BIOCHEMISTRY, B.A. (L&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 LETTERS & SCIENCE DEGREE REQUIREMENTS: BACHELOR OF ARTS (B.A.)

Students pursuing a bachelor of arts degree in the College of Letters & Science must complete all of the requirements below. The College of Letters & Science allows this major to be paired with either a bachelor of arts or a bachelor of science curriculum.

BACHELOR OF ARTS DEGREE REQUIREMENTS

Mathematics	Complete the University General Education Requirements for Quantitative Reasoning A (QR-A) and Quantitative Reasoning B (QR-B) coursework.
Foreign Language	• Complete the fourth unit of a foreign language; OR • Complete the third unit of a foreign language and the second unit of an additional foreign language.
L&S Breadth	• 12 credits of Humanities, which must include 6 credits of literature; and • 12 credits of Social Science; and • 12 credits of Natural Science, which must include one 3+ credit Biological Science course and one 3+ credit Physical Science course.
Liberal Arts and Science Coursework	Complete at least 108 credits.
Depth of Intermediate/Advanced work	Complete at least 60 credits at the intermediate or advanced level.
Major	Declare and complete at least one major.
Total Credits	Complete at least 120 credits.
UW-Madison Experience	• 30 credits in residence, overall; and • 30 credits in residence after the 86th credit.
Quality of Work	• 2.000 in all coursework at UW–Madison • 2.000 in Intermediate/Advanced level coursework at UW–Madison

NON–L&S STUDENTS PURSUING AN L&S MAJOR

Non–L&S students who have permission from their school/college to pursue an additional major within L&S only need to fulfill the major requirements. They do not need to complete the L&S Degree Requirements above.

REQUIREMENTS FOR THE MAJOR

MATHEMATICS

Mathematics Requirements

Code	Title	Credits
Complete one of the following options:		
MATH 221 & MATH 222	Calculus and Analytic Geometry 1 and Calculus and Analytic Geometry 2	9
MATH 171 & MATH 217 & MATH 222	Calculus with Algebra and Trigonometry I and Calculus with Algebra and Trigonometry II and Calculus and Analytic Geometry 2	14
MATH 275 & MATH 276	and	0

CHEMISTRY

General Chemistry

Code	Title	Credits
Complete one sequence:		
CHEM 103 & CHEM 104	General Chemistry I and General Chemistry II	9
CHEM 109	Advanced General Chemistry	5

CHEM 115 & CHEM 116	Chemical Principles I and Chemical Principles II (satisfies both general and analytical chemistry requirements)	10

Organic Chemistry

Code	Title	Credits
Complete All:		
CHEM 343	Organic Chemistry I	3
CHEM 344	Introductory Organic Chemistry Laboratory	2
CHEM 345	Organic Chemistry II	3

Analytical Chemistry

Code	Title	Credits
Complete one:		
CHEM 327	Fundamentals of Analytical Science	4
CHEM 329	Fundamentals of Analytical Science	4
CHEM 116	Chemical Principles II (satisfies both general and analytical chemistry requirements)	5

Physical Chemistry

Code	Title	Credits
Complete one:		
CHEM 565	Biophysical Chemistry (recommended)	4
CHEM 561 & CHEM 563	Physical Chemistry and Physical Chemistry Laboratory I	4

BIOLOGY

Students must complete either Option A (introductory + upper-level biology), or Option B (Biocore), for 16 total credits of biological science coursework.

Option A
Option A Introductory Biology

Code	Title	Credits
Complete one of the following introductory biology options:		
BIOLOGY/BOTANY/ ZOOLOGY 151 & BIOLOGY/ BOTANY/ ZOOLOGY 152	Introductory Biology and Introductory Biology (recommended)	10
BIOLOGY/ ZOOLOGY 101 & BIOLOGY/ ZOOLOGY 102 & BOTANY/ BIOLOGY 130	Animal Biology and Animal Biology Laboratory and General Botany	10

AND Option A Upper-Level Biology

At least 6 credits of upper-level biological science coursework are required (to achieve 16 total credits—more than 6 credits may be required if introductory biology totals less than 10 credits due to transfer credits). Select from the course list below. To see courses offered in specific upcoming semesters, please see the Biochemistry website (https://biochem.wisc.edu/undergraduate_program/advanced-biology-courses-undergraduate-program/).

