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## BIOLOGICAL SCIENCES (BSC)

210 Julian Hall, (309) 438-3669 https://Bio.IllinoisState.edu Director: Craig Gatto

## Program Admission Requirements for New and Continuing Students

Admission to this academic program is limited and is based on space availability and the competitiveness of the applicant pool. Factors that may be considered include, but are not limited to: courses completed, cumulative GPA, hours completed, personal interview or written statement, and samples of work completed. For additional information on minimum requirements for admission and the application and selection process, visit IllinoisState.edu/Majors or contact the undergraduate advisor for the intended major.

## **Associated Minors**

The School of Biological Sciences offers coursework that contributes to the interdisciplinary Minor in Cognitive Science. For further information on this minor and advisor, consult the Interdisciplinary Studies Programs section in this Undergraduate Catalog. The School also offers coursework that contributes to the Minor in Environmental Studies. For further information on this minor and advisor, consult the Geography, Geology, and the Environment section of this Undergraduate Catalog.

## **Honors in Biological Sciences**

In order to graduate with honors in Biological Sciences, a student must complete: (1) all regular requirements for the Biological Sciences Major; (2) CHE 230 and 231; (3) Mathematics through 2 semesters of calculus (MAT 145 and 146); (4) 12 hours of Biological Sciences on a tutorial basis (i.e., in-course honors) with a grade of A or B in each; (5) 3 hours of BSC 299; (6) 1 hour BSC 303; and (7) have at the time of graduation a cumulative GPA of at least 3.30 and at least 3.50 in Biological Sciences courses. A student must be in good standing with the University Honors Program at the time of graduation. Further details about the University Honors program are available at https://honors.illinoisstate.edu.

## **Biological Sciences Programs**

Degrees Offered: B.S.

## **Major in Biological Sciences**

Students must complete one of the following sequences: General Biology; Conservation Biology; Physiology, Neuroscience and Behavior; Plant Biology; Zoology.

## **General Biology Sequence**

Majors selecting this sequence will receive broad training in the biological sciences. This sequence is designed for students seeking careers in any area of biology. This sequence will also prepare students for graduate studies in the Biological Sciences and/or post-baccalaureate professional schools.

## **Conservation Biology Sequence**

Biological Sciences majors selecting this sequence will receive broad training in conservation biology. This sequence is designed for students seeking careers in the conservation of natural ecosystems and their organisms (all levels of biodiversity). The coursework will also prepare students for graduate studies in conservation biology, and for internships and entry-level positions in conservation-oriented nongovernmental organizations, state and federal government organizations, and environmental consulting firms.

## Physiology, Neuroscience and Behavior Sequence

Majors selecting this sequence will receive broad training in physiology, neuroscience and behavior. This sequence is designed for students seeking careers that involve basic scientific and applied aspects of behavior, physiology and neuroscience. This sequence will also prepare students for graduate studies in neuroscience, physiology and animal behavior and related fields, and with additional coursework, students can meet the requirements to apply to veterinary and health professional schools.

## **Plant Biology Sequence**

Majors selecting this sequence receive broad training in plant biology. This sequence is designed for students seeking jobs with industries, the government and nonprofit organizations working with plants. This sequence will also prepare students for graduate studies in plant biology.

Research and internships enhance future prospects for employment and acceptance to graduate programs; hence students are strongly encouraged to pursue individual work via one of the following: 2 hours of BSC 287 Independent Study, 2 hours of BSC 398 Professional Practice (398 Biology, or 398A02 Internship in Public Outreach), or at least 3 hours of BSC 290 Research in Biological Sciences. Students are also encouraged to do a formal senior thesis (for more information see https://Biology.IllinoisState.edu/undergrad/thesis).

## **Zoology Sequence**

Majors selecting this sequence will receive broad training in Zoology. This sequence is designed for students seeking careers that involve working with animals. This sequence will also prepare students for graduate studies in Zoology and related fields (e.g., Entomology, Physiology, Wildlife Biology), and with additional coursework, students can meet the requirements to apply to veterinary and health professional schools.

## **Minor in Biological Sciences**

Biological Sciences Sequence:

- 24 hours in Biological Sciences required
- Required courses: BSC 196 and 197
- At least 12 of the elective hours must be 200- or 300level courses.

NOTE: BSC 101 and 307 may not be used as electives in the minor.

## Major in Molecular and Cellular Biology

The Molecular and Cellular Biology major provides a solid foundation in the study of molecular and cellular processes within the context of medical and societal applications.

### Honors in Molecular and Cellular Biology

In order to graduate with honors in Molecular and Cellular Biology, a student must complete (1) all regular requirements for the Molecular and Cellular Biology Major; (2) Mathematics through 2 semesters of calculus; (3) 12 hours of Honors credit in Biological Sciences with a grade of A or B in each; (4) 3 hours of BSC 299; (5) 1 hour of BSC 303 Senior Thesis; and (6) have at the time of graduation a cumulative GPA of at least 3.30 and at least 3.50 in Biological Sciences courses.

## **Major in Biological Sciences Teacher Education**

The Biological Science Teacher Education major is designed to prepare students to teach secondary science.

## Program Admission Requirements for New and Continuing Students

Admission to this academic program is limited and is based on space availability and the competitiveness of the applicant pool. Factors that may be considered include, but are not limited to: courses completed, cumulative GPA, hours completed, personal interview or written statement, and samples of work completed. For additional information on minimum requirements for admission and the application process, visit IllinoiState.edu/ Majors or contact the undergraduate advisor for the intended major.

## Standards for Progress in the Major

Before being admitted to the University Professional Studies program (see the University Wide Teacher Education Program requirements in this Undergraduate Catalog), the Biological Sciences Teacher Education major must meet school requirements for admission.

Students should consult the Teacher Education advisor for information and updated requirements.

To progress through the program in a timely manner, the teacher candidate must continuously maintain a minimum cumulative 2.50 GPA and a minimum major 2.50 GPA to remain academically eligible. In order to receive teaching

licensure in the state of Illinois, majors must earn a grade of C or better in all courses required for state licensure.

### **Clinical Experiences in Teacher Education**

A variety of clinical (pre-student teaching) experiences, as well as student teaching, are included in the teacher candidates professional preparation. Observations, small and large group instruction, tutoring, field experiences, and student teaching are included in the Clinical Experiences Program. The experiences offered prior to student teaching are integral parts of specific college courses. Clinical experiences are provided in off-campus professional development schools, local schools and campus laboratory schools, agencies and other approved nonschool settings. The Cecilia J. Lauby Teacher Education Center monitors and documents all clinical experiences. Teacher candidates will show verification of having completed clinical experiences commensurate with attaining local, state, and national standards. Teacher candidates must provide their own transportation to clinical experiences sites.

Candidates are required to provide documentation of meeting all State of Illinois, district, and university requirements in regard to criminal background checks BEFORE beginning any clinical experiences. Criminal background checks must remain current as of the last day of the clinical experience. Candidates should consult with clinical course faculty and the Cecilia J. Lauby Teacher Education Center well in advance of clinical experiences to determine specific requirements needed each semester.

The approximate number of clinical hours associated with each course offering can be found with the appropriate course description in this Undergraduate Catalog. The following legend relates to the type and kind of activity related to a specific course.

### **Clinical Experiences Legend**

- Observation (including field trips)
- Tutoring one-on-one contact
- Non-instructional assisting
- Small group instruction
- Whole class instruction
- Work with clinic client(s)
- Graduate practicum
- Professional meeting

## **Biological Sciences Courses:**

https://coursefinder.illinoisstate.edu/directory/bsc/

#### All Courses:

#### 2019-2020 Catalog | Biological Sciences

## MAJOR IN BIOLOGICAL SCIENCES GENERAL BIOLOGY SEQUENCE (B.S.)

#### **General Education (39 credit hours)**

Refer to the General Education section of the Undergraduate Catalog for a complete list of General Education requirements and courses.

#### Communication and Composition (2 courses required)

3 COM 110 Communication as Critical Inquiry

3 ENG 101 or ENG 101A10 Composition as Critical Inquiry

#### Mathematics (1 course required)

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Please see major requirements for math options.

#### Natural Science/Natural Science Alternatives (2 courses required)

Students must complete 1 course from 2 different sciences. Please see major requirements for science options.

