FSHN 4990, NUTRS 5040, NUTRS 5100, NUTRS 5110, PHYS 1310/PHYS 1310L or PHYS 2310/PHYS 2310L, PHYS 1320 / PHYS 1320L, PHYS 2320/PHYS 2320L.

Note: This sequence is only an example. The number of credits taken each semester should be based on the individual student's situation. Factors that may affect credit hours per semester include student ability, employment, health, activities, and grade point consideration.

More information on the Nutrition minor can be found here: http://catalog.iastate.edu/collegeofagricultureandlifesciences/foodscienceandhumannutrition/#undergraduateminortext (https://catalog.iastate.edu/collegeofagricultureandlifesciences/foodscienceandhumannutrition/#undergraduateminortext).

The Department of Food Science and Human Nutrition offers a Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) in Nutritional Sciences. More information can be found here: https://www.grad-college.iastate.edu/academics/programs/apresults.php?id=84.