Important: A course may not double count in both the "Upper-Level Biology" and the "Biochemistry" requirements for the major. Biochemistry courses on this list can count only for "Upper-Level Biology" if they are above-and-beyond what is needed to fulfill the "Biochemistry" portion of the major. For example, if students have taken BIOCHEM 501 (http://guide.wisc.edu/search/?P=BIOCHEM%20501), they will need one advanced biochemistry elective to fulfill the Biochemistry requirement, and then any additional biochemistry courses taken can count for Upper-Level Biology.

Code	Title	Credits
ANAT&PHY 335	Physiology	5
ANAT&PHY 337	Human Anatomy	3
ANAT&PHY 435	Fundamentals of Human Physiology	5
AGRONOMY 300	Cropping Systems	3
AGRONOMY 302	Forage Management and Utilization	3
AGRONOMY/HORT/ SOIL SCI 326	Plant Nutrition Management	3
AGRONOMY/ HORT 338	Plant Breeding and Biotechnology	3
AGRONOMY/ BOTANY/HORT 339	Plant Biotechnology: Principles and Techniques I	4
AGRONOMY/ BOTANY/HORT 340	Plant Cell Culture and Genetic Engineering	3
AGRONOMY/A A E/ NUTR SCI 350	World Hunger and Malnutrition	3
AGRONOMY/ BOTANY/ SOIL SCI 370	Grassland Ecology	3
AGRONOMY 377	Global Food Production and Health	3
AGRONOMY/ HORT 501	Principles of Plant Breeding	3
AGRONOMY/ ATM OCN/ SOIL SCI 532	Environmental Biophysics	3
AN SCI/ FOOD SCI 305	Introduction to Meat Science and Technology	4
AN SCI/DY SCI/ NUTR SCI 311	Comparative Animal Nutrition	3
AN SCI 314	Poultry Nutrition	3
AN SCI/DY SCI 320	Animal Health and Disease	3
AN SCI/DY SCI 361	Introduction to Animal and Veterinary Genetics	2
AN SCI/DY SCI 362	Veterinary Genetics	2
AN SCI/DY SCI 363	Principles of Animal Breeding	2
AN SCI/DY SCI 370	Livestock Production and Health in Agricultural Development	3
AN SCI/DY SCI 414	Ruminant Nutrition & Metabolism	3
AN SCI 415	Application of Monogastric Nutrition Principles	2
AN SCI 431	Beef Cattle Production	3
AN SCI 432	Swine Production	3
AN SCI/DY SCI 434	Reproductive Physiology	3
AN SCI 503	Avian Physiology	3