United States Traditions (1 course required)

Individuals & Civic Life (1 course required)

Fine Arts (1 course/3 credit hours required)\*\*\*

Humanities (1 course required)\*\*\*

Language in the Humanities (1 course required)\*\*\*

#### Quantitative Reasoning (1 course required)

Please see major requirements for quantitative reasoning options

#### Science, Math, & Technology (1 course required) Exempt for General Biology majors

Social Sciences (1 course required)\*\*\*

#### **Additional Graduation Requirements**

\_\_\_\_/120 minimum total credit hours

\_\_\_\_/42 minimum senior college hours

\_ College of Arts & Sciences language requirement

#### AMALI requirement

See the AMALI Requirement section of the catalog or the Course Finder website for a list of courses.

#### B.S. Science, Math, & Technology (1 course required)

See the B.S.—SMT Requirement section of the catalog or the Course Finder website for a list of courses.

\_\_\_\_\_ 4 BSC 201 Ecology

Major	(min.	60	credit	ho	urs)

	A BSC 107* Molecular & Collular Basis of Life
	4 BSC 197 Molecular & Cellular Basis of Life
	4 BSC 201 Coll Biology (P: BSC 196 & 197)
	3 BSC 203 Cell Biology (P: BSC 196 & 197; CHE 110 & 112 or 141)
	UI 141) 1 BSC 204 Biological Investigations (P: BSC 106 & 107)
	2 BSC 210 Connetice (D: BSC 106 & 107)
	3 BSC 219 Genetics (P. BSC 190 & 197)     3 BSC 205 Dislocies Evolution (D. BSC 100 & 107)
	3 BSC 305 Biological Evolution (P: BSC 196 & 197; 45+
<b>Take 16</b> At least advisor	<b>credit hours of additional General Biology electives:</b> two courses must have labs. Please consult your academic
Choose	one of the following options:
	4/1 CHE 110/112 Fundamentals of Chemistry & Laboratory
	4/4 CHE 140 General Chemistry I (P: C or better in MAT
	119; or C or better in MAT 120 or 144 or 145 or conc.
	reg.) AND CHE 141 General Chemistry II (P: CHE 140)
	5 CHE 220 Elementary Organic Chemistry (P: CHE 112 or 141)
	3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE
	3/1 CHE 230 Organic Chemistry I (P: CHE 141) <b>AND</b> CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc.
	3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)
 Choose	<ul> <li>3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)</li> <li>one of the following options:</li> </ul>
Choose	<ul> <li>3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)</li> <li>one of the following options:</li> <li>4/4 MAT 120 Finite Mathematics (P: C or better in MAT</li> </ul>
Choose	<ul> <li>3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)</li> <li>one of the following options:</li> <li>4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P:</li> </ul>
Choose	<ul> <li>3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)</li> <li>one of the following options:</li> <li>4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P: C or better in MAT 119 &amp; 120)</li> </ul>
Choose	<ul> <li>3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)</li> <li>one of the following options:</li> <li>4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P: C or better in MAT 119 &amp; 120)</li> <li>4/4 MAT 145 Calculus I (P: C or better in MAT 144 or</li> </ul>
Choose	<ul> <li>3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)</li> <li>one of the following options:</li> <li>4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P: C or better in MAT 119 &amp; 120)</li> <li>4/4 MAT 145 Calculus I (P: C or better in MAT 144 or placement) AND MAT 146 Calculus II‡ (P: C or better</li> </ul>
Choose	<ul> <li>3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)</li> <li>one of the following options:</li> <li>4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P: C or better in MAT 119 &amp; 120)</li> <li>4/4 MAT 145 Calculus I (P: C or better in MAT 144 or placement) AND MAT 146 Calculus II‡ (P: C or better in MAT 145)</li> </ul>
Choose	<ul> <li>3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)</li> <li>one of the following options:</li> <li>4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P: C or better in MAT 119 &amp; 120)</li> <li>4/4 MAT 145 Calculus I (P: C or better in MAT 144 or placement) AND MAT 146 Calculus II‡ (P: C or better in MAT 145)</li> </ul>
Choose	<ul> <li>3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)</li> <li>one of the following options:</li> <li>4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P: C or better in MAT 119 &amp; 120)</li> <li>4/4 MAT 145 Calculus I (P: C or better in MAT 144 or placement) AND MAT 146 Calculus II‡ (P: C or better in MAT 145)</li> <li>ne of the following courses:</li> <li>4 PHY 105 Fundamentals of Physics</li> </ul>
Choose  Take oi	<ul> <li>3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)</li> <li>one of the following options:</li> <li>4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P: C or better in MAT 119 &amp; 120)</li> <li>4/4 MAT 145 Calculus I (P: C or better in MAT 144 or placement) AND MAT 146 Calculus II‡ (P: C or better in MAT 145)</li> <li>ne of the following courses:</li> <li>4 PHY 105 Fundamentals of Physics</li> <li>5 PHY 108 College Physics I</li> </ul>
Choose  Take oi	<ul> <li>3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)</li> <li>one of the following options:</li> <li>4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P: C or better in MAT 119 &amp; 120)</li> <li>4/4 MAT 145 Calculus I (P: C or better in MAT 144 or placement) AND MAT 146 Calculus II‡ (P: C or better in MAT 145)</li> <li>be of the following courses:</li> <li>4 PHY 105 Fundamentals of Physics</li> <li>5 PHY 108 College Physics I</li> <li>4 PHY 110 Physics for Science &amp; Engineering I (P: MAT 145</li> </ul>
Choose  Take or 	<ul> <li>3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)</li> <li>one of the following options:</li> <li>4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P: C or better in MAT 119 &amp; 120)</li> <li>4/4 MAT 145 Calculus I (P: C or better in MAT 144 or placement) AND MAT 146 Calculus II‡ (P: C or better in MAT 145)</li> <li>ne of the following courses:</li> <li>4 PHY 105 Fundamentals of Physics</li> <li>5 PHY 108 College Physics I</li> <li>4 PHY 110 Physics for Science &amp; Engineering I (P: MAT 145 or conc. reg.)</li> </ul>
Choose  Take or  	<ul> <li>3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)</li> <li>one of the following options:</li> <li>4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P: C or better in MAT 119 &amp; 120)</li> <li>4/4 MAT 145 Calculus I (P: C or better in MAT 144 or placement) AND MAT 146 Calculus II‡ (P: C or better in MAT 145)</li> <li>ne of the following courses:</li> <li>4 PHY 105 Fundamentals of Physics</li> <li>5 PHY 108 College Physics I</li> <li>4 PHY 110 Physics for Science &amp; Engineering I (P: MAT 145 or conc. reg.)</li> <li>gical Science courses with a lab</li> </ul>
Choose Take or * Biolog ‡ ECO 1	<ul> <li>3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)</li> <li>one of the following options:</li> <li>4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P: C or better in MAT 119 &amp; 120)</li> <li>4/4 MAT 145 Calculus I (P: C or better in MAT 144 or placement) AND MAT 146 Calculus II‡ (P: C or better in MAT 145)</li> <li>ne of the following courses:</li> <li>4 PHY 105 Fundamentals of Physics</li> <li>5 PHY 108 College Physics I</li> <li>4 PHY 110 Physics for Science &amp; Engineering I (P: MAT 145 or conc. reg.)</li> <li>gical Science courses with a lab</li> <li>38 or PSY 138 may substitute for MAT 121 or 146</li> </ul>
Choose  Take or  * Biolog ‡ ECO 1	<ul> <li>3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)</li> <li>one of the following options:</li> <li>4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P: C or better in MAT 119 &amp; 120)</li> <li>4/4 MAT 145 Calculus I (P: C or better in MAT 144 or placement) AND MAT 146 Calculus II‡ (P: C or better in MAT 145)</li> <li>ne of the following courses:</li> <li>4 PHY 105 Fundamentals of Physics</li> <li>5 PHY 108 College Physics I</li> <li>4 PHY 110 Physics for Science &amp; Engineering I (P: MAT 145 or conc. reg.)</li> <li>gical Science courses with a lab</li> <li>38 or PSY 138 may substitute for MAT 121 or 146</li> </ul>
Choose  Take or  * Biolog ‡ ECO 1 BS	<ul> <li>3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)</li> <li>one of the following options:</li> <li>4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P: C or better in MAT 119 &amp; 120)</li> <li>4/4 MAT 145 Calculus I (P: C or better in MAT 144 or placement) AND MAT 146 Calculus II‡ (P: C or better in MAT 145)</li> <li>ne of the following courses:</li> <li>4 PHY 105 Fundamentals of Physics</li> <li>5 PHY 108 College Physics I</li> <li>4 PHY 110 Physics for Science &amp; Engineering I (P: MAT 145 or conc. reg.)</li> <li>gical Science courses with a lab .38 or PSY 138 may substitute for MAT 121 or 146</li> <li>C 202, 307 and Biological Sciences courses below 195 may not be end in the major.</li> </ul>
Choose Take or * Biolog # ECO 1BS	<ul> <li>3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)</li> <li>one of the following options:</li> <li>4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P: C or better in MAT 119 &amp; 120)</li> <li>4/4 MAT 145 Calculus I (P: C or better in MAT 144 or placement) AND MAT 146 Calculus II‡ (P: C or better in MAT 145)</li> <li>be of the following courses:</li> <li>4 PHY 105 Fundamentals of Physics</li> <li>5 PHY 108 College Physics I</li> <li>4 PHY 110 Physics for Science &amp; Engineering I (P: MAT 145 or conc. reg.)</li> <li>gical Science courses with a lab</li> <li>38 or PSY 138 may substitute for MAT 121 or 146</li> <li>C 202, 307 and Biological Sciences courses below 195 may not be ed in the major.</li> </ul>

