FOOD SCIENCE, B.S.

REQUIREMENTS

UNIVERSITY GENERAL EDUCATION REQUIREMENTS

All undergraduate students at the University of Wisconsin–Madison are required to fulfill a minimum set of common university general education requirements to ensure that every graduate acquires the essential core of an undergraduate education. This core establishes a foundation for living a productive life, being a citizen of the world, appreciating aesthetic values, and engaging in lifelong learning in a continually changing world. Various schools and colleges will have requirements in addition to the requirements listed below. Consult your advisor for assistance, as needed. For additional information, see the university Undergraduate General Education Requirements (http://guide.wisc.edu/undergraduate/#requirementsforundergraduatestudytext) section of the *Guide*.

General Education

- Breadth—Humanities/Literature/Arts: 6 credits
- Breadth—Natural Science: 4 to 6 credits, consisting of one 4- or 5-credit course with a laboratory component; or two courses providing a total of 6 credits
- Breadth—Social Studies: 3 credits
- Communication Part A & Part B *
- Ethnic Studies *
- Quantitative Reasoning Part A & Part B *

* The mortarboard symbol appears before the title of any course that fulfills one of the Communication Part A or Part B, Ethnic Studies, or Quantitative Reasoning Part A or Part B requirements.

COLLEGE OF AGRICULTURAL AND LIFE SCIENCES REQUIREMENTS

In addition to the University General Education Requirements, all undergraduate students in CALS must satisfy a set of college and major requirements. Courses may not double count within university requirements (General Education and Breadth) or within college requirements (First-Year Seminar, International Studies, Science, and Capstone), but courses counted toward university requirements may also be used to satisfy a college and/or a major requirement; similarly, courses counted toward college requirements may also be used to satisfy a university and/or a major requirement.

COLLEGE REQUIREMENTS FOR ALL CALS B.S. DEGREE PROGRAMS

Code	Title	Credits
Quality of Work: Students must maintain a minimum cumulative grade point average of 2.000 to remain in good standing and be eligible for graduation.		
Residency: Students must complete 30 degree credits in residence at UW–Madison after earning 86 credits toward their undergraduate degree.		
First Year Seminar (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#requirementstext)		1
International Studies (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#requirementstext)		3
Physical Science Fundamentals		4-5
CHEM 103	General Chemistry I	
or CHEM 108	Chemistry in Our World	
or CHEM 109	Advanced General Chemistry	
Biological Science		5
Additional Science (Biological, Physical, or Natural)		3
Science Breadth (Biological, Physical, Natural, or Social)		3
CALS Capstone Learning Experience: included in the requirements for each CALS major (see "Major Requirements") (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#requirementstext)		

MAJOR REQUIREMENTS

NUTR SCI/A A E/AGRONOMY 350 World Hunger and Malnutrition is recommended to fulfill the CALS International Studies requirement.

Code	Title	Credits
Mathematics and Statistics		
This major requires calculus. Prerequisites may need to taken before enrollment in calculus.		
Select one of the following:		5
MATH 217	Calculus with Algebra and Trigonometry II [1]	
MATH 221	Calculus and Analytic Geometry 1	
Select one of the following:		3
STAT 301	Introduction to Statistical Methods	
STAT 371	Introductory Applied Statistics for the Life Sciences	
Chemistry		
Select one of the following:		5-9
CHEM 103 & CHEM 104	General Chemistry I and General Chemistry II	
CHEM 109	Advanced General Chemistry	
CHEM 343	Introductory Organic Chemistry	3
CHEM 344	Introductory Organic Chemistry Laboratory	2
CHEM 345	Intermediate Organic Chemistry	3
Physics		
Select one of the following:		4-5
PHYSICS 201	General Physics	
PHYSICS 207	General Physics	
Biology		
Select one of the following (see below):		16-18
Biochem/Botany/Microbio/Zoology (Path 1)		
Biocore (Path 2)		
Foundation		
Econ or Ag & Applied Econ		
Select one of the following:		3
A A E 215	Introduction to Agricultural and Applied Economics	
A A E 323	Cooperatives and Alternative Forms of Enterprise Ownership	

