

## Approval Chart for Curriculum Changes

A = Approve    I= Information Item<sup>1</sup>    R= Advise & Respond<sup>2</sup>

Course Number \_\_\_\_\_ or Degree Plan(s) BS - BIOL

State the requested change and reason. A memo may be attached if more space is necessary.

This request is to make Marine Biology (BIOL 403) one of the options on the three-hour 'Diversity' menu of the Biology degree plan. Several biology tracks require one course from the 'Diversity' menu, so this would give students an additional option to fulfill this requirement. Additionally, Marine Biology is a course about diversity of marine organisms, thus its content fits with the other diversity courses. If approved, BIOL 403 would need to be added to the BIOL DIVERSITY choices on the Biology tracks that have this requirement, specifically, the BICM, Biology-BA, BIOG, BIOH, BS-Life Science for Certification (Grades 7-12) (BIOT-BIOT), and BS-Composite Science Certification with an Emphasis in Life Science (Grades 7-12) (BIOT-BTCS). It would continue to satisfy the '300-400 Level Organismal Biology Selection' requirement for students on the BIOC track. All of the affected tracks have been included to show how the tracks would need to be updated in the catalog.

Circle the number that corresponds to the requested change. Degree plan changes are on the second page.

| Change to a Course |                                                                                                                   | Dept./School | College Academic | Deans | COUNCIL <sup>3</sup> |      |     |      | Provost | President |
|--------------------|-------------------------------------------------------------------------------------------------------------------|--------------|------------------|-------|----------------------|------|-----|------|---------|-----------|
|                    |                                                                                                                   |              |                  |       | TEC                  | UGEC | UAC | GRAD |         |           |
| 1.                 | Title (description unchanged)                                                                                     | A            | A                | A     | I                    |      |     |      | I       | I         |
| 2.                 | Description (not affecting content)                                                                               | A            | A                | A     | I                    |      |     |      | I       | I         |
| 3.                 | Course term(s)                                                                                                    | A            | I                | A     | I                    |      |     |      | I       | I         |
| 4.                 | Content (substantive change)                                                                                      | A            | A                | A     | I                    |      |     |      | A       | I         |
| 5.                 | Number of hours (lecture, lab, contact)                                                                           | A            | A                | A     | A                    |      |     |      | A       | I         |
| 6.                 | Course number within the hundred                                                                                  | A            | A                | I     | I                    |      |     |      | I       | I         |
| 7.                 | Course number beyond the hundred                                                                                  | A            | A                | A     | A                    |      |     |      | A       | I         |
| 8.                 | Prerequisites                                                                                                     | A            | A                | A     | I                    |      |     |      | I       | I         |
| 9.                 | Course fee(s)                                                                                                     | A            | --               | A     | --                   |      |     |      | A       | I         |
| 10.                | From U to G <i>or</i> G to U                                                                                      | A            | A                | A     | A                    |      |     |      | A       | I         |
| 11.                | Cross list with another department: U or G level                                                                  | A            | A                | A     | A                    |      |     |      | A       | I         |
| 12.                | Department of record                                                                                              | A            | A                | A     | A                    |      |     |      | A       | I         |
| 13.                | Open or close a course                                                                                            | A            | A                | A     | A                    |      |     |      | A       | I         |
| 14.                | New course — See website for application and process.<br>This change includes combining or splitting a course(s). | A            | A                | A     | A                    |      |     |      | A       | I         |

Note: When an academic unit does not have a council, the UGEC and/or UUAC will serve as its academic council, depending on the nature of the issue.

