

Program Progression Guide

Disclaimer: The [2018-2019 Purdue West Lafayette catalog](#) is considered the source for academic and programmatic requirements for students entering programs during the Fall 2018, Spring 2019, and Summer 2019 semesters. The Program Progression Guide assists students in the development of an individualized 8-semester plan. Students are encouraged to use this guide, myPurduePlan* (online degree auditing tool) and the Student Educational Planner (SEP) as they work with their academic advisor towards the completion of their degree requirements.

Notification: Each student is ultimately responsible for knowing, monitoring and completing all degree requirements.

An undergraduate degree in the College of Science requires completion of the following degree requirements.

University Degree Requirements		
Minimum 2.0 Cumulative GPA	Minimum 120 Credits that fulfill degree requirements	32 Residency Credits (30000 and above) at a Purdue University campus
University Core Curriculum**		
<ul style="list-style-type: none"> Human Cultures: Behavioral/Social Science Human Cultures: Humanities Information Literacy Oral Communication <p>University Core Curriculum Course Listing</p>	<ul style="list-style-type: none"> Quantitative Reasoning Science Science, Technology & Society Selective Written Communication 	
Required Major Program Courses		
<p>Minimum 2.0 cumulative GPA in all biology courses required for this major. A minimum of 32 credits at or above the 300-level completed at a Purdue campus. At least one 500-level Biology course other than BIOL 54200.</p>		
College of Science Core Curriculum		
<ul style="list-style-type: none"> Freshman Composition – 3 credits Technical Writing and Presentation - 3 credits Teaming & Collaboration (NC) General Education - 9 credits 	<ul style="list-style-type: none"> Foreign Language & Culture – 9 credits Great Issues - 3 credits Laboratory Science - 8 credits Multidisciplinary - 3 credits 	<ul style="list-style-type: none"> Mathematics - 6-10 credits Statistics - 3 credits Computing - 3 credits
Degree Electives		
<p>Any Purdue or transfer course approved to meet degree requirements in accordance with individual departmental policies. Consult the No Count course list for courses, which may not be used to meet any College of Science degree requirement.</p>		

* This audit is not your academic transcript and it is not official notification of completion of degree or certificate requirements.

** University Core Curriculum Outcomes may be met through completion of the College of Science Core curriculum. Students should consult with their academic advisors and myPurdue Plan for course selections.

2018-19 Ecology, Evolution and Environmental Biology Degree Progression Guide

The Biology Department has *suggested* the following degree progression guide for the Ecology, Evolution and Environmental Biology Degree. Students will work with their academic advisors to determine their best path to degree completion. Course pre-requisites are specific to this degree plan.

Credit	Fall 1st Year	Prerequisite	Credit	Spring 1st Year	Prerequisite
2	BIOL 12100		3	BIOL 13100	
2	BIOL 13500	CHM 12901 co-req	4	Organic Chem I Selective	CHM 11600 or 12901
5	CHM 12901	ALEKS 85	3-5	Calculus II Selective	Calculus I
3-5	Calculus I Selective		3	Language/Culture II Selective	Lang 10100
3	Language/Culture I Selective		3-4	ENGL 10600 or 10800	
1	Elective (BIOL 11500 pref)				
16-18			16-19		

Credit	Fall 2nd Year	Prerequisite	Credit	Spring 2nd Year	Prerequisite
3	BIOL 23100	CHM 116 co-req; BIOL 13100	3	BIOL 24100	BIOL 23100
2	BIOL 23200		2	BIOL 24200	
4	Organic Chem II Selective	Organic I	3-4	Chemistry Selective	Organic II
3	Language/Culture III Selective	Varies	2	BIOL 28600	BIOL 12100
3	Free Elective		1	Free Elective (BIOL 29300 pref)	
			3	General Education I Selective	
15			14-15		

Credit	Fall 3rd Year	Prerequisite	Credit	Spring 3rd Year	Prerequisite
3	BIOL 58500		3	500-Level Biology Selective	Varies
3	STAT 50300		4	PHYS 2 Selective	
4	PHYS 1 Selective		3-4	Computer Science Selective	
3	General Education II Selective		1	Free Elective (BIOL 39300 pref)	
3	COM 21700		3	General Education III Selective	
16			14-15		

Credit	Fall 4th Year	Prerequisite	Credit	Spring 4th Year	Prerequisite
3	Intermediate Biology Selective	Varies	3-4	BIOL 58000	
3-4	Biology Selective		3	Great Issues Selective	
2-4	Base Lab Requirement		3	Free Elective	
1-3	Multidisciplinary Selective		3	Free Elective	
4	Free Elective				
13-18			12-14		

Courses in () are recommended.