ECON 101	Principles of Microeconomics	
ECON 111	Principles of Economics-Accelerated Treatment	
Nutritional Science		
NUTR SCI/BIOCHEM 510	Nutritional Biochemistry and Metabolism	3
or NUTR SCI 332	Human Nutritional Needs	
Core		
FOOD SCI 301	Introduction to the Science and Technology of Food	3
AN SCI/FOOD SCI 321	Food Laws and Regulations	1
FOOD SCI/MICROBIO 324	Food Microbiology Laboratory	2
FOOD SCI/MICROBIO 325	Food Microbiology	3
FOOD SCI 410	Food Chemistry	3
FOOD SCI 412	Food Analysis	4
FOOD SCI 432	Principles of Food Preservation	3
FOOD SCI 440	Principles of Food Engineering	3
FOOD SCI 514	Integrated Food Functionality	4
FOOD SCI 532	Integrated Food Manufacturing	4
Integrated Food Product Elective		
Select one of the following (2 credits minimum):		2
FOOD SCI 511	Chemistry and Technology of Dairy Products	
FOOD SCI/AN SCI 515	Commercial Meat Processing	
FOOD SCI 535	Confectionery Science and Technology	
FOOD SCI 550 & FOOD SCI 551	Fermented Foods and Beverages and Food Fermentation Laboratory	
FOOD SCI 550 & FOOD SCI 552	Fermented Foods and Beverages and Food Fermentation Laboratory: The Science of Wine	
Science Elective		
Any 400-level or above course with Physical Science designation		3
Capstone		
FOOD SCI 602	Senior Project	2
FOOD SCI 603	Senior Seminar	1
Total Credits		**85-92**

[1] MATH 217 Calculus with Algebra and Trigonometry II requires MATH 171 Calculus with Algebra and Trigonometry I as a prerequisite.

BIOLOGY PATHS

BIOCHEM/BOTANY/MICROBIO/ZOOLOGY (PATH 1)

Code	Title	Credits
BIOLOGY/BOTANY/ZOOLOGY 151	Introductory Biology	5
Select one of the following:		3-5
Any 400-level or above course with Biological Science designation		
BIOLOGY/BOTANY/ZOOLOGY 152	Introductory Biology	
MICROBIO 101	General Microbiology	3
or MICROBIO 303	Biology of Microorganisms	
MICROBIO 102	General Microbiology Laboratory	2
or MICROBIO 304	Biology of Microorganisms Laboratory	
BIOCHEM 501	Introduction to Biochemistry	3
Total Credits		**16-18**

BIOCORE (PATH 2)

Code	Title	Credits
BIOCORE 381	Evolution, Ecology, and Genetics	3
BIOCORE 383	Cellular Biology	3
BIOCORE 485	Principles of Physiology	3
BIOCORE 587	Biological Interactions	3
Select two of the following:		4
BIOCORE 382	Evolution, Ecology, and Genetics Laboratory	
BIOCORE 384	Cellular Biology Laboratory	
BIOCORE 486	Principles of Physiology Laboratory	
Total Credits		**16**

HONORS IN THE MAJOR

Students admitted to the university and to the College of Agricultural and Life Sciences are invited to apply to be considered for admission to the CALS Honors Program.

Admission Criteria for New First-Year Students:

- Complete program application including essay questions

Admission Criteria for Transfer and Continuing UW-Madison Students:

- UW-Madison cumulative GPA of at least 3.25
- Complete program application including essay questions

HOW TO APPLY

The application is available on the CALS Honors Program website (https://cals.wisc.edu/academics/undergraduate-students/outside-the-classroom/honors-program/). Applications are accepted at any time.

New first-year students with accepted applications will automatically be enrolled in Honors in Research. It is possible to switch to Honors in the Major in the student's first semester on campus after receiving approval from the advisor for that major. Transfer and continuing students may apply directly to Honors in Research or Honors in the Major (after approval from the major advisor).

REQUIREMENTS

All CALS Honors programs have the following requirements:

- Earn at least a cumulative 3.25 GPA at UW-Madison (some programs have higher requirements)
- Complete the program-specific requirements listed below
- Submit completed thesis documentation to CALS Academic Affairs

REQUIREMENTS

To earn Honors in the Major, students are required to take at least 20 honors credits. In addition, students must take FOOD SCI 681 Senior Honors Thesis and FOOD SCI 682 Senior Honors Thesis when completing their thesis project; please see the Honors in Major Checklist (http://www.cals.wisc.edu/academics/undergraduate-programs/get-involved/honors-program/honors-in-the-major/) for more information.

UNIVERSITY DEGREE REQUIREMENTS

Total Degree	To receive a bachelor's degree from UW–Madison, students must earn a minimum of 120 degree credits. The requirements for some programs may exceed 120 degree credits. Students should consult with their college or department advisor for information on specific credit requirements.
Residency	Degree candidates are required to earn a minimum of 30 credits in residence at UW–Madison. "In residence" means on the UW–Madison campus with an undergraduate degree classification. "In residence" credit also includes UW–Madison courses offered in distance or online formats and credits earned in UW–Madison Study Abroad/Study Away programs.
Quality of Work	Undergraduate students must maintain the minimum grade point average specified by the school, college, or academic program to remain in good academic standing. Students whose academic performance drops below these minimum thresholds will be placed on academic probation.