#### **Biological Sciences Courses:**

https://coursefinder.illinoisstate.edu/directory/bsc/

All Courses: https://coursefinder.illinoisstate.edu/directory/

## MAJOR IN BIOLOGICAL SCIENCES **GENERAL BIOLOGY SEQUENCE, (B.S.) Transfer Students**

#### Illinois Articulation Initiative (min. 37 credit hours)

To be eligible for IAI, at least one transfer course must have been articulated to an IAI core requirement. Refer to the Undergraduate Catalog for a complete list of IAI courses and policies.

#### Communication and Composition (3 courses required)

A grade of C or better required in ENG 101 and 145 or equivalents

- \_\_\_\_\_ 3 C2 900 COM 110 Communication as Critical Inquiry
- 3 C1 900 ENG 101 or ENG 101A10 Composition as Critical Inquiry
- 3 C1 901 ENG 145 Writing in the Academic Disciplines

#### Mathematics (1 course required)

Please see major requirements for mathematics options

4 M1 906 MAT 120 Finite Math or M1 900 MAT 121 Applied Calculus or M1 900-1 MAT 145 Calculus I or M1 900-2 MAT 146 Calculus II or M1 902 ECO/PSY 138 Econ Reasoning Using Statistics

#### Physical & Life Sciences (2 courses/7-8 hours required)

Students must complete 1 life science and 1 physical science course; at least one course must have a lab.

- 4 L1 901L BSC 196 Biological Diversity or BSC 197 Molecular/Cellular Basis of Life
- 4 P1 902 and P1 902L CHE 110/112 Fundamentals of Chemistry or P1 902L CHE 140 General Chemistry I or P1 900L PHY 108 College Physics I or P2 900L PHY 110 Physics for Science & Engineering I

#### Humanities & Fine Arts (3 courses required)

At least one humanities and 1 fine arts course required

## Social & Behavioral Sciences (3 courses required)

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Two different disciplines must be represented

#### **Additional Graduation Requirements**

/120 minimum total credit hours

\_\_\_/42 minimum senior college hours

\_\_\_ College of Arts & Sciences language requirement

#### AMALI requirement

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See the AMALI Requirement section of the catalog or the Course Finder website for a list of courses.

#### B.S. Science, Math, & Technology (1 course required)

See the B.S.—SMT Requirement section of the catalog or the Course Finder website for a list of courses.

4 BSC 201 Ecology

#### Major (min. 60 credit hours)

38 hours required in Biology

- 4 BSC 196\* Biological Diversity
- 4 BSC 197\* Molecular & Cellular Basis of Life
- \_ 4 BSC 201\* Ecology (P: BSC 196 & 197)
- \_\_\_\_ 3 BSC 203 Cell Biology (P: BSC 196 & 197; CHE 110 & 112 or 141)
- 1 BSC 204 Biological Investigations (P: BSC 196 & 197)
- 3 BSC 219 Genetics (P: BSC 196 & 197)
- \_\_\_\_\_ 3 BSC 305 Biological Evolution (P: BSC 196 & 197; 45+ earned hours)

#### Take 16 credit hours of additional General Biology electives:

At least two courses must have labs. Please consult your academic advisor.

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#### Choose one of the following options:

- \_\_\_\_ 4/1 CHE 110/112 Fundamentals of Chemistry & Laboratory
- \_ 4/4 CHE 140 General Chemistry I (P: C or better in MAT 119; or C or better in MAT 120 or 144 or 145 or conc. reg.) AND CHE 141 General Chemistry II (P: CHE 140)

#### Choose one of the following options:

- 5 CHE 220 Elementary Organic Chemistry (P: CHE 112 or 141)
- \_ 3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)

#### Choose one of the following options:

- \_\_\_\_\_ 4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P: C or better in MAT 119 & 120)
- 4/4 MAT 145 Calculus I (P: C or better in MAT 144 or placement) AND MAT 146 Calculus II‡ (P: C or better in MAT 145)

#### Take one of the following courses:

- 4 PHY 105 Fundamentals of Physics
- 5 PHY 108 College Physics I
- 4 PHY 110 Physics for Science & Engineering I (P: MAT 145 or conc. reg.)

\* Biological Science courses with a lab

- ‡ ECO 138 or PSY 138 may substitute for MAT 121 or 146
- BSC 202, 307 and Biological Sciences courses below 195 may not be used in the major.
- A minimum of 12 hours in Biological Sciences courses must be completed at Illinois State University.

### **Biological Sciences Courses:**

https://coursefinder.illinoisstate.edu/directory/bsc/

### All Courses:

## MAJOR IN BIOLOGICAL SCIENCES **CONSERVATION BIOLOGY SEQUENCE (B.S.)**

#### General Education (39 credit hours)

Refer to the General Education section of the Undergraduate Catalog for a complete list of General Education requirements and courses.

#### Communication and Composition (2 courses required)

\_\_\_\_ 3 COM 110 Communication as Critical Inquiry

\_ 3 ENG 101 or ENG 101A10 Composition as Critical Inquiry

#### Mathematics (1 course required)

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Please see major requirements for math options.

#### Natural Science/Natural Science Alternatives (2 courses required)

Students must complete 1 course from 2 different sciences. Please see major requirements for science options.

United States Traditions (1 course required)

Individuals & Civic Life (1 course required)

Fine Arts (1 course/3 credit hours required)\*\*\*

Humanities (1 course required)\*\*\*

Language in the Humanities (1 course required)\*\*\*

#### Quantitative Reasoning (1 course required)

Please see major requirements for quantitative reasoning options

#### Science, Math, & Technology (1 course required) Exempt for Conservation Biology majors

Social Sciences (1 course required)\*\*\*

#### **Additional Graduation Requirements**

/120 minimum total credit hours

\_/42 minimum senior college hours

College of Arts & Sciences language requirement

#### AMALI requirement

\*\*\* certain courses in General Education fulfill the AMALI requirement See the AMALI Requirement section of the catalog or the Course Finder website for a list of courses.

#### B.S. Science, Math, & Technology (1 course required)

See the B.S.—SMT Requirement section of the catalog or the Course Finder website for a list of courses.

\_ 4 BSC 201 Ecology

#### Major (min. 59 credit hours) 38 hours required in Biology

- 4 BSC 196\* Biological Diversity
- 4 BSC 197\* Molecular & Cellular Basis of Life
- 4 BSC 201\* Ecology (P: BSC 196 & 197)
- 1 BSC 204 Biological Investigations (P: BSC 196 & 197)
- 3 BSC 219 Genetics (P: BSC 196 & 197)
- \_\_\_\_ 3 BSC 280 Conservation of Animal & Plant Biodiversity (P: BSC 196 & 197)
- 3 BSC 305 Biological Evolution (P: BSC 196 & 197; 45+ earned hours)

#### Take 1 additional Conceptual Group elective:

(BSC 260\*, 286, 295\*, 311, 325, 375 and 376\*)

Take 1 additional Botany Taxon Group elective: (BSC 211\*, 212\*, 223\*, 330\*, 333\*)

Take 1 additional Zoology Taxon Group elective:

(BSC 292\*, 296, 301\*, 396\*)

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Take additional Conservation Biology electives to total 38 Biology hours: Please consult your academic advisor.

