

# Bachelor of Science in Biology

The Bachelor of Science in Biology degree has five basic components:

1. General Education and Institutional Requirements (some may also be included in program requirements)
2. Biology program requirements in Chemistry, Physics, and Mathematics
3. Biology major core courses
4. Upper-division Biology elective courses
5. Electives: college-level courses from any prefix to meet Graduation Requirements (p. 3)

## DSU General Education & Institutional Requirements

All DSU General Education and Institutional requirements must be fulfilled. A previously earned degree may fulfill those requirements, but courses must be equivalent to DSU's minimum General Education standards in American Institutions, English, and Mathematics.

| Code  | Title   | Hours |
|---|---|-------|
| <b>Institutional Requirement in Computer Literacy</b> (catalog.dixie.edu/programs/generaleducation/#gerequirementstext) |   |       |
| Computer Literacy   |   | 0-6   |
| <b>General Education Core Requirements</b> (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)            |   |       |
| English   |   | 3-7   |
| Information Literacy  |   | 0-1   |
| Mathematics   |   | 3-5   |
| American Institutions   |   | 3-6   |
| Life Sciences   |   | 3-10  |
| Physical Sciences   |   | 3-5   |
| Laboratory Science  |   | 0-1   |
| Fine Arts   |   | 3     |
| Literature/Humanities   |   | 3     |
| Social & Behavioral Sciences  |   | 3     |
| Exploration   |   | 3-5   |
| Two (2) Global & Cultural Perspectives Courses  |   | 0-6   |
| <b>Biology Program Requirements</b>   |   |       |
| CHEM 1210<br>& CHEM 1215  | Principles of Chemistry I<br>and Principles of Chemistry I Lab            | 5     |
| CHEM 1220<br>& CHEM 1225  | Principles of Chemistry II<br>and Principles of Chemistry II Lab          | 5     |
| CHEM 2310<br>& CHEM 2315  | Organic Chemistry I<br>and Organic Chemistry I Lab                        | 5     |
| CHEM 2320<br>& CHEM 2325  | Organic Chemistry II<br>and Organic Chemistry II Lab                      | 5     |
| MATH 1210   | Calculus I  | 4     |
| Complete one of the following series of courses:  |   |       |
| Series 1:   |   |       |
| PHYS 2010<br>& PHYS 2015  | College Physics I<br>and College Physics I Lab                            | 5     |
| PHYS 2020<br>& PHYS 2025  | College Physics II<br>and College Physics II Lab                          | 5     |
| Series 2:   |   |       |
| PHYS 2210<br>& PHYS 2215  | Physics/Scientists Engineers I<br>and Physics/Scientists Engineers Lab    | 5     |
| PHYS 2220<br>& PHYS 2225  | Physics/Scientists EngineersII<br>and Physics/Scientists Engineers II Lab | 5     |
| <b>Biology Core Requirements</b>  |   |       |

