Springfield College
Sequencing Guide
Biology Major (BIOL) ▼ 2022-2023

If you entered Springfield College in 2022-2023, use this guide for sequencing your courses. Requirements are subject to change and may not be offered when listed. Use your online degree audit to verify your progress, and always confirm your plans with your advisor.

Core Curriculum Requirements, Electives, and College Requirements

In addition to the major requirements listed below, you will need to fill the following Core Curriculum categories:

- 100-level Wellness & Physical (1 cr)
- 200-level Wellness & Physical (1 cr)
- 300-level Wellness & Physical (1 cr)
- Literature (3 cr)
- Spiritual and Ethical (3 cr)
- Aesthetic Expression (3 cr)
- Historical and Social (3 cr)
- Themed Explorations (9 cr)
  - 3 different prefixes
  - 1 Global course

This major typically requires 67 to 70 credits to complete. In addition to the Core Curriculum and major requirements listed, you must complete:

- **17-20 elective credits or more** to total at least 120 credits
- A **minimum cumulative GPA** of 2.000 or higher
- The **residency requirement**—45 credits taken at Springfield College (including 15 of your last 30)

BIOL Major Requirements – Typical First-Year Schedule

Fall:
SCSM 101, Springfield College Seminar (Core requirement – 3 cr)
ENGL 113, College Writing I (Core requirement – 3 cr)
BIOL 121, Bioscience I (3 cr – also fills Scientific Reasoning Core)
BIOL 123, Bioscience I Laboratory (1 cr – also fills Scientific Reasoning Core)

If you have a strong algebra background you should also take:
CHEM 121, General Chemistry I (3 cr)
CHEM 123, General Chemistry I Laboratory (1 cr)

If you don't have a strong algebra background and were not recommended for level 4 MATH, take MATH 90, 105, or 115. Then take CHEM 121-124 second year.

Plus other Core and major requirements, or electives to total approximately 15 credits

Spring:
ENGL 114, College Writing II (Core requirement – 3 cr)
BIOL 122, Bioscience II (3 cr)
BIOL 124, Bioscience II Laboratory (1 cr)

If CHEM 121 and 123 were completed:
CHEM 122, General Chemistry II (3 cr)
CHEM 124, General Chemistry II Laboratory (1 cr)

Plus other Core and major requirements, or electives to total approximately 30 credits for the year

Fall or Spring:
First or both of two required MATH courses: Choose from MATH 125, 131, 140, 142, or 215 (3 cr; one also fills Quantitative Reasoning Core)

BIOL Major Requirements – Typical Second-Year Schedule

Fall:
BIOL 270, Plant Biology (3 cr)
BIOL 271, Plant Biology Laboratory (1 cr)
BIOL 282, Biology Skills and Career Pathways (1 cr)
CHEM 221, Organic Chemistry I (3 cr)
CHEM 223, Organic Chemistry I Laboratory (1 cr)

If you didn't take CHEM 121-124 your first year, you need to take it second year and delay CHEM 221-224 to your third. If you completed MATH 125, 131, or 140, take PHYS 210 and 211 this year in place of CHEM 221-224.

BIOL 264/266, Flora and Fauna of NE is offered fall of odd years and can replace BIOL 270/271

Plus other Core and major requirements, or electives to total approximately 15 credits

Spring:
BIOL 260, General Ecology (3 cr – also fills WAC)
BIOL 261, General Ecology Laboratory (1 cr)
CHEM 222, Organic Chemistry II (3 cr)
CHEM 224, Organic Chemistry II Laboratory (1 cr)
Plus other Core and major requirements, or electives to total approximately 30 credits for the year

Fall or Spring:
If not already completed, second of two required MATH courses: Choose from MATH 125, 131, 140, 142, or 215 (3 cr)

BIOL Major Requirements – Typical Third-Year Schedule

Fall:	**Spring:**
PHYS 210, General Physics I (with laboratory, 4 cr) Plus other Core and major requirements, or electives to total approximately 15 credits	PHYS 211, General Physics II (with laboratory, 4 cr) Plus other Core and major requirements, or electives to total approximately 30 credits for the year

BIOL Major Requirements – Typical Fourth-Year Schedule

Fall or Spring:
BIOL 482, Natural Science Capstone (3 cr – must be taken final year in residence)
Plus other Core and major requirements, or electives to total 120 credits

Additional BIOL Major Requirements – Flexible Timing

Both *these courses and labs are required—take one in fall of second year, and one in fall of third year:*
BIOL 315, General Microbiology (3 cr)
BIOL 317, General Microbiology Laboratory (1 cr)
BIOL 380, Genetics (3 cr – also fills half of WAC Core Curriculum)
BIOL 381, Genetics Laboratory (1 cr)

You must complete ***three of the following selectives****—with labs, if applicable (****9-12 credits****). Some courses may be taken in second year, please check prerequisites when planning options.*
BIOL 230, Animal Biology (3 cr - also fills WAC)
BIOL 250, Human Anatomy and Physiology I (3 cr)
BIOL 252, Human Anatomy and Physiology I Laboratory (1 cr)
BIOL 251, Human Anatomy and Physiology II (3 cr)
BIOL 253, Human Anatomy and Physiology II Laboratory (1 cr)
BIOL 264, Flora and Fauna of New England (3 cr – fall of odd years, alternates with Plant Biology)
BIOL 266, Flora and Fauna of New England Laboratory (1 cr)
BIOL 310, Evolution (3 cr)
BIOL 311, Human Histology (3 cr – spring, if offered)
BIOL 312, Human Histology Laboratory (1 cr)
BIOL 316, Virology and Immunology (3 cr- also fills WAC)
BIOL 320, International Tropical Field Research (4 cr – spring, if offered)
BIOL 341, Developmental Biology (3 cr – spring, if offered)
BIOL 408, Research Methods in Cell Biology (3 cr – spring, if offered)
BIOL 409, Research Methods in Cell Biology Laboratory (1 cr)
BIOL 420, Cellular Physiology (3 cr – spring, if offered)
BIOL 421, Cellular Physiology Laboratory (1 cr)
CHEM 331, Biological Chemistry (3 cr)
CHEM 341, Analytical Chemistry (2 cr – spring, if offered)
CHEM 342, Analytical Chemistry Laboratory (2 cr)
CHEM 351, Physical Chemistry with Biological Applications (3 cr – spring, if offered)
CHEM 352, Physical Chemistry Laboratory (1 cr)
ENVS 120, Foundations of Sustainability (3 cr)

BIOL Major - Program Standards

Program standards for the BIOL major include, but are not limited to:

- A grade of C- or better in all courses required for the major, including selectives

Academic Advising Center
3/18/22