College of Science Core Curriculum (SCC)

- | | |
|---------------------------------------|-----------------------|
| A. Freshman Composition | G. Laboratory Science |
| B. Technical Writing and Presentation | H. Multidisciplinary |
| C. Teaming and Collaboration | I. Mathematics |
| D. General Education | J. Statistics |
| E. Foreign Language and Culture | K. Computing |
| F. Great Issues | |

* Consult the University Core Requirement course list for approved courses.

ECOLOGY, EVOLUTION AND ENVIRONMENTAL BIOLOGY

Fall 2018

Graduation Requirements:

- A minimum 2.0 average in all biology courses required for this major
- A minimum of 32 credits at or above the 300-level completed at a Purdue campus
- At least one 500-level Biology course other than BIOL 54200
- 120 Total Credits

BIOLOGY:

1. BIOL 12100 Biology I: Diversity, Ecology and Behavior (2 cr.; fall) **or**
BIOL 19500 Biodiversity, Ecology & Evolution (3 cr.; fall)
2. BIOL 13100 Biology II: Development, Structure, and Function of Organisms (3 cr.; spring) **or**
BIOL 19500 Organismal Development & Physiology (3 cr.; spring)
3. BIOL 13500 1st Year Biology Lab (2 cr.; both) **or**
BIOL 14501 1st Year Biology Lab w/Neuro Research Project (2 cr.; fall) **or**
IT 22600 Biotechnology Lab (2 cr.; fall)
4. BIOL 23100 Biology III: Cell Structure and Function (3 cr.; fall)
5. BIOL 23200 Laboratory in Biology III: Cell Structure and Function (2 cr.; fall)
6. BIOL 24100 Biology IV: Genetics and Molecular Biology (3 cr.; spring)
7. BIOL 24200 Laboratory in Genetics and Molecular Biology (2 cr.; spring)
8. BIOL 28600 Intro. to Ecology and Evolution (2 cr.; spring)
9. **Intermediate Biology Selective: Choose one of these eight options:**
 - A. BIOL 32800¹ Principles of Physiology (4 cr.; spring)
 - B. BIOL 36700 Principles of Development (2 cr.; spring) **plus** BIOL 36701 Principles of Development Laboratory (1 cr.; spring)
 - C. BIOL 39500 Macromolecules (3 cr.; fall)
 - D. BIOL 41500 Intro. to Molecular Biology (3 cr.; spring)
 - E. BIOL 41600 Viruses & Viral Diseases (3 cr.; spring)
 - F. BIOL 42000 Eukaryotic Cell Biology (3 cr.; fall)
 - G. BIOL 43600 Neurobiology (3 cr.; fall)
 - H. BIOL 43800² General Microbiology (3 cr.; fall)
10. BIOL 58000 Evolution (3 cr.; spring)
11. BIOL 58500 Ecology (3 cr.; fall)
12. **Lab Requirement:** Must meet Base Lab requirement as described on the back of this page.
13. **Ecology Selective: One of these five courses:**
 - A. BIOL 58210⁴ Ecological Statistics (3 cr.; fall)
 - B. BIOL 58705⁵ Animal Communication (3 cr.; alternate fall)
 - C. BIOL 59100⁴ Field Ecology (4 cr.; alternate fall)
 - D. BIOL 59200⁵ Evolution of Behavior (3 cr.; spring)
 - E. BIOL 59500⁵ Disease Ecology (3 cr.; alternate fall)
 - F. BIOL 59500⁵ Sensory Ecology (3 cr.; alternate spring)
 - G. BIOL 59700⁵ Sex and Evolution (3 cr.; alternate fall)
14. **Biology Selective: One course from the following:**

BIOL 43800 ² General Microbiology (3 cr.; fall)	AGEC 52500 Environmental Policy Analysis (3 cr.; spring)
BIOL 43900 Microbiology Lab (2 cr.; fall)	ANTH 53500 Foundations of Biological Anthropology (3 cr.; fall)
BIOL 44400 Human Genetics (3 cr.; fall)	ANTH 53600 Primate Ecology (3 cr.; spring)
BIOL 48300 ⁶ Environmental & Conservation Biology (3 cr.; alternate spring)	CE 35000 Environmental Engineering (3 cr.; both)
BIOL 58210 ⁴ Ecological Statistics (3 cr.; fall)	CE 35200 Biological Principles of Environmental Engineering (3 cr.; both)
BIOL 58705 ⁵ Animal Communication (3 cr.; alternate fall)	ENTM 50000 Fundamentals of Entomology (3 cr.; fall)
BIOL 59100 ⁴ Field Ecology (4 cr.; alternate fall)	FNR 44700 Vertebrate Population Dynamics (4 cr.; fall)
BIOL 59200 ⁵ Evolution of Behavior (3 cr.; alternate spring)	FNR 48800 Global Environmental Issues (3 cr.; fall)
BIOL 59500 ⁵ Disease Ecology (3 cr.; alternate fall)	POL 52300 Environmental Politics and Public Policy (3 cr.; fall)
BIOL 59500 ⁵ Sensory Ecology (3 cr.; alternate spring)	
BIOL 59700 ⁵ Sex and Evolution (3 cr.; alternate fall)	

Other courses may be considered for this elective requirement (#14). See your advisor for more information.