## Approval Chart for Curriculum Changes

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|     |                                                                                                             | COUNCIL <sup>3</sup> |    |    |   |  |  |  |   |    |   | President | Faculty | Provost | GRAD | UVAC | UGEC | TEC | Deans | College Academic | Dept./School | Change to a Degree Plan |
|-----|-------------------------------------------------------------------------------------------------------------|----------------------|----|----|---|--|--|--|---|----|---|-----------|---------|---------|------|------|------|-----|-------|------------------|--------------|-------------------------|
|     |                                                                                                             |                      |    |    |   |  |  |  |   |    |   |           |         |         |      |      |      |     |       |                  |              |                         |
| 1.  | University Requirements — Change in approved course content <sup>6</sup>                                    | A                    | A  | A  | A |  |  |  | A | -- | A | --        | A       |         |      |      |      |     |       |                  |              |                         |
| 2.  | University Requirements — Add or drop a required course from the University Requirements chart <sup>6</sup> | A                    | A  | A  | A |  |  |  | A | A  | A | --        | A       |         |      |      |      |     |       |                  |              |                         |
| 3.  | University Requirements — Add or drop a course from a menu within the University Requirements <sup>6</sup>  | A                    | -- | -- | A |  |  |  | A | -- | A | --        | A       |         |      |      |      |     |       |                  |              |                         |
| 4.  | University Requirements — Change hours within a menu on the University Requirements chart <sup>6</sup>      | A                    | A  | A  | A |  |  |  | A | A  | A | --        | A       |         |      |      |      |     |       |                  |              |                         |
|     |                                                                                                             |                      |    |    |   |  |  |  |   |    |   |           |         |         |      |      |      |     |       |                  |              |                         |
| 5.  | Major — Revision of major <sup>4,5</sup>                                                                    | A                    | A  | A  | A |  |  |  | A | -- | A | --        | A       |         |      |      |      |     |       |                  |              |                         |
| 6.  | Major — Adopt or change admission requirements                                                              | A                    | A  | A  | A |  |  |  | A | -- | A | --        | A       |         |      |      |      |     |       |                  |              |                         |
| 7.  | Major — Add <sup>4,5</sup>                                                                                  | A                    | A  | A  | A |  |  |  | A | A  | A | I         | A       |         |      |      |      |     |       |                  |              |                         |
| 8.  | Major – Discontinue (proposed by the department or college)                                                 | A                    | A  | A  | A |  |  |  | A | A  | A | I         | A       |         |      |      |      |     |       |                  |              |                         |
| 9.  | Major – Discontinue (proposed by the Provost)                                                               | See below.           |    |    |   |  |  |  |   |    |   |           |         |         |      |      |      |     |       |                  |              |                         |
|     |                                                                                                             |                      |    |    |   |  |  |  |   |    |   |           |         |         |      |      |      |     |       |                  |              |                         |
| 10. | GPA — Revise major or cumulative requirement                                                                | A                    | A  | A  | A |  |  |  | A | A  | A | --        | A       |         |      |      |      |     |       |                  |              |                         |
|     |                                                                                                             |                      |    |    |   |  |  |  |   |    |   |           |         |         |      |      |      |     |       |                  |              |                         |
| 11. | Minor — Revise course selection                                                                             | A                    | A  | A  | I |  |  |  | I | -- | I | --        | I       |         |      |      |      |     |       |                  |              |                         |
| 12. | Minor — Add                                                                                                 | A                    | A  | A  | A |  |  |  | A | -- | A | --        | A       |         |      |      |      |     |       |                  |              |                         |
| 13. | Minor – Discontinue (proposed by the department or college)                                                 | A                    | A  | A  | A |  |  |  | A | -- | A | --        | A       |         |      |      |      |     |       |                  |              |                         |
| 14. | Minor – Discontinue (proposed by the Provost)                                                               | See below.           |    |    |   |  |  |  |   |    |   |           |         |         |      |      |      |     |       |                  |              |                         |
|     |                                                                                                             |                      |    |    |   |  |  |  |   |    |   |           |         |         |      |      |      |     |       |                  |              |                         |
| 15. | Degree — Add                                                                                                | A                    | A  | A  | A |  |  |  | A | A  | A | I         | A       |         |      |      |      |     |       |                  |              |                         |
| 16. | Degree – Discontinue (proposed by the department or college)                                                | A                    | A  | A  | A |  |  |  | A | A  | A | I         | A       |         |      |      |      |     |       |                  |              |                         |
| 17. | Degree – Discontinue (proposed by the Provost)                                                              | See below.           |    |    |   |  |  |  |   |    |   |           |         |         |      |      |      |     |       |                  |              |                         |
| 18. | Any change to a graduate degree program                                                                     | A                    | A  | A  | A |  |  |  | A | -- | A | --        | A       |         |      |      |      |     |       |                  |              |                         |