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#### Choose 1 of the following options:

\_\_\_\_\_ 4/1 CHE 110/112 Fundamentals of Chemistry & Laboratory 4/4 CHE 140 General Chemistry I (P: C or better in MAT 119; or C or better in MAT 120 or 144 or 145 or conc. reg.) AND CHE 141 General Chemistry II (P: CHE 140)

#### Choose 1 of the following options:

- \_\_\_\_\_ 5 CHE 220 Elementary Organic Chemistry (P: CHE 112 or 141)
  - 3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231
  - Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)

#### Choose 1 of the following options:

- \_\_\_\_\_ 4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P: C or better in MAT 119 & 120)
- \_\_\_\_ 4/4 MAT 145 Calculus I (P: C or better in MAT 144 or placement) AND MAT 146 Calculus II<sup>‡</sup> (P: C or better in MAT 145)

#### Take 1 of the following courses:

- \_\_\_\_\_ 4 PHY 105 Fundamentals of Physics
- 5 PHY 108 College Physics I
- 4 PHY 110 Physics for Science & Engineering I (P: MAT 145 or conc. reg.)

#### \* Biological Science courses with a lab

- ‡ ECO 138 or PSY 138 may substitute for MAT 121 or 146.
- BSC 202, 307 and Biological Sciences courses below 195 may not be used in the major.
- A minimum of 12 hours in Biological Sciences courses must be completed at Illinois State University.

#### **Biological Sciences Courses:**

https://coursefinder.illinoisstate.edu/directory/bsc/

#### All Courses:

## MAJOR IN BIOLOGICAL SCIENCES CONSERVATION BIOLOGY SEQUENCE (B.S.) Transfer Students

#### Illinois Articulation Initiative (min. 37 credit hours)

To be eligible for IAI, at least one transfer course must have been articulated to an IAI core requirement. Refer to the Undergraduate Catalog for a complete list of IAI courses and policies.

#### Communication and Composition (3 courses required)

A grade of C or better	required in	ENG 101	and 145	or equivalents

- \_\_\_\_\_ 3 C2 900 COM 110 Communication as Critical Inquiry
- \_\_\_\_\_ 3 C1 900 ENG 101 or ENG 101A10 Composition as Critical Inquiry
- \_\_\_\_\_ 3 C1 901 ENG 145 Writing in the Academic Disciplines

#### Mathematics (1 course required)

Please see major requirements for mathematics options

4 M1 906 MAT 120 Finite Math or M1 900 MAT 121 Applied Calculus or M1 900-1 MAT 145 Calculus I or M1 900-2 MAT 146 Calculus II or M1 902 ECO/PSY 138 Econ Reasoning Using Statistics

#### Physical & Life Sciences (2 courses/7-8 hours required)

Students must complete 1 life science and 1 physical science course; at least 1 course must have a lab.

- \_\_\_\_\_ 4 L1 901L BSC 196 Biological Diversity or BSC 197 Molecular/Cellular Basis of Life
- 4 P1 902 and P1 902L CHE 110/112 Fundamentals of Chemistry or P1 902L CHE 140 General Chemistry I or P1 900L PHY 108 College Physics I or P2 900L PHY 110 Physics for Science & Engineering I

#### Humanities & Fine Arts (3 courses required)

At least 1 humanities and 1 fine arts course required

#### Social & Behavioral Sciences (3 courses required)

2 different disciplines must be represented

#### **Additional Graduation Requirements**

\_/120 minimum total credit hours

\_\_\_\_\_/42 minimum senior college hours

College of Arts & Sciences language requirement

#### AMALI requirement

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See the AMALI Requirement section of the catalog or the Course Finder website for a list of courses.

#### B.S. Science, Math, & Technology (1 course required)

See the B.S.—SMT Requirement section of the catalog or the Course Finder website for a list of courses.

\_\_\_\_\_ 4 BSC 201 Ecology

#### Major (min. 59 credit hours) 38 hours required in Biology

- \_\_\_\_\_ 4 BSC 196\* Biological Diversity
- 4 BSC 197\* Molecular & Cellular Basis of Life
- \_\_\_\_\_ 4 BSC 201\* Ecology (P: BSC 196 & 197)
- 1 BSC 204 Biological Investigations (P: BSC 196 & 197)
- 3 BSC 219 Genetics (P: BSC 196 & 197)
- 3 BSC 280 Conservation of Animal & Plant Biodiversity (P: BSC 196 & 197)
- 3 BSC 305 Biological Evolution (P: BSC 196 & 197; 45+ earned hours)

#### Take 1 additional Conceptual Group elective:

(BSC 260\*, 286, 295\*, 311, 325, 375 and 376\*)

#### Take 1 additional Botany Taxon Group elective:

(BSC 211\*, 212\*, 223\*, 330\*, 333\*)

### Take 1 additional Zoology Taxon Group elective:

(BSC 292\*, 296, 301\*, 396\*)

Take additional Conservation Biology electives to total 38 Biology hours: Please consult your academic advisor.

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#### Choose 1 of the following options:

4/1 CHE 110/112 Fundamentals of Chemistry & Laboratory
 4/4 CHE 140 General Chemistry I (P: C or better in MAT 119; or C or better in MAT 120 or 144 or 145 or conc. reg.) AND CHE 141
 General Chemistry II (P: CHE 140)

#### Choose 1 of the following options:

- \_\_\_\_\_ 5 CHE 220 Elementary Organic Chemistry (P: CHE 112 or 141)
- 3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231
  - Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)

#### Choose 1 of the following options:

- \_\_\_\_\_ 4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P: C or better in MAT 119 & 120)
- 4/4 MAT 145 Calculus I (P: C or better in MAT 144 or placement) AND MAT 146 Calculus II‡ (P: C or better in MAT 145)

#### Take 1 of the following courses:

- \_\_\_\_\_ 4 PHY 105 Fundamentals of Physics
- \_\_\_\_\_ 5 PHY 108 College Physics I
- 4 PHY 110 Physics for Science & Engineering I (P: MAT 145 or conc. reg.)

#### \* Biological Science courses with a lab

- ‡ ECO 138 or PSY 138 may substitute for MAT 121 or 146.
- BSC 202, 307 and Biological Sciences courses below 195 may not be used in the major.
- A minimum of 12 hours in Biological Sciences courses must be completed at Illinois State University.

#### **Biological Sciences Courses:**

https://coursefinder.illinoisstate.edu/directory/bsc/

#### All Courses:

## MAJOR IN BIOLOGICAL SCIENCES PHYSIOLOGY, NEUROSCIENCE AND BEHAVIOR **SEQUENCE (B.S.)**

#### General Education (39 credit hours)

Refer to the General Education section of the Undergraduate Catalog for a complete list of General Education requirements a courses.

#### Communication and Composition (2 courses required)

\_ 3 COM 110 Communication as Critical Inquiry

\_\_\_\_ 3 ENG 101 or ENG 101A10 Composition as Critical Inquiry

#### Mathematics (1 course required)

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Please see major requirements for math options.

#### Natural Science/Natural Science Alternatives (2 courses required)

Students must complete 1 course from 2 different sciences. Please see n requirements for science options.

#### United States Traditions (1 course required)

Individuals & Civic Life (1 course required)

Fine Arts (1 course/3 credit hours required)\*\*\*

Humanities (1 course required)\*\*\*

Language in the Humanities (1 course required)\*\*\*

Quantitative Reasoning (1 course required)

Please see major requirements for quantitative reasoning options

#### Science, Math, & Technology (1 course required)

Exempt for Physiology, Neuroscience, and Behavior majors

Social Sciences (1 course required)\*\*\*

#### **Additional Graduation Requirements**

\_/120 minimum total credit hours

\_\_/42 minimum senior college hours

College of Arts & Sciences language requirement

#### AMALI requirement

\*\*\*certain courses in General Education fulfill the AMALI requirement See the AMALI Requirement section of the catalog or the Course Finder website for a list of courses.

#### B.S. Science, Math, & Technology (1 course required)

Please see major requirements for science, math, & technology options See the B.S.—SMT Requirement section of the catalog or the Course Finder website for a list of courses.