Footnotes and other requirements are on the back of this page.

Base Laboratory Requirement for all Biology Majors

1. Each student will satisfy each of the following three learning objectives:
 - Objective 1 – Research planning, literature review, and writing
 - Objective 2 – Observation, experimentation
 - Objective 3 – Analysis, simulation, and presentation

2. Objectives may be met by taking courses according the following chart:

Courses	Title	Objective 1	Objective 2	Objective 3
BIOL 43900	Microbiology Lab	X	X	X
BIOL 44201	Protein Expression		X	X
BIOL 44202	Animal Physiology		X	X
BIOL 44205	LabView		X	X
BIOL 44207	Protein Structure		X	
BIOL 44211	Anatomy & Physiology		X	
BIOL 44212	Microscopy & Cell Bio		X	X
BIOL 44215	Physiology Measurements	X		X
BIOL 54200	Neurophysiology		X	X
BIOL 58210 ⁴	Ecological Statistics	X		X
BIOL 59100 ⁴	Field Ecology	X	X	X
BIOL 59500	CryoEM 3D Reconstruction		X	X
BIOL 59500	Data Analysis in Neurosci			
BIOL 59500	Theory of Molecular Methods	X		X
BIOL 59500	Neural Mech in Hlth Disease	X		X

- Students who successfully complete a Biology Honors Research Thesis have successfully met all three objectives.
- Undergraduate Research may be used to meet these objectives. Student must get Research Mentor approval for each objective after that objective is completed. Student must also earn at least four credits of BIOL 49400 or 49900 research. Consult with your academic advisor for the forms used to obtain Research Mentor for each objective.
- A combination of courses and research may be used to meet this requirement.

CHEMISTRY

1. General Chemistry:

- CHM 12901⁷ General Chemistry with a Biological Focus (5 cr.; fall)

2. Organic Chemistry Selectives: (must choose one option)

- CHM 25500 Organic Chemistry (3 cr.; both) and CHM 25501 Organic Chemistry Lab (1 cr.; both) and CHM 25600 Organic Chemistry (3 cr.; both) and CHM 25601 Organic Chemistry Lab (1 cr.; both)
- CHM 26505 Organic Chemistry (3 cr.; fall) and CHM 26300 Organic Chemistry Lab (1 cr.; fall) and CHM 26605 Organic Chemistry (3 cr.; spring) and CHM 26400 Organic Chemistry Lab (1 cr.; spring)

3. Chemistry Selectives: (must choose one of the following options)

- Analytical Chemistry: BCHM 22100 Analytical Biochemistry (3 cr.; both) or CHM 32100 Analytical Chemistry I (4 cr.; fall)
- Biochemistry: BCHM 56100 General Biochemistry I (3 cr.; both) or CHM 33900⁷ Biochemistry: A Molecular Approach (3 cr.; spring) or CHM 53300 Introductory Biochemistry (3 cr.; fall)
- Physical Chemistry: CHM 37200 Physical Chemistry (4 cr.; spring) or CHM 37300 Physical Chemistry (3 cr.; fall)

PHYSICS Selectives: One of these two options:

- PHYS 23300 Physics for Life Sciences I (4 cr.; both) and PHYS 23400 Physics for Life Sciences II (4 cr.; both)
- PHYS 17200 Modern Mechanics (4 cr.; both) and one of the following two choices:
 - PHYS 27200 Electric and Magnetic Interactions (4 cr.; both) or
 - PHYS 24100 Electricity and Optics (3 cr.; both) and PHYS 25200 Electricity and Optics Laboratory (1 cr.; spring)

UNIVERSITY CORE and COLLEGE OF SCIENCE CORE REQUIREMENTS

Composition and Presentation; Teambuilding and Collaboration; Language and Culture; Great Issues; General Education; Multidisciplinary Experience; Mathematics; Statistics; Computing (see handout).

FREE ELECTIVES Approximately 8-25 credits

¹ This course may count as the Intermediate Biology Selective and as the College of Science Teambuilding and Collaboration requirement.

² BIOL 43800 may be used for requirement #9 or for requirement #14, but not both.

³ (Omitted)

⁴ This course may be used for #12, #13, or #14. It may be used for #12 and #13, or #12 and #14. It may not be used for #13 and #14.

⁵ This course may count for requirement #13 or #14, but NOT for both.

⁶ This course may count for the Biology Selective course and as the College of Science Great Issues requirement.

⁷ Students who select 12901 for General Chemistry must take CHM 33900 and 33901. CHM 33900 counts for the Chemistry Selective. Students who end up with Special Case approval for some other Gen Chem courses may choose the other Chem Selective options.