AN SCI 508	Poultry Products Technology	3
AN SCI 511	Breeder Flock and Hatchery Management	3
AN SCI 512	Management for Avian Health	3
AN SCI/ FOOD SCI 515	Commercial Meat Processing	2
AN SCI/F&W ECOL/ ZOOLOGY 520	Ornithology	3
AN SCI/F&W ECOL/ ZOOLOGY 521	Birds of Southern Wisconsin	3
AN SCI 610	Quantitative Genetics	3
AN SCI/ NUTR SCI 626	Experimental Diet Design	1
B M E/MED PHYS/ PHMCOL-M/PHYSICS/ RADIOL 619	Microscopy of Life	3
BIOCHEM/ NUTR SCI 510	Nutritional Biochemistry and Metabolism	3
BIOCHEM 550	Principles of Human Disease and Biotechnology	2
BIOCHEM 570	Computational Modeling of Biological Systems	3
BIOCHEM/ M M & I 575	Biology of Viruses	2
BIOCHEM 601	Protein and Enzyme Structure and Function	2
BIOCHEM/B M I/ BMOLCHEM/ MATH 609	Mathematical Methods for Systems Biology	3
BIOCHEM/ GENETICS/ MICROBIO 612	Prokaryotic Molecular Biology	3
BIOCHEM/ NUTR SCI 619	Advanced Nutrition: Intermediary Metabolism of Macronutrients	3
BIOCHEM/ GENETICS/ MD GENET 620	Eukaryotic Molecular Biology	3
BIOCHEM/ BOTANY 621	Plant Biochemistry	3
BIOCHEM 625	Mechanisms of Action of Vitamins and Minerals	2
BIOCHEM 630		3
BIOCHEM/ NUTR SCI 645	Molecular Control of Metabolism and Metabolic Disease	3
BSE 349	Quantitative Techniques for Biological Systems	3
BSE 364	Engineering Properties of Food and Biological Materials	3
BSE 365	Measurements and Instrumentation for Biological Systems	3
BSE/ENVIR ST 367	Renewable Energy Systems	3
BSE 460	Biorefining: Energy and Products from Renewable Resources	3
BSE 461	Food and Bioprocessing Operations	3
BSE 472	Sediment and Bio-Nutrient Engineering and Management	3
BMOLCHEM/ MICROBIO 668	Microbiology at Atomic Resolution	3
B M I/STAT 541	Introduction to Biostatistics	3
B M I/ COMP SCI 576	Introduction to Bioinformatics	3
BOTANY 300	Plant Anatomy	4
BOTANY 305	Plant Morphology and Evolution	4
BOTANY 330	Algae	3
BOTANY/ PL PATH 332	Fungi	4
BOTANY/ AGRONOMY/ HORT 339	Plant Biotechnology: Principles and Techniques I	4
BOTANY 400	Plant Systematics	4
BOTANY 401	Vascular Flora of Wisconsin	4
BOTANY/ F&W ECOL 402	Dendrology: Woody Plant Identification and Ecology	2
BOTANY/ANTHRO/ ZOOLOGY 410	Evolutionary Biology	3
BOTANY 422	Plant Geography	3
BOTANY/ F&W ECOL 455	The Vegetation of Wisconsin	4
BOTANY/ F&W ECOL/ ZOOLOGY 460	General Ecology	4
BOTANY/ENTOM/ ZOOLOGY 473	Plant-Insect Interactions	3
BOTANY/AMER IND/ ANTHRO 474	Ethnobotany	3-4
BOTANY 500	Plant Physiology	3-4
BOTANY/ENTOM/ PL PATH 505	Plant-Microbe Interactions: Molecular and Ecological Aspects	3
BOTANY/ PL PATH 563	Phylogenetic Analysis of Molecular Data	3
BOTANY/HORT/ SOIL SCI 626	Mineral Nutrition of Plants	3
BOTANY/ENVIR ST/ F&W ECOL/ ZOOLOGY 651	Conservation Biology	3
BOTANY/ GENETICS/M M & I/ PL PATH 655	Biology and Genetics of Fungi	3
BOTANY/ LAND ARC 670	Adaptive Restoration Lab	2
CHEM 575	Advanced Topics in Chemistry (Topics in Chemical Biology)	1-4
CRB 625	Stem Cell Seminar	1
CRB 650	Molecular and Cellular Organogenesis	3
DY SCI 378	Lactation Physiology	3
DY SCI 535	Dairy Farm Management Practicum	3
ENTOM/ ZOOLOGY 302	Introduction to Entomology	4
ENTOM 321	Physiology of Insects	3