	Major (min. 58 credit hours)
	37 hours in Biology required
	4 BSC 196* Biological Diversity
	4 BSC 197* Molecular & Cellular Basis of Life
	1 BSC 204 Biological Investigations (P: BSC 196 & 197)
	4 BSC 283* Animal Physiology (P: BSC 196 & 197; CHE 110 & 112 or
nd	141; 45+ earned hours)
	3 BSC 286 Animal Behavior (P: BSC 196 & 197)
	3 BSC 327 Hormones, Brain, & Behavior (P: BSC 283 or 286)
	3 BSC 343 Introduction to Neurobiology (P: BSC 196 & 197)
	• • • • • • • • • • • • • • • • •
	Take 15 credit hours of additional Physiology, Neuroscience, and Behavior
	electives:
	(BSC 201*, 203, 219, 260*, 290, 292*, 295, 296, 301*, 305, 311, 325, 345,
	350, 353, 354, 367*, 396*; PSY 253, 263, 350)
	At least 1 course must have a lab. No more than 2 courses may come from
	the department of Psychology. Please consult your academic advisor.
ajor	
	Change 1 of the following outions:
	choose 1 of the following options: A/4 CUE 110/112 Sundamentals of Chamistry 8 Laboratory
	4/1 CHE 110/112 Fundamentals of Chemistry & Laboratory
	4/4 CHE 140 General Chemistry I (P: C or better in MAT 119; or C or hottor in MAT 120 or 144 or 145 or cond. rog ) AND CUE 141
	Detter in MAT 120 of 144 of 145 of conc. reg.) AND CHE 141
	General Chemistry II (P: CHE 140)
	Change 1 of the following outions:
	Choose 1 of the following options:
	2/1 CUE 220 Elementary Organic Chemistry (P: CHE 112 OF 141)
	3/1 CHE 250 Organic Chemistry I (P: CHE 141) AND CHE 251
	Organic Chemistry Laboratory (P. CHE 141; Conc. reg. in CHE 230)
	Chaosa 1 of the following entions:
	4/4 MAT 120 Finite Methometrics (D) C or better in MAT 110 or
	4/4 MAT 120 Finite Mathematics (P: C of better in MAT 119 of
	placement) AND MAT 121 Applied Calculus+ (P: C or better in
	4/4 MAT 145 Calculus I (P: C or better in MAT 144 or placement)
	<b>AND</b> MAT 146 Calculus II‡ (P: C or better in MAT 145)
	Take 1 of the following courses:
	4 PHY 105 Fundamentals of Physics
	5 PHY 108 College Physics I
	4 PHY 110 Physics for Science & Engineering I (P: MAT 145 or
	conc. reg.)
	* Biological Science courses with a lab
	‡ ECO 138, GEO 138, or PSY 138 may substitute for MAT 121 or 146.
	<ul> <li>BSC 202, 307 and Biological Sciences courses below 195 may not be</li> </ul>
	used in the major.
	<ul> <li>A minimum of 12 hours in Biological Sciences courses must be</li> </ul>
	completed at Illinois State University
	completed at minor state onversity.
	Rielegies Sciences Courses visit
	Diological Sciences Courses visit:
	https://coursennder.iiinoisstate.edu/directory/bsc/
	<ul> <li>A minimum of 12 hours in Biological Sciences courses must be completed at Illinois State University.</li> <li>Biological Sciences Courses visit: https://coursefinder.illinoisstate.edu/directory/bsc/</li> </ul>

#### All Courses:

## MAJOR IN BIOLOGICAL SCIENCES PHYSIOLOGY, NEUROSCIENCE AND BEHAVIOR SEQUENCE, (B.S.)

## **Transfer Students**

#### Illinois Articulation Initiative (min. 37 credit hours)

To be eligible for IAI, at least one transfer course must have been articulated to an IAI core requirement. Refer to the Undergraduate Catalog for a complete list of IAI courses and policies.

#### Communication and Composition (3 courses required)

- A grade of C or better required in ENG 101 and 145 or equivalents
- \_\_\_\_\_ 3 C2 900 COM 110 Communication as Critical Inquiry
- \_\_\_\_\_ 3 C1 900 ENG 101 or ENG 101A10 Composition as Critical Inquiry
- \_\_\_\_\_ 3 C1 901 ENG 145 Writing in the Academic Disciplines

#### Mathematics (1 course required)

Please see major requirements for mathematics options

 4 M1 906 MAT 120 Finite Math or M1 900 MAT 121 Applied Calculus or M1 900-1 MAT 145 Calculus I or M1 900-2 MAT 146 Calculus II or M1 902 ECO/PSY 138 Econ Reasoning Using Statistics

#### Physical & Life Sciences (2 courses/7-8 hours required)

Students must complete 1 life science and 1 physical science course; at least 1 course must have a lab.

- \_\_\_\_\_ 4 L1 901L BSC 196 Biological Diversity or BSC 197 Molecular/Cellular Basis of Life
- 4 P1 902 and P1 902L CHE 110/112 Fundamentals of Chemistry or P1 902L CHE 140 General Chemistry I or P1 900L PHY 108 College Physics I or P2 900L PHY 110 Physics for Science & Engineering I

#### Humanities & Fine Arts (3 courses required)

At least 1 humanities and 1 fine arts course required

Social & Behavioral Sciences (3 courses required)

2 different disciplines must be represented

#### **Additional Graduation Requirements**

\_\_\_\_/120 minimum total credit hours

\_\_\_\_\_/42 minimum senior college hours

\_\_\_ College of Arts & Sciences language requirement

#### AMALI requirement

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See the AMALI Requirement section of the catalog or the Course Finder website for a list of courses.

#### B.S. Science, Math, & Technology (1 course required)

Please see major requirements for science, math, & technology options. See the B.S.—SMT Requirement section of the catalog or the Course Finder website for a list of courses.

#### Major (min. 58 credit hours)

#### 37 hours in Biology required

- 4 BSC 196\* Biological Diversity 4 BSC 197\* Molecular & Cellular Basis of Life
- 1 BSC 204 Biological Investigations (P: BSC 196 & 197)
- 4 BSC 283\* Animal Physiology (P: BSC 196 & 197; CHE 110 & 112 or
- 141; 45+ earned hours) 3 BSC 286 Animal Behavior (P: BSC 196 & 197)
- 3 BSC 327 Hormones, Brain, & Behavior (P: BSC 283 or 286)
- 3 BSC 343 Introduction to Neurobiology (P: BSC 196 & 197)

## Take 15 credit hours of additional Physiology, Neuroscience, and Behavior electives:

(BSC 201\*, 203, 219, 260\*, 290, 292\*, 294, 295, 296, 301\*, 305, 311, 325, 345, 350, 353, 354, 367\*, 396\*; PSY 253, 263, 350)

At least 1 course must have a lab. No more than 2 courses may come from the department of Psychology. Please consult your academic advisor.



#### Choose 1 of the following options:

- \_\_\_\_\_ 4/1 CHE 110/112 Fundamentals of Chemistry & Laboratory
- 4/4 CHE 140 General Chemistry I (P: C or better in MAT 119; or C or better in MAT 120 or 144 or 145 or conc. reg.) AND CHE 141 General Chemistry II (P: CHE 140)

#### Choose 1 of the following options:

5 CHE 220 Elementary Organic Chemistry (P: CHE 112 or 141)

3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)

#### Choose 1 of the following options:

- 4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus<sup>‡</sup> (P: C or better in MAT 119 & 120)
- \_\_\_\_\_ 4/4 MAT 145 Calculus I (P: C or better in MAT 144 or placement) AND MAT 146 Calculus II‡ (P: C or better in MAT 145)

#### Take 1 of the following courses:

- \_\_\_\_\_ 4 PHY 105 Fundamentals of Physics
- \_\_\_\_ 5 PHY 108 College Physics I
- 4 PHY 110 Physics for Science & Engineering I (P: MAT 145 or conc. reg.)
- \* Biological Science courses with a lab
- ‡ ECO 138, GEO 138, or PSY 138 may substitute for MAT 121 or 146.
- BSC 202, 307 and Biological Sciences courses below 195 may not be used in the major.
- A minimum of 12 hours in Biological Sciences courses must be completed at Illinois State University.

#### **Biological Sciences Courses visit:**

https://coursefinder.illinoisstate.edu/directory/bsc/

#### All Courses:

## MAJOR IN BIOLOGICAL SCIENCES PLANT BIOLOGY SEQUENCE (B.S.)

#### **General Education (39 credit hours)**

Refer to the General Education section of the Undergraduate Catalog for a complete list of General Education requirements and courses.

#### Communication and Composition (2 courses required)

3 COM 110 Communication as Critical Inquiry

3 ENG 101 or ENG 101A10 Composition as Critical Inquiry

#### Mathematics (1 course required)

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Please see major requirements for math options.

#### Natural Science/Natural Science Alternatives (2 courses required)

Students must complete 1 course from 2 different sciences. Please see major requirements for science options.

