

BS with a Major in Biological Sciences— Evolution, Ecology, and Environmental Biology Concentration

Degree Requirements

To earn a Bachelor of Science in Liberal Arts and Sciences degree from UIC, students must complete university, college, and departmental degree requirements. The Department of Biological Sciences degree requirements are outlined below. Students should consult the *College of Liberal Arts and Sciences* section for additional degree requirements and college academic policies.

Code	Title	Hours
Summary of Requirements		
Required Prerequisite and Collateral Courses		28
Major Requirements		40
General Education and Electives to reach minimum Total Hours		52
Total Hours		120

General Education

See *General Education and Writing-in-the-Discipline* in the [College of Liberal Arts and Sciences](#) section for information on meeting these requirements. Students should consult the course lists below and their advisors to determine which courses are counted toward the General Education and Writing-in-the-Discipline requirements.

Required Prerequisite and Collateral Courses

Code	Title	Hours
Required Courses		
Select one of the following math courses:		4
MATH 170	Calculus for the Life Sciences ^{a,b}	
MATH 180	Calculus I ^{a,b,c}	
STAT 130	Introduction to Statistics for the Life Sciences	
Select one of the following sequences in physics:		8
PHYS 131	Introductory Physics for Life Sciences I ^b	
PHYS 132	Introductory Physics for Life Sciences II ^b	
OR		
PHYS 141	General Physics I (Mechanics) ^{b,c}	
PHYS 142	General Physics II (Electricity and Magnetism) ^{b,c}	
Select one of the following sequences in general chemistry:		10
CHEM 116	Honors and Majors General and Analytical Chemistry I ^b	
CHEM 118	Honors and Majors General and Analytical Chemistry II ^b	
OR		
CHEM 122	Matter and Energy ^d	
CHEM 123	Foundations of Chemical Inquiry I ^{c,d}	

CHEM 124	Chemical Dynamics ^d	
CHEM 125	Foundations of Chemical Inquiry II ^{c,d}	
CHEM 230 or CHEM 232	Organic Chemistry of Biological Systems Structure and Function	4
CHEM 233	Synthesis Techniques Laboratory	2
Total Hours		28

- a *MATH 170, MATH 180, and STAT 130 fulfill the LAS Quantitative Reasoning requirement.*
- b *This course is approved for the Analyzing the Natural World General Education category.*
- c *MATH 180 and MATH 181 are recommended for students planning advance work in population biology and required for enrollment in PHYS 141 and PHYS 142.*
- d *General Education credit is given for successful completion of both CHEM 122 and CHEM 123 or CHEM 124 and CHEM 125.*

Major Requirements

Of the 40 semester hours for the major, no more than 11 hours may be at the 100 level. At least 9 hours must be from courses designated as Experimental Techniques and Data Analyses. A minimum of 9 hours should be at the 300 and/or 400 level. No more than 5 hours of BIOS independent study and research may be counted toward the major.

Code	Title	Hours
Required Courses		
BIOS 110	Biology of Cells and Organisms ^a	4
BIOS 120	Biology of Populations and Communities ^a	4
BIOS 220	Genetics	3
BIOS 222	Cell Biology	3
BIOS 230	Evolution and Ecology	3

In addition to required courses, students must complete one concentration chosen from General Biology; Molecular, Cellular, and Organismal Biology; or Evolution, Ecology, and Environmental Biology.

Concentration in Evolution, Ecology, and Environmental Biology

Required core courses:

BIOS 331	General Ecology Laboratory ^b	3
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Select at least 6 semester hours in experimental techniques and data analyses from the following:

BIOS 310	Genetics Laboratory ^b	
BIOS 336	Animal Behavior Laboratory ^b	
BIOS 351	Microbiology Laboratory ^b	
BIOS 399	Independent Research ^{b,d}	
BIOS 420	Genomics ^b	
BIOS 480	Introduction to Modern Biostatistics with R ^b	

Select three of the following courses in ecology and environment: 9

BIOS 236	Animal Behavior	
BIOS 340	Environmental Physiology	
BIOS 350	General Microbiology	
BIOS 365	Human Ecological Systems	
BIOS 427	Ecosystem Ecology	
BIOS 431	Plant and Animal Interactions	