ENTOM 331	Taxonomy of Mature Insects	4
ENTOM 351	Principles of Economic Entomology	3
ENTOM/ ZOOLOGY 371	Medical Entomology	3
ENTOM 432	Taxonomy and Bionomics of Immature Insects	4
ENTOM/ F&W ECOL 500	Insects in Forest Ecosystem Function and Management	2
ENTOM/ ZOOLOGY 540	Theoretical Ecology	3
ENTOM/GENETICS/ ZOOLOGY 624	Molecular Ecology	3
ENVIR ST/ LAND ARC 361	Wetlands Ecology	3
ENVIR ST/ POP HLTH 471	Introduction to Environmental Health	3
ENVIR ST/ POP HLTH 502	Air Pollution and Human Health	3
ENVIR ST/ F&W ECOL 515	Natural Resources Policy	3
ENVIR ST/ ATM OCN 520	Bioclimatology	3
ENVIR ST 652		3-4
FOOD SCI/ MICROBIO 324	Food Microbiology Laboratory	2
FOOD SCI/ MICROBIO 325	Food Microbiology	3
FOOD SCI 410	Food Chemistry	3
FOOD SCI 440	Principles of Food Engineering	3
FOOD SCI 511	Chemistry and Technology of Dairy Products	3
FOOD SCI 514	Integrated Food Functionality	4
FOOD SCI 550	Fermented Foods and Beverages	2
FOOD SCI 610		2
FOOD SCI 611	Chemistry and Technology of Dairy Products	3
F&W ECOL 300	Forest Measurements	4
F&W ECOL 306	Terrestrial Vertebrates: Life History and Ecology	4
F&W ECOL/ HORT/LAND ARC/ PL PATH 309	Diseases of Trees and Shrubs	3
F&W ECOL 318	Principles of Wildlife Ecology	3
F&W ECOL/ ZOOLOGY 335	Human/Animal Relationships: Biological and Philosophical Issues	3
F&W ECOL/ ENVIR ST/ ZOOLOGY 360	Extinction of Species	3
F&W ECOL 379	Principles of Wildlife Management	3
F&W ECOL 401	Physiological Animal Ecology	3
F&W ECOL 404	Wildlife Damage Management	3
F&W ECOL 410	Principles of Silviculture	3
F&W ECOL 415	Tree Physiology	3
F&W ECOL/ SURG SCI 548	Diseases of Wildlife	3
F&W ECOL 550	Forest Ecology	3
F&W ECOL 561	Wildlife Management Techniques	3
F&W ECOL/ LAND ARC/ ZOOLOGY 565	Principles of Landscape Ecology	2
F&W ECOL 590	Integrated Resource Management	3
F&W ECOL/ AGRONOMY/ ENTOM/ M&ENVTOX 632	Ecotoxicology: The Chemical Players	1
F&W ECOL/ AGRONOMY/ ENTOM/ M&ENVTOX 633	Ecotoxicology: Impacts on Individuals	1
F&W ECOL/ AGRONOMY/ ENTOM/ M&ENVTOX 634	Ecotoxicology: Impacts on Populations, Communities and Ecosystems	1
F&W ECOL 655	Animal Population Dynamics	3
GENETICS 466	Principles of Genetics	3
GENETICS 467	General Genetics 1	3
GENETICS 468	General Genetics 2	3
GENETICS 525	Epigenetics	3
GENETICS 545	Genetics Laboratory	2
GENETICS/ HORT 550	Molecular Approaches for Potential Crop Improvement	3
GENETICS/ MD GENET 565	Human Genetics	3
GENETICS 566	Advanced Genetics	3
HORT 320	Environment of Horticultural Plants	3
HORT/ AGRONOMY 501	Principles of Plant Breeding	3
M M & I 301	Pathogenic Bacteriology	2
M M & I 341	Immunology	3
M M & I/ENTOM/ PATH-BIO/ ZOOLOGY 350	Parasitology	3
M M & I/PATH-BIO 528	Immunology	3
M M & I 554	Emerging Infectious Diseases and Bioterrorism	2
M M & I 603		5
MED PHYS/ H ONCOL 410	Radiobiology	2-3
MED PHYS/ B M E/H ONCOL/ PHYSICS 501	Radiation Physics and Dosimetry	3
MICROBIO 303	Biology of Microorganisms	3
MICROBIO 304	Biology of Microorganisms Laboratory	2
MICROBIO 330	Host-Parasite Interactions	3
MICROBIO/AN SCI/ BOTANY 335	The Microbiome of Plants, Animals, and Humans	3
MICROBIO 345	Introduction to Disease Biology	3
MICROBIO/ SOIL SCI 425	Environmental Microbiology	3