United States Traditions (1 course required)

Individuals & Civic Life (1 course required)

Fine Arts (1 course/3 credit hours required)\*\*\*

Humanities (1 course required)\*\*\*

Language in the Humanities (1 course required)\*\*\*

#### Quantitative Reasoning (1 course required)

Please see major requirements for quantitative reasoning options

#### Science, Math, & Technology (1 course required) Exempt for Conservation Biology majors

Social Sciences (1 course required)\*\*\*

#### **Additional Graduation Requirements**

\_\_\_\_/120 minimum total credit hours

\_\_\_\_/42 minimum senior college hours

College of Arts & Sciences language requirement

#### AMALI requirement

\*\*\*certain courses in General Education fulfill the AMALI requirement See the AMALI Requirement section of the catalog or the Course Finder website for a list of courses.

#### B.S. Science, Math, & Technology (1 course required)

Please see major requirements for science, math, & technology options. See the B.S.—SMT Requirement section of the catalog or the Course Finder website for a list of courses.

#### Major (min. 58 credit hours)

#### 37 hours in Biology required

- 4 BSC 196\* Biological Diversity
- 4 BSC 197\* Molecular & Cellular Basis of Life
- 1 BSC 204 Biological Investigations (P: BSC 196 & 197)
- 4 BSC 212\* Principles of Botany (P: BSC 196 or AGR 150; BSC 197)
- \_\_\_\_\_ 3 BSC 219 Genetics (P: BSC 196 & 197)
- \_\_\_\_ 3 BSC 365 Bioenergy Plant/Microbe Biology & the Environment (P: BSC 201 or 203 or 212 or 219 or 260)

#### Take 1 additional Conceptual Group elective:

(BSC 201\*, 203, 260\*, 305)

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#### Take 2 additional Plant Group electives:

(BSC 211\*, 223\*, 330\*, 333\*, 346)

Take additional Plant Biology electives to total 37 Biology hours: Please consult your academic advisor.

#### Choose 1 of the following options:

 4/1	CHE 110/112	Fundamentals of Chemistry & Laboratory	

\_\_\_\_\_ 4/4 CHE 140 General Chemistry I (P: C or better in MAT 119; or C or better in MAT 120 or 144 or 145 or conc. reg.) AND CHE 141 General Chemistry II (P: CHE 140)

#### Choose 1 of the following options:

5	CHE 220	Elementary Organic Chemistry (P: CHE 112 or 141	)

3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231

## Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)

#### Choose 1 of the following options:

4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus<sup>‡</sup> (P: C or better in MAT 119 & 120)

4/4 MAT 145 Calculus I (P: C or better in MAT 144 or placement) AND MAT 146 Calculus II‡ (P: C or better in MAT 145)

#### Take 1 of the following courses:

- 4 PHY 105 Fundamentals of Physics
- 5 PHY 108 College Physics I
- \_\_\_\_\_ 4 PHY 110 Physics for Science & Engineering I (P: MAT 145 or conc. reg.)

Students must complete 5 Biological Science courses with a lab (\*) ‡ ECO 138, GEO 138, or PSY 138 may substitute for MAT 121 or 146.

- BSC 202, 307 and Biological Sciences courses below 195 may not be used in the major.
- A minimum of 12 hours in Biological Sciences courses must be completed at Illinois State University.

### **Biological Sciences Courses visit:**

https://coursefinder.illinoisstate.edu/directory/bsc/

### All Courses:

## MAJOR IN BIOLOGICAL SCIENCES PLANT BIOLOGY SEQUENCE (B.S.) Transfer Students

#### Illinois Articulation Initiative (minimum 37 credit hours)

To be eligible for IAI, at least one transfer course must have been articulated to an IAI core requirement. Refer to the Undergraduate Catalog for a complete list of IAI courses and policies.

#### Communication and Composition (3 courses required)

- A grade of C or better required in ENG 101 and 145 or equivalents
- \_\_\_\_\_ 3 C2 900 COM 110 Communication as Critical Inquiry
- \_\_\_\_\_ 3 C1 900 ENG 101 or ENG 101A10 Composition as Critical Inquiry
- \_\_\_\_\_ 3 C1 901 ENG 145 Writing in the Academic Disciplines

#### Mathematics (1 course required)

Please see major requirements for mathematics options

 4 M1 906 MAT 120 Finite Math or M1 900 MAT 121 Applied Calculus or M1 900-1 MAT 145 Calculus I or M1 900-2 MAT 146 Calculus II or M1 902 ECO/PSY 138 Econ Reasoning Using Statistics

#### Physical & Life Sciences (2 courses/7-8 hours required)

Students must complete 1 life science and 1 physical science course; at least 1 course must have a lab.

- \_\_\_\_\_ 4 L1 901L BSC 196 Biological Diversity or BSC 197 Molecular/Cellular Basis of Life
- 4 P1 902 and P1 902L CHE 110/112 Fundamentals of Chemistry or P1 902L CHE 140 General Chemistry I or P1 900L PHY 108 College Physics I or P2 900L PHY 110 Physics for Science & Engineering I

#### Humanities & Fine Arts (3 courses required)

At least 1 humanities and 1 fine arts course required

Social & Behavioral Sciences (3 courses required)

2 different disciplines must be represented

#### **Additional Graduation Requirements**

\_\_\_\_/120 minimum total credit hours

\_\_\_\_\_/42 minimum senior college hours

\_\_\_\_ College of Arts & Sciences language requirement

#### AMALI requirement

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See the AMALI Requirement section of the catalog or the Course Finder website for a list of courses.

#### B.S. Science, Math, & Technology (1 course required)

Please see major requirements for science, math, & technology options. See the B.S.—SMT Requirement section of the catalog or the Course Finder website for a list of courses.

#### Major (min. 58 credit hours)

#### 37 hours in Biology required

- 4 BSC 196\* Biological Diversity
- 4 BSC 197\* Molecular & Cellular Basis of Life
- 1 BSC 204 Biological Investigations (P: BSC 196 & 197)
- 4 BSC 212\* Principles of Botany (P: BSC 196 or AGR 150; BSC 197)
- \_\_\_\_\_ 3 BSC 219 Genetics (P: BSC 196 & 197)
- \_\_\_\_\_ 3 BSC 365 Bioenergy Plant/Microbe Biology & the Environment (P: BSC 201 or 203 or 212 or 219 or 260)

#### Take 1 additional Conceptual Group elective:

(BSC 201\*, 203, 260\*, 305)

#### Take 2 additional Plant Group electives:

(BSC 211\*, 223\*, 330\*, 333\*, 346)

Take additional Plant Biology electives to total 37 Biology hours: Please consult your academic advisor.

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#### Choose 1 of the following options:

	4/1	CHE 110/112	Fundamentals of Chemistry & Laboratory	
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4/4 CHE 140 General Chemistry I (P: C or better in MAT 119; or C or better in MAT 120 or 144 or 145 or conc. reg.) AND CHE 141 General Chemistry II (P: CHE 140)

#### Choose 1 of the following options:

	5	CHE 220	Elementary Organic Chemistry (P: CHE 112 or 141	)
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\_\_\_\_\_ 3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)

#### Choose 1 of the following options:

- \_\_\_\_\_ 4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P: C or better in MAT 119 & 120)
- 4/4
   MAT 145 Calculus I (P: C or better in MAT 144 or placement)

   AND MAT 146 Calculus II‡ (P: C or better in MAT 145)

#### Take 1 of the following courses:

- 4 PHY 105 Fundamentals of Physics
- 5 PHY 108 College Physics I
- \_\_\_\_\_ 4 PHY 110 Physics for Science & Engineering I (P: MAT 145 or conc. reg.)

Students must complete 5 Biological Science courses with a lab (\*) ‡ ECO 138, GEO 138, or PSY 138 may substitute for MAT 121 or 146.

- BSC 202, 307 and Biological Sciences courses below 195 may not be used in the major.
- A minimum of 12 hours in Biological Sciences courses must be completed at Illinois State University.

#### **Biological Sciences Courses visit:**

https://coursefinder.illinoisstate.edu/directory/bsc/

#### All Courses:

## MAJOR IN BIOLOGICAL SCIENCES

## **ZOOLOGY SEQUENCE (B.S.)**

#### General Education (39 credit hours)

Refer to the General Education section of the Undergradu Catalog for a complete list of General Education requirem courses.