|  |  |   |
|--|--|---|
| BIOL 1610<br>& BIOL 1615   | Principles of Biology I<br>and Principles of Biology I Lab                                 | 5 |
| BIOL 1620<br>& BIOL 1625   | Principles of Biology II<br>and Principles of Biology II Lab                               | 5 |
| BIOL 3010  | Evolution  | 3 |
| BIOL 3030  | Principles of Genetics   | 4 |
| BIOL 3040<br>& BIOL 3045   | General Ecology<br>and General Ecology Lab   | 4 |
| BIOL 3150<br>& BIOL 3155   | Biostatistics and the Scientific Method<br>and Biostatistics and the Scientific Method Lab | 3 |
| Complete one of the following sets of courses:   |  |   |
| BIOL 3450<br>& BIOL 3455   | General Microbiology<br>and General Microbiology Lab                                       | 4 |
| BIOL 3550<br>& BIOL 3555   | Eukaryotic Cell Biology<br>and Eukaryotic Cell Biology Lab                                 | 4 |
| Complete one of the following:   |  |   |
| BIOL 4910  | Senior Seminar I   | 1 |
| BIOL 4920  | Senior Seminar II  | 1 |
| <b>Biology Electives</b>   |  |   |
| Complete one of the following sets of courses:   |  |   |
| BIOL 4500<br>& BIOL 4505   | Comparative Vertebrate Physiology<br>and Comparative Vertebrate Physiology Lab             | 4 |
| BIOL 4600<br>& BIOL 4605   | Plant Physiology<br>and Plant Physiology Lab   | 4 |
| Complete one of the following courses or sets of courses:  |  |   |
| BIOL 3200<br>& BIOL 3205   | Invertebrate Zoology<br>and Invertebrate Zoology Lab                                       | 4 |
| BIOL 4200<br>& BIOL 4205   | Plant Taxonomy<br>and Plant Taxonomy Lab   | 4 |
| BIOL 4230<br>& BIOL 4235   | and General Parasitology Lab   | 4 |
| BIOL 4260<br>& BIOL 4265   | Herpetology<br>and Herpetology Lab   | 3 |
| BIOL 4270<br>& BIOL 4275   | Ichthyology<br>and Ichthyology Lab   | 3 |
| BIOL 4280  | Marine Biology   | 3 |
| BIOL 4380<br>& BIOL 4385   | Ornithology<br>and Ornithology Lab   | 3 |
| BIOL 4411<br>& BIOL 4415   | Mammalogy<br>and Mammalogy Lab   | 4 |
| BIOL 4440<br>& BIOL 4445   | General Entomology<br>and General Entomology Lab   | 4 |
| Complete 14-15 credits from the following or from any upper-division BIOL course listed above not already used to fulfill a requirement: |  |   |
| BIOL 3000R   | Rural Health Scholars (2 cr. max.)   | 1 |
| BIOL 3100  | Bioethics  | 3 |
| BIOL 3110  | Scientific Writing   | 2 |
| BIOL 3140<br>& BIOL 3145   | Comparative Vertebrate Anatomy<br>and Comparative Vertebrate Anatomy Lab                   | 4 |
| BIOL 3230R   | Cadaver Practicum  | 2 |
| BIOL 3250  | Cancer Biology   | 2 |
| BIOL 3340<br>& BIOL 3345   | Plant Anatomy<br>and Plant Anatomy Lab   | 4 |
| BIOL 3360  | Developmental Biology  | 3 |
| BIOL 3460  | Biology of Infectious Disease  | 3 |
| BIOL 3470  |  | 3 |

|                          |   |     |
|--------------------------|---|-----|
| BIOL 4190<br>& BIOL 4195 | Mammalian Histology<br>and Mammalian Histology Lab    | 4   |
| BIOL 4240<br>& BIOL 4245 | Virology<br>and Virology Lab                          | 4   |
| BIOL 4300<br>& BIOL 4305 | Molecular Biology<br>and Molecular Biology Laboratory | 4   |
| BIOL 4350<br>& BIOL 4355 | Animal Behavior<br>and Animal Behavior Lab            | 4   |
| BIOL 4400                | Pathophysiology                                       | 3   |
| BIOL 4460<br>& BIOL 4465 | Plant Ecology<br>and Plant Ecology Lab                | 3   |
| BIOL 4810R               | Independent Research I                                | 1-4 |
| BIOL 4820R               | Independent Research II                               | 1-4 |
| BIOL 4830R               | Independent Research III                              | 1-4 |
| BIOL 4930R               | Senior Thesis   | 1-4 |

**Note:**

A course may only be used to fulfill one program requirement.

**Advising Note:**

Pre-health professionals should complete CHEM 3510 Biochemistry I and a diversity course.

**Graduation Requirements**

1. Complete a minimum of 120 college-level credits (1000 and above).
2. Complete at least 40 upper-division credits (3000 and above).
3. Complete at least 30 upper-division credits at DSU for institutional residency.
4. Cumulative GPA 2.0 or higher.
5. Grade C or higher required (not C-) in each Program Requirement, Core Discipline Requirement, and Biology Elective Requirement course.
6. Maximum 6 total credits of BIOL 4810R, BIOL 4820R, BIOL 4830R, and/or BIOL 4930R may be used toward Biology requirements.