| COUNCIL <sup>3</sup> |           |         |          |      |     |      |            |         |                                                                   |
|----------------------|-----------|---------|----------|------|-----|------|------------|---------|-------------------------------------------------------------------|
| Board of Trustees    | President | Faculty | Graduate | UVAC | TEC | Dean | Department | Provost | Provost-Proposed Change                                           |
| I                    | A         | A       | A        |      |     | R    | R          | A       | 1. Major/Graduate Program – Discontinue (proposed by the Provost) |
| --                   | A         | --      | A        |      |     | R    | R          | A       | 2. Minor – Discontinue (proposed by the Provost)                  |
| I                    | A         | A       | A        |      |     | R    | R          | A       | 3. Degree – Discontinue (proposed by the Provost)                 |

## Approval Chart for Curriculum Changes

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| COUNCIL <sup>3</sup> |                                                                                                                              |              |                  |       |      |      |      |         |         |           |
|----------------------|------------------------------------------------------------------------------------------------------------------------------|--------------|------------------|-------|------|------|------|---------|---------|-----------|
|                      | Change to the Catalog Information                                                                                            | Dept./School | College Academic | Deans | UGEC | UUAC | GRAD | Provost | Faculty | President |
| 1.                   | General requirements for graduation including course requirements that are common to all majors for all degrees <sup>7</sup> | --           | --               | --    |      | A    |      | A       | A       | A         |
| 2.                   | Admission requirements                                                                                                       | --           | --               | --    |      | A    |      | A       | A       | A         |
| 3.                   | Policies governing academic probation and suspension                                                                         | --           | --               | --    |      | A    |      | A       | A       | A         |
| 4.                   | Requirements for graduating with honors                                                                                      | --           | --               | --    |      | A    |      | A       | A       | A         |

<sup>1</sup> Councils may request additional information about "Information" items. These items are approved as "Consent Agenda."

<sup>2</sup> The Dean and Department should respond to the Provost's recommendation to close a program in writing. Advise & Respond (R) requires that the voting body should receive the written responses at least one week prior to the vote.

<sup>3</sup> All courses that meet University Requirements for general education must go through UGEC. Courses or degrees offered only to students seeking teacher certification must go through the Teacher Education Council. All undergraduate changes must go before the UUAC. All graduate degree plan changes must go through the Graduate Council.

<sup>4</sup> A minimum of 30 hours is required for a major. A maximum is specified for each degree (e.g., BA, BS). The university minimum for elective hours is 6, unless the requirements of external accrediting bodies make it impossible.

<sup>5</sup> Program or course changes that apply to any major that includes Teacher Certification will be reviewed by the college, the Teacher Education Council (TEC), and then the UUAC.

<sup>6</sup> Courses that satisfy ACU's University Requirements (General Education) will normally have lower-level numbering, be free of prerequisites and co-requisites, appeal to more than one or two majors, and "not narrowly focus on those skills, techniques, and procedures specific to a particular occupation or profession" (SACS 2.7.3). Departments may request exceptions to the first three criteria.

<sup>7</sup> The UUAC approved the clarification that "general requirements for graduation" means the enumerated items in the "General Requirements for Bachelor's Degrees" section of the catalog.

Revised 8-26-19

# Curriculum/Catalog Changes Signature Page

| Department/School Chair(s)              |                                         |
|-----------------------------------------|-----------------------------------------|
| <u>Jennifer Huddleston</u><br>Signature | <u>October 4, 2021</u><br>Approval date |
| _____<br>Signature                      | _____<br>Approval date                  |

| College Academic Council(s)     |                                     |
|---------------------------------|-------------------------------------|
| <u>[Signature]</u><br>Signature | <u>Nov 10 2021</u><br>Approval date |
| _____<br>Signature              | _____<br>Approval date              |

| Dean(s)                         |                                     |
|---------------------------------|-------------------------------------|
| <u>[Signature]</u><br>Signature | <u>Nov 10 2021</u><br>Approval date |
| _____<br>Signature              | _____<br>Approval date              |