#### Communication and Composition (2 courses required)

\_\_\_\_ 3 COM 110 Communication as Critical Inquiry

\_ 3 ENG 101 or ENG 101A10 Composition as Critical Inqui

#### Mathematics (1 course required)

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Please see major requirements for math options.

Natural Science/Natural Science Alternatives (2 courses require

Students must complete 1 course from 2 different sciences. Pleas requirements for science options.

United States Traditions (1 course required)

Individuals & Civic Life (1 course required)

Fine Arts (1 course/3 credit hours required)\*\*\*

Humanities (1 course required)\*\*\*

Language in the Humanities (1 course required)\*\*\*

#### Quantitative Reasoning (1 course required)

Please see major requirements for quantitative reasoning option:

Science, Math, & Technology (1 course required) Exempt for Zoology majors

Social Sciences (1 course required)\*\*\*

#### **Additional Graduation Requirements**

\_\_/120 minimum total credit hours

\_/42 minimum senior college hours

College of Arts & Sciences language requirement

#### AMALI requirement

\*\*\* certain courses in General Education fulfill the AMALI require See the AMALI Requirement section of the catalog or the Course website for a list of courses.

#### B.S. Science, Math, & Technology (1 course required)

See the B.S.—SMT Requirement section of the catalog or the Cou website for a list of courses.

\_\_\_\_ 4 BSC 201 Ecology

### Major (min. 60 credit hours)

	37 hours in Biology required
	4 BSC 196* Biological Diversity
	4 BSC 197* Molecular & Cellular Basis of Life
late	1 BSC 201* Ecology (D: BSC 196 & 197)
ents and	4 DSC 201 Ecology (1: DSC 150 & 157)
	1 BSC 204 Biological Investigations (P. BSC 196 & 197)
	3 BSC 305 Biological Evolution (P: BSC 196 & 197; 45+ earned
	hours)
	3 BSC 325 Ecological Physiology of Animals (P: BSC 196 and 197;
ry	min of 45 hours completed)
	Take two (7 credit hours) additional organismal Zoology electives:
	(BSC 286, 292*, 296, 301*, 396*)
	At least one course must have a lab. Please consult your academic advisor.
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d)	
se see major	Take two (7 credit hours) additional functional Zoology electives:
	At least one course must have a lab Please consult your academic advisor
	Take additional Biology electives to achieve the 37 hour minimum in
	Biological Sciences.
	At least one course must have a lab. Please consult your academic advisor.
	Choose one of the following options:
	4/1 CHE 110/112 Fundamentals of Chemistry & Laboratory
	4/4 CHE 140 General Chemistry I (P: C or better in MAT 119; or C or
	better in MAT 120 or 144 or 145 or conc. reg.) AND CHE 141
	General Chemistry II (P: CHE 140)
	Choose one of the following options:
S	5 CHE 220 Elementary Organic Chemistry (P: CHE 112 or 141)
	3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231
	Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)
	4/4 WIAT 120 FINITE MATTER MATTER (P: C or better in MAT 119 or
	placement) AND MAT 121 Applied Calculus+ (P. C of better in MAT 110 & 120)
	MAT 119 & 120) A/A MAT 145 Calculus I (P: C or better in MAT 144 or placement)
	AND MAT 146 Calculus II‡ (P: C or better in MAT 145)
	Take one of the following courses:
	4 PHY 105 Fundamentals of Physics
	5 PHY 108 College Physics I
	4 PHY 110 Physics for Science & Engineering I (P: MAT 145 or
	conc. reg.)
ment	* Biological Science courses with a lab
Finder	‡ ECO 138, GEO 138, or PSY 138 may substitute for MAT 121 or 146.
	<ul> <li>BSC 202, 307 and Biological Sciences courses below 195 may not be</li> </ul>
	used in the major.
	- A minimum of 12 hours in Dislocial Calences sources much by
	A minimum of 12 nours in Biological Sciences Courses must be
ırse Finder	completed at minors state oniversity.

#### **Biological Sciences Courses visit:**

https://coursefinder.illinoisstate.edu/directory/bsc/

All Courses: https://coursefinder.illinoisstate.edu/directory/

## MAJOR IN BIOLOGICAL SCIENCES **ZOOLOGY SEQUENCE (B.S.) Transfer Students**

#### Illinois Articulation Initiative (min. 37 credit hours)

To be eligible for IAI, at least one transfer course must have been articulated to an IAI core requirement. Refer to the Undergraduate Catalog for a complete list of IAI courses and policies.

#### Communication and Composition (3 courses required)

A grade of C or better required in ENG 101 and 145 or equivalents

- \_\_\_\_\_ 3 C2 900 COM 110 Communication as Critical Inquiry
- 3 C1 900 ENG 101 or ENG 101A10 Composition as Critical Inquiry
- 3 C1 901 ENG 145 Writing in the Academic Disciplines

#### Mathematics (1 course required)

Please see major requirements for mathematics options

4 M1 906 MAT 120 Finite Math or M1 900 MAT 121 Applied Calculus or M1 900-1 MAT 145 Calculus I or M1 900-2 MAT 146 Calculus II or M1 902 ECO/PSY 138 Econ Reasoning Using

Statistics

#### Physical & Life Sciences (2 courses/7-8 hours required)

Students must complete 1 life science and 1 physical science course; at least 1 course must have a lab.

4 L1 901L BSC 196 Biological Diversity or BSC 197 Molecular/Cellular Basis of Life

4 P1 902 and P1 902L CHE 110/112 Fundamentals of Chemistry or P1 902L CHE 140 General Chemistry I or P1 900L PHY 108 College Physics I or P2 900L PHY 110 Physics for Science & Engineering I

#### Humanities & Fine Arts (3 courses required)

At least one humanities and 1 fine arts course required

Social & Behavioral Sciences (3 courses required)

Two different disciplines must be represented

#### **Additional Graduation Requirements**

\_/120 minimum total credit hours

/42 minimum senior college hours

College of Arts & Sciences language requirement

#### AMALI requirement

\_ \_\_\_ \_

See the AMALI Requirement section of the catalog or the Course Finder website for a list of courses.

#### B.S. Science, Math, & Technology (1 course required)

See the B.S.—SMT Requirement section of the catalog or the Course Finder website for a list of courses.

\_\_\_\_ 4 BSC 201 Ecology

#### Major (min. 60 credit hours)

#### 37 hours in Biology required

- 4 BSC 196\* Biological Diversity
- 4 BSC 197\* Molecular & Cellular Basis of Life
- \_\_\_\_\_ 4 BSC 201\* Ecology (P: BSC 196 & 197)
- 1 BSC 204 Biological Investigations (P: BSC 196 & 197)
- 3 BSC 305 Biological Evolution (P: BSC 196 & 197; 45+ earned hours)
- 3 BSC 325 Ecological Physiology of Animals (P: BSC 196 and 197; min of 45 hours completed)

#### Take two (7 credit hours) additional organismal Zoology electives: (BSC 286, 292\*, 296, 301\*, 396\*)

At least one course must have a lab. Please consult your academic advisor.

## Take two (7 credit hours) additional functional Zoology electives:

(BSC 283\*, 295\*, 311, 327, 343, 345, 367\*)

At least one course must have a lab. Please consult your academic advisor.

#### Take additional Biology electives to achieve the 37 hour minimum in **Biological Sciences.**

At least one course must have a lab. Please consult your academic advisor.

#### Choose one of the following options:

- \_\_\_\_\_ 4/1 CHE 110/112 Fundamentals of Chemistry & Laboratory
- \_\_\_\_\_4/4 CHE 140 General Chemistry I (P: C or better in MAT 119; or C or better in MAT 120 or 144 or 145 or conc. reg.) AND CHE 141 General Chemistry II (P: CHE 140)

#### Choose one of the following options:

- 5 CHE 220 Elementary Organic Chemistry (P: CHE 112 or 141)
  - \_ 3/1 CHE 230 Organic Chemistry I (P: CHE 141) AND CHE 231
  - Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)

#### Choose one of the following options:

- \_\_\_\_\_ 4/4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or placement) AND MAT 121 Applied Calculus‡ (P: C or better in MAT 119 & 120)
- \_\_\_\_\_4/4 MAT 145 Calculus I (P: C or better in MAT 144 or placement) AND MAT 146 Calculus II<sup>‡</sup> (P: C or better in MAT 145)

#### Take one of the following courses:

- \_\_\_\_\_ 4 PHY 105 Fundamentals of Physics
- 5 PHY 108 College Physics I
- 4 PHY 110 Physics for Science & Engineering I (P: MAT 145 or conc. reg.)
- \* Biological Science courses with a lab
- ‡ ECO 138, GEO 138, or PSY 138 may substitute for MAT 121 or 146.
- BSC 202, 307 and Biological Sciences courses below 195 may not be used in the major.
- A minimum of 12 hours in Biological Sciences courses must be completed at Illinois State University.

