NUTRITIONAL SCIENCES, B.S.

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/#requirementsforundergraduatetext) 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 major requirement; similarly, courses counted toward college requirements may also be used to satisfy a university and/or a major requirement.

MAJOR REQUIREMENTS

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Mathematics and Statistics</td>
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<td>Select one of the following (or may be satisfied by placement exam):</td>
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<tr>
<td>MATH 112</td>
<td>Algebra</td>
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<tr>
<td>&amp; MATH 113</td>
<td>and Trigonometry</td>
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<td>MATH 114</td>
<td>Algebra and Trigonometry</td>
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<td>MATH 171</td>
<td>Calculus with Algebra and Trigonometry I 1</td>
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<td>Select one of the following:</td>
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<tr>
<td>STAT 301</td>
<td>Introduction to Statistical Methods</td>
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<tr>
<td>STAT 371</td>
<td>Introductory Applied Statistics for the Life Sciences</td>
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<td>Chemistry</td>
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<td>Select one of the following:</td>
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<tr>
<td>CHEM 103</td>
<td>General Chemistry I</td>
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<td>&amp; CHEM 104</td>
<td>and General Chemistry II</td>
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<td>CHEM 109</td>
<td>Advanced General Chemistry</td>
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<td></td>
<td>Organic Chemistry</td>
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<td>CHEM 343</td>
<td>Organic Chemistry I</td>
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<td>CHEM 344</td>
<td>Introductory Organic Chemistry Laboratory</td>
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<td>CHEM 345</td>
<td>Organic Chemistry II</td>
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<td></td>
<td>Introductory Biology</td>
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<td>Option 1:</td>
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<tr>
<td>BOTANY/</td>
<td>General Botany</td>
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<td>BIOLOGY 130</td>
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<td>ZOOLOGY/</td>
<td>Animal Biology</td>
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<td>BIOLOGY 101</td>
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<td>ZOOLOGY/</td>
<td>Animal Biology Laboratory</td>
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<td>BIOLOGY 102</td>
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<td>Option 2:</td>
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</table>

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/#CALSFirstYearSeminarCourses) 1

International Studies (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#CALSInternationalStudiesCourses) 3

Physical Science Fundamentals 4-5
- CHEM 103 General Chemistry I
- CHEM 108 Chemistry in Our World
- 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/#CALScapstoneRequirement)
<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>BIOLOGY/BOTANY/ZOOLOGY 151</td>
<td>Introductory Biology</td>
</tr>
<tr>
<td>BIOLOGY/BOTANY/ZOOLOGY 152</td>
<td>Introductory Biology</td>
</tr>
</tbody>
</table>

**Option 3:**
- BIOCORE 381 Evolution, Ecology, and Genetics
- BIOCORE 382 Evolution, Ecology, and Genetics Laboratory
- BIOCORE 383 Cellular Biology
- BIOCORE 384 Cellular Biology Laboratory

**Nutritional Sciences Biology**

Select one of the following options: 8-13

**Option 1:**
- ANAT&PHY 335 Physiology
- GENETICS 466 Principles of Genetics

And select one of the following: 2
- MICROBIO 101 General Microbiology
- MICROBIO 102 and General Microbiology Laboratory
- MICROBIO 303 Biology of Microorganisms
- MICROBIO 304 and Biology of Microorganisms Laboratory

**Option 2:** 3
- BIOCORE 485 Principles of Physiology
- BIOCORE 486 Principles of Physiology Laboratory
- BIOCORE 587 Biological Interactions

**Physics**

Select one of the following: 8-10
- PHYSICS 103 General Physics
- PHYSICS 104 and General Physics
- PHYSICS 201 General Physics
- PHYSICS 202 and General Physics
- PHYSICS 207 General Physics
- PHYSICS 208 and General Physics

**Core**
- NUTR SCI/AN SCI/DY SCI 311 Comparative Animal Nutrition 3
- NUTR SCI 332 Human Nutritional Needs
- NUTR SCI 431 Nutrition in the Life Span 3
- BIOCHEM/NUTR SCI 510 Nutritional Biochemistry and Metabolism 3

Select one of the following: 3-7
- BIOCHEM 501 Introduction to Biochemistry
- BIOCHEM 507 General Biochemistry I
- BIOCHEM 508 and General Biochemistry II

