

## Biological Science B.S. Degree - Four Year Sample Roadmap

College of Arts and Sciences (CAS) or College of Agriculture and Life Science (CALs)

The following is intended to help you visualize what an overall course of study for a Biological Science B.S. degree might look like. This is one example; a student's actual path will vary depending upon each individual's ability, choice of courses and program goals. Many required courses are offered both semesters, and most university- and college-required electives can be taken in any year, providing many alternate paths.

| Fall Semester - Year 1  | Credits   | Spring Semester - Year 1                             | Credits   |
|---|-----------|--|-----------|
| Exploring Biology I (BCOR 011)                                  | 4         | Exploring Biology II (BCOR 012)                      | 4         |
| General Chemistry I (CHEM 031)                                  | 4         | General Chemistry II (CHEM 032)                      | 4         |
| Calculus I (MATH 019)   | 3         | Calculus II (MATH 020)                               | 3         |
| TAP* course, ENGS 001, -or-<br>Communication Methods (CALs 001) | 3         | U/C Elective** -or-<br>Information Techn. (CALs 002) | 3         |
| First-Year Life Science Seminar                                 | 1         |  |           |
| <b>Total</b>  | <b>15</b> | <b>Total</b>   | <b>14</b> |

| Fall Semester - Year 2         | Credits   | Spring Semester - Year 2         | Credits   |
|--------------------------------|-----------|----------------------------------|-----------|
| Ecology & Evolution (BCOR 102) | 4         | Genetics (BCOR 101)              | 3         |
| Statistics (STAT 141)          | 3         | Molecular & Cell Bio. (BCOR 103) | 4         |
| Organic Chemistry I (CHEM 141) | 4         | Organic Chemistry II (CHEM 142)  | 4         |
| U/C Elective -or- ENGS 001     | 3         | U/C Elective                     | 3         |
|                                |           | U/C Elective                     | 3         |
| <b>Total</b>                   | <b>14</b> | <b>Total</b>                     | <b>17</b> |

| Fall Semester - Year 3                               | Credits      | Spring Semester - Year 3                               | Credits      |
|--|--------------|--|--------------|
| Physics I (PHYS 011) and<br>Physics Lab I (PHYS 021) | 4<br>1       | Physics II (PHYS 012) and<br>Physics Lab II (PHYS 022) | 4<br>1       |
| Major Elective                                       | 3-4          | Major Elective   | 3-4          |
| U/C Elective   | 3            | U/C Elective   | 3            |
| Elective   | 3            | Elective   | 3            |
|  |              | Elective   | 3            |
| <b>Total</b>   | <b>14-15</b> | <b>Total</b>   | <b>17-18</b> |

| Fall Semester - Year 4               | Credits      | Spring Semester - Year 4            | Credits      |
|--------------------------------------|--------------|-------------------------------------|--------------|
| Undergrad. Research -or- Major Elec. | 3            | Undergrad. Research -or- Major Elec | 3            |
| Major Elective                       | 3-4          | Major Elective                      | 3-4          |
| Major Elective -or- Elective         | 3-4          | Major Elective -or- Elective        | 3-4          |
| Elective                             | 3            | Elective                            | 3            |
| Elective                             | 3            | Elective, <i>if needed</i>          | 0-3          |
| <b>Total</b>                         | <b>15-17</b> | <b>Total</b>                        | <b>12-17</b> |

\*TAP = Teacher Advisory Program: first year, first semester writing-intensive courses offered through CAS only, which satisfies the university's writing requirement. More at [www.uvm.edu/cas/first\\_semester\\_tap\\_seminars](http://www.uvm.edu/cas/first_semester_tap_seminars).

\*\*U/C Elective = an elected course that fulfills one or more University or College-level requirements. CALs 001 and 002 are among the requirements for CALs students.

## **Biological Sciences B.S. Degree Requirement Credit Summary:**

A minimum of 120 semester hours with a cumulative grade-point average of 2.0 must be earned. For CAS students, 84 of those credits must be taken within CAS.

### 1. **Biological Science Major**

- **Required courses** (14 courses including BCOR, CHEM, MATH, PHYS and STAT courses).....**52-56 credit hours**
- **Advanced Life Science Electives** (~8 courses).....**26 credit hours**
  - May include 6 credit hours in Undergraduate Research with at least 3 of those credits at a 200-level.
  - Minimum 18 credit hours of 200-level courses, including [12 credits from courses with a statistical component, 3 credits that stress oral communication, and 3 credits that stress written communication].
  - No more than 8 credit hours at the 100-level.

**Major Total: 78-82 credit hours**

### 2. **College Requirements**

#### CALS:

- **Foundations** (2 courses – CALS 001 or 183, and CALS 002 or 085).....**6 credit hours**
- **Core Competencies** (5 courses – Written Expression (ENGS 001), Social Sciences and Humanities or Fine Arts Electives) .....**15 additional\* credit hours**

#### -or- CAS:

- **Distribution** (6 courses – Fine Arts or Literature, Foreign Language, Humanities, or Social Sciences electives) .....**18 additional\* credit hours**
- **Non-European Culture** (one approved course; can jointly satisfy Literature or Humanities distribution requirement, as well as *D2*, below).....**3 credit hours**

**College Total: 18-21 credit hours**

### 3. **University Requirements**

- **Diversity** (two approved courses – one with *D1: Race and Racism in the US* designation and one with either *D1* or *D2: Diversity of the Human Experience* designation.) .....**6 credit hours**
- **Writing** (one course: ENGS 001, HCOL 085 or TAP course).....**3 credit hours**
- **Sustainability** (one approved course).....**3 credit hours**
- **Quantitative Reasoning** (one approved course).....**3 credit hours**

**University Total: 0-9 additional\*\* credit hours**

4. **Electives** (5-8 courses selected from any academic unit. Electives may be used for general interest or to obtain a minor or second major.).....**15-24 credit hours**

**Total: ~120 credit hours**

\* College requirements include natural/physical science courses (6 credits) and mathematics courses (6 credits), which are covered by the major requirements.

\*\* University requirements may be jointly satisfied by courses taken for major or college requirements: An eligible course may be counted for both the college-level Social Science or Humanities requirement and the Diversity requirement. For CALS students, the university Writing requirement is fulfilled by the College requirements. The university Sustainability and Quantitative Reasoning requirements are fulfilled for Biological Science students by major requirements.