MICROBIO 450	Diversity, Ecology and Evolution of Microorganisms	3
MICROBIO 470	Microbial Genetics & Molecular Machines	3
MICROBIO 520	Planetary Microbiology: What Life Here Tells Us About Life Out There	3
MICROBIO/ SOIL SCI 523	Soil Microbiology and Biochemistry	3
MICROBIO 525	Field Studies of Planetary Microbiology and Life in the Universe	3
MICROBIO 526	Physiology of Microorganisms	3
MICROBIO 527	Advanced Laboratory Techniques in Microbiology	2
MICROBIO 551	Capstone Research Project in Microbiology	2
MICROBIO 607	Advanced Microbial Genetics	3
MICROBIO 632	Industrial Microbiology/ Biotechnology	2
NTP/ NEURODPT 610	Cellular and Molecular Neuroscience	4
NTP/NEURODPT/ PSYCH 611	Systems Neuroscience	4
NTP/ NEURODPT 629	Molecular and Cellular Mechanisms of Memory	3
NUTR SCI 332	Human Nutritional Needs	3
NUTR SCI 431	Nutrition in the Life Span	3
ONCOLOGY 401	Introduction to Experimental Oncology	2
ONCOLOGY/ M&ENVTOX/ PHM SCI/PHMCOL-M/POP HLTH 625	Toxicology I	3
PHM SCI 310	Drugs and Their Actions	2
PHM SCI/B M E 430	Biological Interactions with Materials	3
PHYSICS/B M E/ MED PHYS/ PHMCOL-M/ RADIOL 619	Microscopy of Life	3
PL PATH 300	Introduction to Plant Pathology	4
PL PATH/ SOIL SCI 323	Soil Biology	3
PL PATH 517	Plant Disease Resistance	2-3
PL PATH 558	Biology of Plant Pathogens	3
PL PATH 559	Diseases of Economic Plants	3
PL PATH 602	Ecology, Epidemiology and Control of Plant Diseases	3
PL PATH 622	Plant-Bacterial Interactions	2-3
PL PATH/ ONCOLOGY 640	General Virology-Multiplication of Viruses	3
PSYCH 454	Behavioral Neuroscience	3
SOIL SCI/ F&W ECOL 451	Environmental Biogeochemistry	3
SOIL SCI/ CIV ENGR 623	Microbiology of Waterborne Pathogens and Indicator Organisms	3
SOIL SCI/ CIV ENGR/ M&ENVTOX 631	Toxicants in the Environment: Sources, Distribution, Fate, & Effects	3
ZOOLOGY 300	Invertebrate Biology and Evolution	3
ZOOLOGY 301	Invertebrate Biology and Evolution Lab	2
ZOOLOGY 304	Marine Biology	2
ZOOLOGY/ ENVIR ST 315	Limnology-Conservation of Aquatic Resources	2
ZOOLOGY 316	Laboratory for Limnology-Conservation of Aquatic Resources	2-3
ZOOLOGY 425	Behavioral Ecology	3
ZOOLOGY 430	Comparative Anatomy of Vertebrates	5
ZOOLOGY 470	Introduction to Animal Development	3
ZOOLOGY 504	Modeling Animal Landscapes	3-5
ZOOLOGY/ ENVIR ST 510	Ecology of Fishes	3
ZOOLOGY/ ENVIR ST 511	Ecology of Fishes Lab	2
ZOOLOGY/ PSYCH 523	Neurobiology	3
ZOOLOGY/ GEOSCI 541	Paleobiology	3
ZOOLOGY/ GEOSCI 542	Invertebrate Paleontology	3
ZOOLOGY 555	Laboratory in Developmental Biology	3
ZOOLOGY 570	Cell Biology	3
ZOOLOGY 603	Endocrinology	3-4
ZOOLOGY 611	Comparative and Evolutionary Physiology	3
ZOOLOGY 612	Comparative Physiology Laboratory	2
ZOOLOGY/ ANTHRO/NTP/ PSYCH 619	Biology of Mind	3
ZOOLOGY 625	Development of the Nervous System	2

Option B (Biocore)

Option B (Biocore)

Biocore is an honors-level, integrated sequence of lecture and lab courses that covers introductory and intermediate biology topics. Students must apply and be accepted to the program to take BIOCORE classes.

Code	Title	Credits
Complete these lecture courses:		
BIOCORE 381	Evolution, Ecology, and Genetics	3
BIOCORE 383	Cellular Biology	3
BIOCORE 485	Principles of Physiology	3
BIOCORE 587	Biological Interactions	3
Complete two of these lab classes:		4
BIOCORE 382	Evolution, Ecology, and Genetics Laboratory	
BIOCORE 384	Cellular Biology Laboratory	

BIOCORE 486	Principles of Physiology Laboratory	
Total Credits		**16**

PHYSICS (CALCULUS-BASED)

Physics Requirements

Code	Title	Credits
Complete one of the following options: [1]		
PHYSICS 207 & PHYSICS 208	General Physics and General Physics (recommended)	10
PHYSICS 201 & PHYSICS 202	General Physics and General Physics	10

BIOCHEMISTRY

One set of introductory coursework ***and*** the capstone course are required, for a total of ***three*** BIOCHEM courses.

Introductory Courses

Code	Title	Credits
Select one of the following options:		
BIOCHEM 507 & BIOCHEM 508	General Biochemistry I and General Biochemistry II (recommended)	6-7
OR		
BIOCHEM 501	Introduction to Biochemistry	3
And one of the following advanced biochemistry electives:		
BIOCHEM/ NUTR SCI 510	Nutritional Biochemistry and Metabolism	
BIOCHEM 550	Principles of Human Disease and Biotechnology	
BIOCHEM 570	Computational Modeling of Biological Systems	
BIOCHEM/ M M & I 575	Biology of Viruses	
BIOCHEM 601	Protein and Enzyme Structure and Function	
BIOCHEM/B M I/ BMOLCHEM/ MATH 609	Mathematical Methods for Systems Biology	
BIOCHEM/ GENETICS/ MICROBIO 612	Prokaryotic Molecular Biology	
BIOCHEM/ GENETICS/ MD GENET 620	Eukaryotic Molecular Biology	
BIOCHEM/ BOTANY 621	Plant Biochemistry	
BIOCHEM 625	Mechanisms of Action of Vitamins and Minerals	
BIOCHEM 630		
BIOCHEM/ NUTR SCI 645	Molecular Control of Metabolism and Metabolic Disease	