**Electives within the Major**

Select 6 credits from the following: 6
- A AE/AGRONOMY/NUTR SCI 350 World Hunger and Malnutrition
- ANAT&PHY 337 Human Anatomy
- ANAT&PHY 338 Human Anatomy Laboratory
- ANTHRO 365 Medical Anthropology
- BIOCHEM 550 Principles of Human Disease and Biotechnology
- BIOCHEM/M M & I 575 Biology of Viruses
- BIOCHEM/NUTR SCI 645 Molecular Control of Metabolism and Metabolic Disease
- C&E SOC/SOC 533 Public Health in Rural & Urban Communities
- CHEM 311 Chemistry Across the Periodic Table
- CHEM 327 Fundamentals of Analytical Science
- CHEM 329 Fundamentals of Analytical Science
- DY SCI 378 Lactation Physiology
- FOOD SCI/AN SCI 321 Food Laws and Regulations
- FOOD SCI/MICROBIO 325 Food Microbiology
- GENETICS 545 Genetics Laboratory
- HORT/AGRONOMY 338 Plant Breeding and Biotechnology
- HORT/AGRONOMY/BOTANY 339 Plant Biotechnology: Principles and Techniques I
- HORT/AGRONOMY 360 Genetically Modified Crops: Science, Regulation & Controversy
- MED HIST/PHILOS 515 Public Health Ethics
- MED HIST/PHILOS 558 Ethical Issues in Health Care
- M M & I/PATH-BIO 528 Immunology
- NUTR SCI 375 Special Topics
- NUTR SCI 377 Cultural Aspects of Food and Nutrition
- NUTR SCI/INTER-AG 421 Global Health Field Experience
- NUTR SCI/KINES 525 Nutrition in Physical Activity and Health
- NUTR SCI 500 Undergraduate Capstone Seminar Laboratory
- NUTR SCI 540 Community Nutrition and Health Equity
- NUTR SCI 541 Advanced Nutrition: Intermediary Metabolism of Macronutrients
- NUTR SCI/BIOCHEM 619 Introduction to Nutritional Epidemiology
- NUTR SCI/POP HLTH 621 Advanced Nutrition: Minerals
- NUTR SCI 625 Advanced Nutrition: Obesity and Diabetes
- NUTR SCI/AN SCI 626 Experimental Diet Design
- NUTR SCI 627 Advanced Nutrition: Vitamins
- NUTR SCI 631 Clinical Nutrition I
- NUTR SCI 681 Senior Honors Thesis
- NUTR SCI 682 Senior Honors Thesis
- NUTR SCI 691 Senior Thesis-Nutrition
- NUTR SCI 692 Senior Thesis

**Core**
- NUTR SCI/AN SCI/DY SCI 311 Comparative Animal Nutrition 3
- NUTR SCI 332 Human Nutritional Needs
- NUTR SCI 431 Nutrition in the Life Span 3
- BIOCHEM/NUTR SCI 510 Nutritional Biochemistry and Metabolism 3

Select one of the following: 3-7
- BIOCHEM 501 Introduction to Biochemistry
- BIOCHEM 507 General Biochemistry I
- BIOCHEM 508 and General Biochemistry II

**Electives within the Major**

Select 6 credits from the following: 6
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- ANAT&PHY 337 Human Anatomy
- ANAT&PHY 338 Human Anatomy Laboratory
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- DY SCI 378 Lactation Physiology
- FOOD SCI/AN SCI 321 Food Laws and Regulations
- FOOD SCI/MICROBIO 325 Food Microbiology
- GENETICS 545 Genetics Laboratory
- HORT/AGRONOMY 338 Plant Breeding and Biotechnology
- HORT/AGRONOMY/BOTANY 339 Plant Biotechnology: Principles and Techniques I
- HORT/AGRONOMY 360 Genetically Modified Crops: Science, Regulation & Controversy
- MED HIST/PHILOS 515 Public Health Ethics
- MED HIST/PHILOS 558 Ethical Issues in Health Care
- M M & I/PATH-BIO 528 Immunology
- NUTR SCI 375 Special Topics
- NUTR SCI 377 Cultural Aspects of Food and Nutrition
- NUTR SCI/INTER-AG 421 Global Health Field Experience
- NUTR SCI/KINES 525 Nutrition in Physical Activity and Health
- NUTR SCI 500 Undergraduate Capstone Seminar Laboratory
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- NUTR SCI/POP HLTH 621 Advanced Nutrition: Minerals
- NUTR SCI 625 Advanced Nutrition: Obesity and Diabetes
- NUTR SCI/AN SCI 626 Experimental Diet Design
- NUTR SCI 627 Advanced Nutrition: Vitamins
- NUTR SCI 631 Clinical Nutrition I
- NUTR SCI 681 Senior Honors Thesis
- NUTR SCI 682 Senior Honors Thesis
- NUTR SCI 691 Senior Thesis-Nutrition
- NUTR SCI 692 Senior Thesis
NUTR SCI 699 Special Problems 6

ONCOLOGY 401 Introduction to Experimental Oncology

PATH 404 Pathophysiologic Principles of Human Diseases

POP HLTH 370 Introduction to Public Health: Local to Global Perspectives

ZOOLOGY 470 Introduction to Animal Development

ZOOLOGY 570 Cell Biology

**Capstone**

Select one of the following: 1-8

- NUTR SCI 500 Undergraduate Capstone Seminar Laboratory
- NUTR SCI 681 Senior Honors Thesis
- NUTR SCI 682 and Senior Honors Thesis
- NUTR SCI 691 Senior Thesis-Nutrition
- NUTR SCI 692 and Senior Thesis
- NUTR SCI 699 Special Problems 7

**Total Credits** 66-91

1 If MATH 171 Calculus with Algebra and Trigonometry I is taken, students must take MATH 217 Calculus with Algebra and Trigonometry II.