| Teacher Education Council  |                        |
|----------------------------|------------------------|
| _____<br>Chair's signature | _____<br>Approval date |

| General Education Council  |                        |
|----------------------------|------------------------|
| _____<br>Chair's signature | _____<br>Approval date |

| Undergraduate Academic Council |                        |
|--------------------------------|------------------------|
| _____<br>Chair's signature     | _____<br>Approval date |

| Graduate Council           |                        |
|----------------------------|------------------------|
| _____<br>Chair's signature | _____<br>Approval date |

| Provost            |                        |
|--------------------|------------------------|
| _____<br>Signature | _____<br>Approval date |

| Faculty                          |                        |
|----------------------------------|------------------------|
| _____<br>Chair of faculty senate | _____<br>Approval date |

| President          |                        |
|--------------------|------------------------|
| _____<br>Signature | _____<br>Approval date |

## Abilene Christian University

## 2021-2022 Catalog

## Biology, General Biology, BS (BIOL- BIOG)

## BS: Biology Degree Plan (BIOL)

## University Requirements

Please see the [University Requirements](#) section of this catalog.

## Major Requirements

## Biology

- [BIOL 121 - Introductory Biology I](#) Credit Hours: 3 \*
- [BIOL 122 - Introductory Biology I Laboratory](#) Credit Hours: 1
- [BIOL 123 - Introductory Biology II](#) Credit Hours: 3
- [BIOL 124 - Introductory Biology II Laboratory](#) Credit Hours: 1
- [BIOL 351 - Genetics](#) Credit Hours: 3
- [BIOL 362 - Ecology](#) Credit Hours: 3
- [BIOL 497 - Seminar in Biology](#) Credit Hours: 3 (capstone and writing-intensive course)

\*Hours may also fulfill university requirements and are not included in total major hours

**Total: 14 Credit Hours**

## General Biology Track (BIOG)

- [BIOL 312 - Cell Biology](#) Credit Hours: 3

## Choose 1 hour from the following:

- [BIOL 346 - Range and Wildland Plants Laboratory](#) Credit Hours: 1
- [BIOL 364 - Ecology Laboratory](#) Credit Hours: 1
- [BIOL 404 - Marine Biology Laboratory](#) Credit Hours: 1
- [BIOL 409 - General Mammalogy Laboratory](#) Credit Hours: 1
- [BIOL 414 - Plant Systematics Laboratory](#) Credit Hours: 1

## Choose 3 hours from the following:

- **BIOL 403 - Marine Biology Credit Hours: 3**
- [BIOL 408 - General Mammalogy](#) Credit Hours: 3
- [BIOL 413 - Plant Systematics](#) Credit Hours: 3
- [BIOL 486 - Comparative Botany](#) Credit Hours: 3
- [BIOL 487 - Comparative Zoology](#) Credit Hours: 3

## Choose 18 hours not previously taken from:

- BIOA or BIOL 300-399
- [CHEM 453 - Biochemistry I: Foundations of Biochemistry](#) Credit Hours: 3
- [CHEM 454 - Biochemistry II: Gene Expression](#) Credit Hours: 3
- [CHEM 456 - Biochemistry III: Metabolism](#) Credit Hours: 2
- [CHEM 463 - Biochemistry Laboratory I](#) Credit Hours: 1

**Total: 25 Credit Hours**

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## Supplement for Major

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### Chemistry

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- [CHEM 133 - General Chemistry I](#) Credit Hours: 3 \*
- [CHEM 131 - General Chemistry Laboratory I](#) Credit Hours: 1
- [CHEM 132 - General Chemistry Laboratory II](#) Credit Hours: 1
- [CHEM 134 - General Chemistry II](#) Credit Hours: 3
- [CHEM 221 - Organic Chemistry Laboratory I](#) Credit Hours: 1
- [CHEM 223 - Organic Chemistry I](#) Credit Hours: 3
- [CHEM 322 - Organic Chemistry Laboratory II](#) Credit Hours: 1
- [CHEM 324 - Organic Chemistry II](#) Credit Hours: 3