Capstone

Code	Title	Credits
BIOCHEM 551	Biochemical Methods	4
Total Credits		**4**

RESIDENCE AND QUALITY OF WORK

- 2.000 GPA in all BIOCHEM and major courses
- 2.000 GPA on at least 15 upper-level major credits in Residence. [2]
- 15 credits in BIOCHEM, taken on campus

1

Students should consult with their advisor to discuss options if they have credit for PHYSICS 103 (http://guide.wisc.edu/search/?P=PHYSICS%20103) ***and*** PHYSICS 104 (http://guide.wisc.edu/search/?P=PHYSICS%20104).

2

Major courses numbered 300-699 are considered Upper-Level in the major for purposes of this requirement.

HONORS IN THE MAJOR

Students may declare Honors in the Biochemistry Major in consultation with their Biochemistry undergraduate advisor. To be admitted to Honors in the Major in Biochemistry, students must have declared a major in Biochemistry and have a 3.300 overall university GPA.

HONORS IN THE MAJOR IN BIOCHEMISTRY: REQUIREMENTS

To earn Honors in the Major in Biochemistry, students must satisfy the requirements for the major (above) as well as the following requirements. All courses used for Honors in the Major requirements must receive "B" or better grades to fulfill requirements.

- Earn a 3.300 University GPA
- Earn a 3.300 GPA for all BIOCHEM courses, and all courses accepted in the major
- Complete BIOCHEM 507 and BIOCHEM 508 for Honors
- Complete a two-semester Senior Honors Thesis for 6 credits total
- Complete at least 14 credits of any combination of the following coursework:
  - Honors courses that would fulfill the Biology or Biochemistry requirements in the major (see above)
  - Statistics coursework (does not need to be taken for Honors): STAT 301, STAT 371, or STAT/B M I 541
  - Biochemistry elective coursework beyond the major requirements (does not need to be taken for Honors): NUTR SCI/ BIOCHEM 510, BIOCHEM 550, BIOCHEM 570 M M & I/ BIOCHEM 575, BIOCHEM 601, MATH/B M I/BIOCHEM/ BMOLCHEM 609, MICROBIO/BIOCHEM/GENETICS 612, MD GENET/BIOCHEM/GENETICS 620, BOTANY/ BIOCHEM 621, BIOCHEM 625, BIOCHEM 630, BIOCHEM/ NUTR SCI 645
  - Honors coursework in MATH, CHEM, or PHYSICS, from the list below:

Math

Code	Title	Credits
MATH 275		
MATH 276		
MATH 341	Linear Algebra	3
MATH 375	Topics in Multi-Variable Calculus and Linear Algebra	5
MATH 376	Topics in Multi-Variable Calculus and Differential Equations	5
MATH 521	Analysis I	3
MATH 522	Analysis II	3
MATH 541	Modern Algebra	3
MATH 542	Modern Algebra	3

Chemistry

Code	Title	Credits
CHEM 109	Advanced General Chemistry	5
CHEM 115	Chemical Principles I	5
CHEM 116	Chemical Principles II	5
CHEM 343	Organic Chemistry I	3
CHEM 345	Organic Chemistry II	3
CHEM 344	Introductory Organic Chemistry Laboratory	2
CHEM 329	Fundamentals of Analytical Science	4
CHEM 547	Advanced Organic Chemistry	3
CHEM 561	Physical Chemistry	3
CHEM 565	Biophysical Chemistry	4
CHEM 563	Physical Chemistry Laboratory I	1
CHEM 562	Physical Chemistry	3
CHEM 564	Physical Chemistry Laboratory II	1

Physics

Code	Title	Credits
PHYSICS 201	General Physics	5
PHYSICS 202	General Physics	5
PHYSICS 207	General Physics	5
PHYSICS 208	General Physics	5
PHYSICS 241	Introduction to Modern Physics	3
PHYSICS 247	A Modern Introduction to Physics	5
PHYSICS 248	A Modern Introduction to Physics	5
PHYSICS 249	A Modern Introduction to Physics	4

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.