



## Springfield College Sequencing Guide Biology and Education Majors (BIOL&EDUC/SED) ▼ 2019-2020 Secondary Education Licensure Program

*If you entered Springfield College in 2019-2020, 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.*

### GenEd Requirements, Electives, and College Requirements

*In addition to the major requirements listed below, you will need to fill the following General Education (GenEd) categories:*

- Wellness - HLTH 100
- Computing and Technology
- Literary Studies
- Visual and Performing Arts
- Spiritual and Ethical
- Historical/Cultural
- Behavioral/Social Sciences
- Int'l/Global subcategory
- Physical Activity

*These majors typically require 106 to 109 credits to complete, totaling up to 139 to 142 credits with GenEds. You will not need any elective credits. (Although technically possible to complete both these majors in four years, scheduling constraints and credit load considerations may require doing some summer transfer work or completing in nine semesters, with Practicum scheduled for the final fall.)*

*In addition to the requirements previously listed, you must complete:*

- The **residency requirement**—45 credits taken at Springfield College (including 15 of your last 30)

### BIOL & EDUC/SED Major Requirements – Typical First-Year Schedule

**Fall:**

ENGL 113, College Writing I (GenEd requirement – 3 cr)  
 BIOL 121, Bioscience I (3 cr – also fills Natural Sciences GenEd)  
 BIOL 123, Bioscience I Laboratory (1 cr – also fills Natural Sciences GenEd)  
 CHEM 121, General Chemistry I (3 cr)  
 CHEM 123, General Chemistry I Laboratory (1 cr)  
 EDUC 250, Childhood and Adolescent Development in Educational Settings (3 cr)

**Spring:**

ENGL 114, College Writing II (GenEd requirement – 3 cr)  
 BIOL 122, Bioscience II (3 cr)  
 BIOL 124, Bioscience II Laboratory (1 cr)  
 CHEM 122, General Chemistry II (3 cr)  
 CHEM 124, General Chemistry II Laboratory (1 cr)  
 EDUC 101, Schools, Society and Diverse Learners (3 cr)  
 EDUC 237, Foundations of Multicultural Education (3 cr – also fills Social Justice, and the Multicultural component of the International/Multicultural Studies GenEd)

**Fall or Spring:**

At least one of two required MATH courses: Choose from MATH 125, 131, 140, 142, or 215 (3 cr each; one also fills Quantitative Reasoning GenEd)  
 1 credit of Physical Activity GenEds

### BIOL & EDUC/SED Major Requirements – Typical Second-Year Schedule

**Fall:**

CHEM 221, Organic Chemistry I (3 cr)  
 CHEM 223, Organic Chemistry I Laboratory (1 cr)  
 \*EDUC 162, Exceptional Children (3 cr)  
 \*EDUC 238, Pre-Practicum in Special Education (PreK-8) (1 cr)  
 Plus major requirements with flexible timing or GenEds to total 17 – 18 credits

**Spring:**

CHEM 222, Organic Chemistry II (3 cr)  
 CHEM 224, Organic Chemistry II Laboratory (1 cr)  
 EDUC 271, Learning, Teaching, and Technology (3 cr)  
 Plus major requirements with flexible timing or GenEds to total 35 – 36 credits for the year

**Fall or Spring:**

BIOL 270, Plant Biology (3 cr) and BIOL 271, Plant Biology Laboratory (1 cr)  
 BIOL 315, General Microbiology (3 cr – also fills half of WAC requirement) and BIOL 317, General Microbiology Laboratory (1 cr)  
 If not yet taken, the second of two required MATH courses: Choose from MATH 125, 131, 140, 142, or 215 (3 cr each; one also fills Quantitative Reasoning GenEd)  
 1 credit of Physical Activity GenEds

### BIOL & EDUC/SED Major Requirements – Typical Third-Year Schedule

**Fall:**

\*EDUC 234, Curriculum, Methods, and Organization for Secondary Teachers (3 cr)  
\*EDUC 318, Tutorial Pre-Practicum (3 cr)  
PHYS 210, General Physics I (with laboratory; 4 cr)  
Plus major requirements with flexible timing or GenEds to total 17 – 18 credits

**Spring:**

EDUC 364, Pre-Practicum – Teaching and Special Issues in Secondary Education (3 cr)  
PHYS 211, General Physics II (with laboratory; 4 cr)  
Plus major requirements with flexible timing or GenEds to total 35 – 36 credits for the year

**Fall or Spring:**

BIOL 260, General Ecology (3 cr) and BIOL 261, General Ecology Laboratory (1 cr)  
BIOL 380, Genetics (3 cr – also fills half of WAC requirement) and BIOL 381, Genetics Laboratory (1 cr)  
BIOL 482, Seminar in Biology (3 cr)  
EDUC 328, Sheltered English Immersion (3 cr)  
1 credit of Physical Activity GenEds

*\*These courses should be taken concurrently (during the same semester).*

### BIOL & EDUC/SED Major Requirements – Typical Fourth-Year Schedule

**Fall or Spring:**

Select a minimum of **12 credits** (in consultation with your advisor) from:

EDUC 464, Middle School Practicum and Seminar (4-12 cr)

EDUC 465, High School Practicum and Seminar (4-12 cr)

Plus any outstanding major requirements or GenEds

### Additional BIOL & EDUC/SED Major Requirements – Flexible Timing

Select **three courses** (9 to 12 credits) and accompanying labs from the following:

BIOL 230, Animal Biology (3 cr)

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)

BIOL 266, Flora and Fauna of New England Laboratory (1 cr)

BIOL 310, Evolution (3 cr)

BIOL 311, Human Histology (3 cr)

BIOL 312, Human Histology Laboratory (1 cr)

BIOL 316, Virology and Immunology (3 cr)

BIOL 320, International Tropical Field Research (4 cr)

BIOL 341, Developmental Biology (3 cr)

BIOL 408, Research Methods in Cell Biology (3 cr)

BIOL 409, Research Methods in Cell Biology Laboratory (1 cr)

BIOL 420, Cellular Physiology (3 cr)

BIOL 421, Cellular Physiology Laboratory (1 cr)

CHEM 331, Biological Chemistry (3 cr)

CHEM 341, Analytical Chemistry (2 cr)

CHEM 342, Analytical Chemistry Laboratory (2 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 BIOL major, including selectives.

### EDUC Major – Program Standards

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

- A minimum cumulative GPA of 2.750 for all designated licensure courses (see *Educator Preparation Handbook* for more information)
- Earn a minimum cumulative GPA of 2.500
- Receive a passing score on the Communication and Literacy Skills Test (reading and writing) of the Massachusetts Test for Education Licensure (MTEL)
- Receive passing scores on the appropriate MTEL Subject Tests
- Earn minimum grades specified for designated course (see the *Educator Preparation Handbook*)

For more information about these and other program standards, contact your advisor or the EDUC department chairperson.