\*Hours may also fulfill university requirements and are not included in total major hours

### Physics

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- [PHYS 110 - General Physics I](#) Credit Hours: 3
- [PHYS 111 - General Physics I Laboratory](#) Credit Hours: 1
- [PHYS 112 - General Physics II](#) Credit Hours: 3
- [PHYS 113 - General Physics II Laboratory](#) Credit Hours: 1

### Mathematics

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- [MATH 131 - Calculus for Application](#) Credit Hours: 3 \*
- or
- [MATH 185 - Calculus I](#) Credit Hours: 3 \*
  
- [MATH 123 - Elementary Statistics](#) Credit Hours: 3
- or
- [MATH 377 - Statistical Methods I](#) Credit Hours: 3
- or
- [BIOL 483 - Biostatistics](#) Credit Hours: 3

\*Hours may also fulfill university requirements and are not included in total major hours

**Total: 24 Credit Hours**

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### Electives

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Minimum - 9 Credit Hours

**Total Major Hours: 72**

---

### Other Graduation Requirements

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Minimum GPA in major: 2.00

Minimum GPA for graduation: 2.00

Minimum advanced hours: 33

Minimum total hours: 128

*Courses numbered 0\*\* do not count in minimum hours required for degree.*

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## Abilene Christian University

## 2021-2022 Catalog

## Biology, Health Professions, BS (BIOL- BIOH)

## BS: Biology Degree Plan (BIOL)

## University Requirements

Please see the [University Requirements](#) section of this catalog.

## Major Requirements

## Biology

- [BIOL 121 - Introductory Biology I](#) Credit Hours: 3 \*
- [BIOL 122 - Introductory Biology I Laboratory](#) Credit Hours: 1
- [BIOL 123 - Introductory Biology II](#) Credit Hours: 3
- [BIOL 124 - Introductory Biology II Laboratory](#) Credit Hours: 1
- [BIOL 351 - Genetics](#) Credit Hours: 3
- [BIOL 362 - Ecology](#) Credit Hours: 3
- [BIOL 497 - Seminar in Biology](#) Credit Hours: 3 (capstone and writing-intensive course)

\*Hours may also fulfill university requirements and are not included in total major hours

**Total: 14 Credit Hours**

## Health Professions Track (BIOH)

- [BIOL 312 - Cell Biology](#) Credit Hours: 3

## Choose 1 hour from the following:

- [BIOL 346 - Range and Wildland Plants Laboratory](#) Credit Hours: 1
- [BIOL 364 - Ecology Laboratory](#) Credit Hours: 1
- [BIOL 404 - Marine Biology Laboratory](#) Credit Hours: 1
- [BIOL 409 - General Mammalogy Laboratory](#) Credit Hours: 1
- [BIOL 414 - Plant Systematics Laboratory](#) Credit Hours: 1

## Choose 3 hours from the following:

- **[BIOL 403 - Marine Biology](#) Credit Hours: 3**
- [BIOL 408 - General Mammalogy](#) Credit Hours: 3
- [BIOL 413 - Plant Systematics](#) Credit Hours: 3
- [BIOL 486 - Comparative Botany](#) Credit Hours: 3
- [BIOL 487 - Comparative Zoology](#) Credit Hours: 3

## Choose 18 hours from the following:

- [BIOL 308 - Global Healthcare](#) Credit Hours: 3
- [BIOL 309 - Medicinal Botany](#) Credit Hours: 3
- [BIOL 330 - Neurobiology](#) Credit Hours: 3
- [BIOL 355 - Microbiology](#) Credit Hours: 3
- [BIOL 357 - Microbiology Laboratory](#) Credit Hours: 1
- [BIOL 448 - Biology of Aging](#) Credit Hours: 3
- [BIOL 454 - Immunology](#) Credit Hours: 3
- [BIOL 475 - Molecular Genetics](#) Credit Hours: 3
- [BIOL 476 - Biotechnology](#) Credit Hours: 3
- [BIOL 480 - Histology](#) Credit Hours: 3
- [BIOL 484 - Developmental Biology](#) Credit Hours: 3