2 Consult advisor about combining MICROBIO 303 with MICROBIO 102.

3 If the Biocore sequence is taken to fulfill the first biology requirement, it must be taken to fulfill the second biology requirement.

4 These courses are taught primarily to graduate students. Permission to enroll from instructor may be required.

5 Note that for NUTR SCI 681/NUTR SCI 682 (Senior Honors Thesis) and NUTR SCI 691/NUTR SCI 692 (Senior Thesis), both courses in the sequence must be completed in order to earn a grade.

6 May count up to 6 credits of NUTR SCI 699 Special Problems towards the electives requirement.

7 Consult advisor regarding the possibility of completing NUTR SCI 699 Special Problems for capstone.

### RECOMMENDED NUTRITIONAL SCIENCE ELECTIVES

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tr>
<td>ANTHRO 365</td>
<td>Medical Anthropology</td>
<td>3</td>
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<tr>
<td>BIOCHEM 550</td>
<td>Principles of Human Disease and Biotechnology</td>
<td>2</td>
</tr>
<tr>
<td>BIOCHEM/ M M &amp; I 575</td>
<td>Biology of Viruses</td>
<td>2</td>
</tr>
<tr>
<td>BIOCHEM/ NUTR SCI 645</td>
<td>Molecular Control of Metabolism and Metabolic Disease</td>
<td>3</td>
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<tr>
<td>C&amp;E SOC/SOC 533</td>
<td>Public Health in Rural &amp; Urban Communities</td>
<td>3</td>
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<tr>
<td>CHEM 311</td>
<td>Chemistry Across the Periodic Table</td>
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<td>CHEM 327</td>
<td>Fundamentals of Analytical Science</td>
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<td>CHEM 329</td>
<td>Fundamentals of Analytical Science</td>
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<tr>
<td>AN SCI/ FOOD SCI 305</td>
<td>Introduction to Meat Science and Technology</td>
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<td>FOOD SCI/ AN SCI 321</td>
<td>Food Laws and Regulations</td>
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<td>FOOD SCI/ MICROBIO 325</td>
<td>Food Microbiology</td>
<td>3</td>
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<tr>
<td>GENETICS 545</td>
<td>Genetics Laboratory</td>
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<tr>
<td>HORT/ AGRONOMY 338</td>
<td>Plant Breeding and Biotechnology</td>
<td>3</td>
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<tr>
<td>HORT/ AGRONOMY 360</td>
<td>Genetically Modified Crops: Science, Regulation &amp; Controversy</td>
<td>2</td>
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<tr>
<td>ANAT&amp;PHY 337</td>
<td>Human Anatomy</td>
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<td>ANAT&amp;PHY 338</td>
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<td>MED HIST/ PHILOS 558</td>
<td>Ethical Issues in Health Care</td>
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<td>Immunology</td>
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<td>NUTR SCI/A A E/ AGRONOMY 350</td>
<td>World Hunger and Malnutrition</td>
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<td>NUTR SCI 375</td>
<td>Special Topics</td>
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<td>NUTR SCI 377</td>
<td>Cultural Aspects of Food and Nutrition</td>
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<td>NUTR SCI/INTER-AG 421</td>
<td>Global Health Field Experience</td>
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<td>NUTR SCI 500</td>
<td>Undergraduate Capstone Seminar Laboratory</td>
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<td>NUTR SCI/ KINES 525</td>
<td>Nutrition in Physical Activity and Health</td>
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<td>NUTR SCI 540</td>
<td>Community Nutrition and Health Equity</td>
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<tr>
<td>ONCOLOGY 401</td>
<td>Introduction to Experimental Oncology</td>
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<tr>
<td>PATH 404</td>
<td>Pathophysiologic Principles of Human Diseases</td>
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<tr>
<td>POP HLTH 370</td>
<td>Introduction to Public Health: Local to Global Perspectives</td>
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<td>ZOOLOGY 470</td>
<td>Introduction to Animal Development</td>
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<tr>
<td>ZOOLOGY 570</td>
<td>Cell Biology</td>
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### 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/current-students/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 NUTR SCI 681 Senior Honors Thesis and NUTR SCI 682 Senior Honors Thesis when completing their thesis project; please see the Honors Program page (https://cals.wisc.edu/academics/undergraduate/current-students/honors-program/) 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.