**Graduation Plan**

| Course                 | Title   | Hours |
|------------------------|---|-------|
| <b>1st Year</b>        |   |       |
| <b>Fall Semester</b>   |   |       |
| BIOL 1001              | FYE: Biological Sciences  | 1     |
| BIOL 1610              | Principles of Biology I meets General Education (Life Sciences) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)       | 4     |
| BIOL 1615              | Principles of Biology I Lab meets General Education (Lab Science) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)     | 1     |
| CHEM 1210              | Principles of Chemistry I meets General Education (Physical Sciences) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext) | 4     |
| CHEM 1215              | Principles of Chemistry I Lab   | 1     |
| ENGL 1010              | Introduction to Writing   | 3     |
| LIB 1010               | Information Literacy  | 1     |
|                        | Hours   | 15    |
| <b>Spring Semester</b> |   |       |
| BIOL 1620              | Principles of Biology II  | 4     |
| BIOL 1625              | Principles of Biology II Lab  | 1     |
| CHEM 1220              | Principles of Chemistry II  | 4     |
| CHEM 1225              | Principles of Chemistry II Lab  | 1     |
| MATH 1210              | Calculus I meets General Education (Mathematics) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)                      | 4     |
|                        | Hours   | 14    |

**2nd Year****Fall Semester**

|   |                         |    |
|---|-------------------------|----|
| BIOL 3030   | Principles of Genetics  | 4  |
| CHEM 2310   | Organic Chemistry I     | 4  |
| CHEM 2315   | Organic Chemistry I Lab | 1  |
| CIS 1200  | Computer Literacy       | 3  |
| PHYS (Required Physics I course/ Lab) meets General Education (Exploration) |                         | 5  |
| Hours   |                         | 17 |

**Spring Semester**

|  |                          |    |
|--|--------------------------|----|
| BIOL 3010  | Evolution                | 3  |
| BIOL 3040  | General Ecology          | 3  |
| BIOL 3045  | General Ecology Lab      | 1  |
| CHEM 2320  | Organic Chemistry II     | 4  |
| CHEM 2325  | Organic Chemistry II Lab | 1  |
| General Education (Social & Behavioral Sciences /GLOCUP) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext) |                          | 3  |
| Hours  |                          | 15 |

**3rd Year****Fall Semester**

|   |   |    |
|---|---|----|
| BIOL 3150   | Biostatistics and the Scientific Method     | 2  |
| BIOL 3155   | Biostatistics and the Scientific Method Lab | 1  |
| BIOL Requirement (Approved Micro course/ Lab)   |   | 4  |
| BIOL Elective (Upper-division Biology elective)   |   | 4  |
| General Education (American Institutions) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext) |   | 3  |
| General Elective  |   | 1  |
| Hours   |   | 15 |

**Spring Semester**

|   |                                 |    |
|---|---------------------------------|----|
| ENGL 2010                                 | Intern Writing Selected Topics: | 3  |
| BIOL Requirement (Physiology course/ Lab) |                                 | 4  |
| PHYS (Required Physics II course/ Lab)    |                                 | 5  |
| General Elective                          |                                 | 3  |
| Hours                                     |                                 | 15 |

**4th Year****Fall Semester**

|  |  |       |
|--|--|-------|
| BIOL 4910<br>or BIOL 4920  | Senior Seminar I<br>or Senior Seminar II | 1     |
| BIOL Requirement (Organismal course)   |  | 3-4   |
| BIOL Elective (Upper-division Biology elective)  |  | 4     |
| General Elective (Fine Arts) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext) |  | 3     |
| General Elective   |  | 3     |
| Hours  |  | 14-15 |

**Spring Semester**

|  |  |    |
|--|--|----|
| BIOL 4910<br>or BIOL 4920  | Senior Seminar I<br>or Senior Seminar II | 1  |
| BIOL Elective (Upper-division Biology elective)  |  | 4  |
| BIOL Elective (Upper-division Biology elective)  |  | 3  |
| General Education (Literature/Humanities / GLOCUP) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext) |  | 3  |
| General Elective(s)  |  | 4  |
| Hours  |  | 15 |

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Total Hours 120-121