- [BIOL 488 - Comparative Botany Laboratory](#) Credit Hours: 1
- [BIOL 489 - Comparative Zoology Laboratory](#) Credit Hours: 1
- [BIOL 491 - Human Anatomy](#) Credit Hours: 3
- [BIOL 492 - Physiology](#) Credit Hours: 3
- [BIOL 493 - Human Anatomy Laboratory](#) Credit Hours: 1
- [BIOL 495 - Physiology Laboratory](#) Credit Hours: 1
- [BIOL 498 - Cancer Biology](#) Credit Hours: 3
- [CHEM 453 - Biochemistry I: Foundations of Biochemistry](#) Credit Hours: 3
- [CHEM 454 - Biochemistry II: Gene Expression](#) Credit Hours: 3
- [CHEM 456 - Biochemistry III: Metabolism](#) Credit Hours: 2
- [CHEM 463 - Biochemistry Laboratory I](#) Credit Hours: 1

**Total: 25 Credit Hours**

---

## Supplement for Major

---

### Chemistry

---

- [CHEM 133 - General Chemistry I](#) Credit Hours: 3 \*
- [CHEM 131 - General Chemistry Laboratory I](#) Credit Hours: 1
- [CHEM 132 - General Chemistry Laboratory II](#) Credit Hours: 1
- [CHEM 134 - General Chemistry II](#) Credit Hours: 3
- [CHEM 221 - Organic Chemistry Laboratory I](#) Credit Hours: 1
- [CHEM 223 - Organic Chemistry I](#) Credit Hours: 3
- [CHEM 322 - Organic Chemistry Laboratory II](#) Credit Hours: 1
- [CHEM 324 - Organic Chemistry II](#) Credit Hours: 3

\*Hours may also fulfill university requirements and are not included in total major hours

### Physics

---

- [PHYS 110 - General Physics I](#) Credit Hours: 3
- [PHYS 111 - General Physics I Laboratory](#) Credit Hours: 1
- [PHYS 112 - General Physics II](#) Credit Hours: 3
- [PHYS 113 - General Physics II Laboratory](#) Credit Hours: 1

### Mathematics

---

- [MATH 131 - Calculus for Application](#) Credit Hours: 3 \*
- or
- [MATH 185 - Calculus I](#) Credit Hours: 3 \*
- [MATH 123 - Elementary Statistics](#) Credit Hours: 3
- or
- [MATH 377 - Statistical Methods I](#) Credit Hours: 3
- or
- [BIOL 483 - Biostatistics](#) Credit Hours: 3

\*Hours may also fulfill university requirements and are not included in total major hours

**Total: 24 Credit Hours**

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### Electives

---

Minimum - 9 Credit Hours

**Total Major Hours: 72**

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### Other Graduation Requirements

---

Minimum GPA in major: 2.00  
 Minimum GPA for graduation: 2.00  
 Minimum advanced hours: 33  
 Minimum total hours: 128

*Courses numbered 0\*\* do not count in minimum hours required for degree.*

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## Abilene Christian University

## 2021-2022 Catalog

## Biology, Cellular/Molecular Biology, BS (BIOL-BICM)

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BS: Biology Degree Plan (BIOL)

---

University Requirements

Please see the [University Requirements](#) section of this catalog.

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Major Requirements

---

Biology

- [BIOL 121 - Introductory Biology I](#) Credit Hours: 3 \*
- [BIOL 122 - Introductory Biology I Laboratory](#) Credit Hours: 1
- [BIOL 123 - Introductory Biology II](#) Credit Hours: 3
- [BIOL 124 - Introductory Biology II Laboratory](#) Credit Hours: 1
- [BIOL 351 - Genetics](#) Credit Hours: 3
- [BIOL 362 - Ecology](#) Credit Hours: 3
- [BIOL 497 - Seminar in Biology](#) Credit Hours: 3 (capstone and writing-intensive course)

\*Hours may also fulfill university requirements and are not included in total major hours

**Total: 14 Credit Hours**

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## Cellular/Molecular Biology Track (BICM)