BIOS 437	Topics in Tropical Ecology	
BIOS 490	Topics in Ecology and Evolution ^c	
Select one of the following courses in evolution and genomics:		3-4
BIOS 305	Plant Evolutionary Ecology	
BIOS 430	Evolution	
BIOS 450	Advanced Microbiology	
BIOS 490	Topics in Ecology and Evolution ^c	
Additional hours of BIOS elective courses to bring the total to 40 semester hours.		0-2
Total Hours		40

a *This course is approved for the Analyzing the Natural World General Education category.*

b *BIOS 310, BIOS 312, BIOS 321, BIOS 323, BIOS 336, BIOS 351, BIOS 399, BIOS 420, BIOS 443, and BIOS 480 fulfill the Writing-in-the-Discipline requirement.*

c *BIOS 490 can only be used once to meet the Ecology/Environment or the Evolution/Genomics category with consent of advisor.*

d *BIOS 399 can only be counted once to fulfill Experimental Techniques and Data Analyses credit requirements.*

Recommended Plan of Study

Course	Title	Hours
First Year		
Fall Semester		
ENGL 160	Academic Writing I: Writing in Academic and Public Contexts	3
MATH 180 or MATH 170 or STAT 130	Calculus I ^a or Calculus for the Life Sciences or Introduction to Statistics for the Life Sciences	4
Select one of the following:		5
CHEM 116	Honors and Majors General and Analytical Chemistry I	
CHEM 122 & CHEM 123	Matter and Energy and Foundations of Chemical Inquiry I ^b	
General Education Requirement course		3
Hours		15
Spring Semester		
ENGL 161	Academic Writing II: Writing for Inquiry and Research	3
Select one of the following:		5
CHEM 118	Honors and Majors General and Analytical Chemistry II	
CHEM 124 & CHEM 125	Chemical Dynamics and Foundations of Chemical Inquiry II ^b	
General Education Requirement course		3
BIOS 110 or BIOS 120	Biology of Cells and Organisms ^b or Biology of Populations and Communities	4
Hours		15

Second Year

Fall Semester

CHEM 230 or CHEM 232	Organic Chemistry of Biological Systems or Structure and Function	4
BIOS 110 or BIOS 120	Biology of Cells and Organisms ^b or Biology of Populations and Communities	4
Foreign Language		4
General Education Requirement course or Elective		3
Hours		15

Spring Semester

BIOS 222	Cell Biology	3
BIOS 230	Evolution and Ecology	3
CHEM 233	Synthesis Techniques Laboratory	2
Foreign Language		4
General Education Requirement course		3
Hours		15

Third Year

Fall Semester

BIOS 220	Genetics	3
BIOS 331	General Ecology Laboratory	3
PHYS 131 or PHYS 141	Introductory Physics for Life Sciences I ^b or General Physics I (Mechanics)	4
Foreign Language		4
General Education Requirement course		3
Hours		17

Spring Semester

BIOS experimental techniques and data analyses selective or BIOS Elective ^c		2-4
BIOS experimental techniques and data analyses selective or BIOS Elective ^c		2-4
PHYS 132 or PHYS 142	Introductory Physics for Life Sciences II or General Physics II (Electricity and Magnetism)	4
General Education Requirement course		3
Foreign Language		4
Hours		15-19

Fourth Year

Fall Semester

Select 5-9 hours from the following:		5-9
BIOS experimental techniques and data analyses selectives ^c		
BIOS Selectives ^c		
BIOS Electives ^c		
General Education Requirement course		3
Electives		7
Hours		15-19

Spring Semester

Select 5-8 hours from the following:		5-8
BIOS experimental techniques and data analyses selectives ^c		
BIOS Selectives ^c		
BIOS Electives ^c		

Electives	8-9
Hours	13-17
Total Hours	120

- a *MATH 170, MATH 180, or STAT 130, individually, will satisfy the Quantitative Reasoning requirement with a grade of C or better.*
- b *The Analyzing the Natural World and the two additional General Education course requirements can be satisfied with four courses chosen from PHYS 131/PHYS 132, PHYS 141, PHYS 142, BIOS 110, BIOS 120 and/or CHEM 122/CHEM 123 and CHEM 124/CHEM 125.*
- c *To complete the degree, students must take 23 additional hours, including 9 hours in experimental techniques and data analyses and the biological sciences selectives/electives to meet concentration requirements (21–23 hours for EEEB). At least 9 of these 23 hours must be taken at the 300 to 400 level (excluding BIOS 391).*