- 
- [BIOL 312 - Cell Biology](#) Credit Hours: 3
  - [BIOL 472 - Biochemistry I: Foundations of Biochemistry](#) Credit Hours: 3
  - [BIOL 475 - Molecular Genetics](#) Credit Hours: 3
  - [BIOL 476 - Biotechnology](#) Credit Hours: 3

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Choose 1 hour from the following:

- 
- [BIOL 346 - Range and Wildland Plants Laboratory](#) Credit Hours: 1
  - [BIOL 364 - Ecology Laboratory](#) Credit Hours: 1
  - [BIOL 404 - Marine Biology Laboratory](#) Credit Hours: 1
  - [BIOL 409 - General Mammalogy Laboratory](#) Credit Hours: 1
  - [BIOL 414 - Plant Systematics Laboratory](#) Credit Hours: 1

---

Choose 3 hours from the following:

- 
- **[BIOL 403 - Marine Biology](#) Credit Hours: 3**
  - [BIOL 408 - General Mammalogy](#) Credit Hours: 3
  - [BIOL 413 - Plant Systematics](#) Credit Hours: 3
  - [BIOL 486 - Comparative Botany](#) Credit Hours: 3
  - [BIOL 487 - Comparative Zoology](#) Credit Hours: 3

---

Choose 9 hours from the following:

- 
- [BIOL 313 - Cell Biology Laboratory](#) Credit Hours: 1
  - [BIOL 330 - Neurobiology](#) Credit Hours: 3
  - [BIOL 355 - Microbiology](#) Credit Hours: 3
  - [BIOL 357 - Microbiology Laboratory](#) Credit Hours: 1
  - [BIOL 399 - Biology Research](#) Credit Hours: 3
  - [BIOL 454 - Immunology](#) Credit Hours: 3

- [BIOL 488 - Comparative Botany Laboratory](#) Credit Hours: 1
- [BIOL 489 - Comparative Zoology Laboratory](#) Credit Hours: 1
- [BIOL 498 - Cancer Biology](#) Credit Hours: 3
- [CHEM 453 - Biochemistry I: Foundations of Biochemistry](#) Credit Hours: 3
- [CHEM 454 - Biochemistry II: Gene Expression](#) Credit Hours: 3
- [CHEM 456 - Biochemistry III: Metabolism](#) Credit Hours: 2
- [CHEM 463 - Biochemistry Laboratory I](#) Credit Hours: 1

**Total: 25 Credit Hours**

---

## Supplement for Major

---

### Chemistry

---

- [CHEM 133 - General Chemistry I](#) Credit Hours: 3 \*
- [CHEM 131 - General Chemistry Laboratory I](#) Credit Hours: 1
- [CHEM 132 - General Chemistry Laboratory II](#) Credit Hours: 1
- [CHEM 134 - General Chemistry II](#) Credit Hours: 3
- [CHEM 221 - Organic Chemistry Laboratory I](#) Credit Hours: 1
- [CHEM 223 - Organic Chemistry I](#) Credit Hours: 3
- [CHEM 322 - Organic Chemistry Laboratory II](#) Credit Hours: 1
- [CHEM 324 - Organic Chemistry II](#) Credit Hours: 3

\*Hours may also fulfill university requirements and are not included in total major hours

### Physics

---

- [PHYS 110 - General Physics I](#) Credit Hours: 3
- [PHYS 111 - General Physics I Laboratory](#) Credit Hours: 1
- [PHYS 112 - General Physics II](#) Credit Hours: 3
- [PHYS 113 - General Physics II Laboratory](#) Credit Hours: 1

### Mathematics

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- [MATH 131 - Calculus for Application](#) Credit Hours: 3 \*
- or
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- or
- [MATH 377 - Statistical Methods I](#) Credit Hours: 3
- or
- [BIOL 483 - Biostatistics](#) Credit Hours: 3

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**Total: 24 Credit Hours**

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### Electives

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Minimum - 9 Credit Hours

**Total Major Hours: 72**

---

### Other Graduation Requirements

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Minimum GPA in major: 2.00  
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Minimum advanced hours: 33  
Minimum total hours: 128

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