#### **Biological Sciences Courses visit:**

https://coursefinder.illinoisstate.edu/directory/bsc/

#### All Courses:

## MAJOR IN MOLECULAR AND CELLULAR BIOLOGY (B.S.)

General Education (39 credit hours)	Major (min 72 gradit haven)
Refer to the General Education section of the Undergraduate	wajor (min. 72 credit nours)
Catalog for a complete list of General Education requirements and	37 hours in Biology required
courses.	4 BSC 196* Biological Diversity
	4 BSC 197* Molecular & Cellular Basis of Life
Communication and Composition (2 courses required)	3 BSC 203 Cell Biology (P: BSC 196 & 197; CHE 110 & 112 or 141)
3 ENG 101 or ENG 101A10 Composition as Critical Inquiry	1 BSC 204 Biological Investigations (P: BSC 196 & 197)
	3 BSC 219 Genetics (P: BSC 196 & 197)
Mathematics (1 course required)	4 BSC 260* Microbiology (P: BSC 196 & 197; CHE 220 or 230 & 231
Please see major requirements for math options.	or conc. reg.)
	3 BSC 350 Molecular Biology (P: BSC 203 & 219; CHE 220 or
	230 & 231)
Natural Science/Natural Science Alternatives (2 courses required)	4 CHE 140 General Chemistry I (P: C or better in MAT 119; or C or
Students must complete 1 course from 2 different sciences.	better in MAT 120 or 144 or 145 or conc. reg.)
4 BSC 196 Biological Diversity	4 CHE 141 General Chemistry II (P: CHE 140)
4 CHE 140 General Chemistry I	3 CHE 230 Organic Chemistry I (P: CHE 141)
United States Traditions (1 course required)	1 CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in
Officed States fractions (1 course required)	CHE 230)
	3 CHE 232 Organic Chemistry II (P: CHE 230)
Individuals & Civic Life (1 course required)	2 CHE 233 Organic Chemistry Laboratory II (P: CHE 231; conc. reg.
· · · ·	in CHE 232) 2. CLIE 242. Concerned Disark environments (M. C. en hetten in CLIE 232) on 1
	3 CHE 342 General Biochemistry I/ (P: C or better in CHE 232 or 1
Fine Arts (1 course/3 credit hours required)***	4 MAT 145 Calculus I (P: C or better in MAT 144 or placement)
	4. MAT 146 Calculus II <sup>†</sup> (P: C or better in MAT 145)
Humanities (1 course required)***	The AT and the second additional state is a Discussion of the second state is a
Language in the Humanities (1 course required)***	At least 6 credit hours must be at the 300-level (BSC 329, 343, 345, 346, 351, 353*, 354*, 355, 361*, 365, 367*, 370). Please consult your academic advisor.
Quantitative Reasoning (1 course required)	
Please see major requirements for quantitative reasoning options	
Science, Math, & Technology (1 course required)	Choose one of the following ontions:
Exempt for Molecular & Cellular Biology majors	5/5 PHY 108 College Physics I <b>AND</b> PHY 109 College Physics II (P
Social Sciences (1 course required)***	PHY 108 or 110)
Social Sciences (1 course requireu)	4/4 PHY 110 Physics for Science & Engineering I (P: MAT 145 or
	conc. reg.) AND PHY 111 Physics for Science & Engineering II
Additional Graduation Requirements	(P: PHY 110 and MAT 146 or conc. reg.)
/120 minimum total credit hours	Students must complete five Biological Science courses with a lab $(*)$
	<sup>+</sup> CHE 242 may substitute for CHE 342
/42 minimum senior college hours	‡ ECO 138, GEO 138, or PSY 138 may substitute for MAT 146
College of Arts & Sciences language requirement	
	<ul> <li>BSC 202, 307 and Biological Sciences courses below 195 may not be</li> </ul>
AMALI requirement	used in the major.
***certain courses in General Education fulfill the AMALI requirement	<ul> <li>A minimum of 12 hours in Biological Sciences courses must be</li> </ul>
See the AMALI Requirement section of the catalog or the Course Finder website for a list of courses.	completed at Illinois State University.
	Biological Sciences Courses visit
	https://coursefinder.illingisstate.odu/directoru/hss/
B.S. Science, Math, & Technology (1 course required)	https://coursennuer.nnnoisstate.euu/uirectory/bsC/

See the B.S.—SMT Requirement section of the catalog or the Course Finder All Courses:

https://coursefinder.illinoisstate.edu/directory/

website for a list of courses.

4 CHE 141 General Chemistry II

## MAJOR IN MOLECULAR AND CELLULAR BIOLOGY

## (B.S.) Transfer Students

#### Illinois Articulation Initiative (min. 37 credit hours)

To be eligible for IAI, at least one transfer course must have been articulated to an IAI core requirement. Refer to the Undergraduate Catalog for a complete list of IAI courses and policies.

#### Communication and Composition (3 courses required)

A grade of C or I	hetter required in	ENG 101 and	145 or equivalents
A grade of C OF I	Jellei Tequileu il	LING 101 and	145 OF Equivalents

- \_\_\_\_\_ 3 C2 900 COM 110 Communication as Critical Inquiry
- \_\_\_\_\_ 3 C1 900 ENG 101 or ENG 101A10 Composition as Critical Inquiry
- \_\_\_\_\_ 3 C1 901 ENG 145 Writing in the Academic Disciplines

#### Mathematics (1 course required)

Please see major requirements for mathematics options

3-4 M1 900-1 MAT 145 Calculus I or M1 900-2 MAT 146 Calculus II (M1 902 ECO/PSY 138 Econ Reasoning Using Statistics may be substituted for MAT 146)

#### Physical & Life Sciences (2 courses/7-8 hours required)

Students must complete 1 life science and 1 physical science course; at least one course must have a lab.

- \_\_\_\_\_ 4 L1 901L BSC 196 Biological Diversity or BSC 197 Molecular/Cellular Basis of Life
- 4 P1 902L CHE 140 General Chemistry I or P1 900L PHY 108 College Physics I or P2 900L PHY 110 Physics for Science & Engineering I

#### Humanities & Fine Arts (3 courses required)

At least one humanities and 1 fine arts course required

#### Social & Behavioral Sciences (3 courses required)

Two different disciplines must be represented

#### **Additional Graduation Requirements**

\_\_\_\_\_/120 minimum total credit hours

\_\_\_\_/42 minimum senior college hours

College of Arts & Sciences language requirement

#### AMALI requirement

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See the AMALI Requirement section of the catalog or the Course Finder website for a list of courses.

#### B.S. Science, Math, & Technology (1 course required)

See the B.S.—SMT Requirement section of the catalog or the Course Finder website for a list of courses.

4 CHE 141 General Chemistry II

#### Major (72-75 credit hours)

#### 37 hours in Biology required

- \_\_\_\_\_ 4 BSC 196\* Biological Diversity
  - 4 BSC 197\* Molecular & Cellular Basis of Life
- 3 BSC 203 Cell Biology (P: BSC 196 & 197; CHE 110 & 112 or 141)
- 1 BSC 204 Biological Investigations (P: BSC 196 & 197)
- \_\_\_\_\_ 3 BSC 219 Genetics (P: BSC 196 & 197)
- \_\_\_\_\_ 4 BSC 260\* Microbiology (P: BSC 196 & 197; CHE 220 or 230 & 231 or conc. reg.)
- \_\_\_\_\_ 3 BSC 350 Molecular Biology (P: BSC 203 & 219; CHE 220 or 230 & 231)
- 4 CHE 140 General Chemistry I (P: C or better in MAT 119; or C or better in MAT 120 or 144 or 145 or conc. reg.)
- 4 CHE 141 General Chemistry II (P: CHE 140)
- \_\_\_\_\_ 3 CHE 230 Organic Chemistry I (P: CHE 141)
- \_\_\_\_\_ 1 CHE 231 Organic Chemistry Laboratory (P: CHE 141; conc. reg. in CHE 230)
- 3 CHE 232 Organic Chemistry II (P: CHE 230)
- \_\_\_\_\_ 2 CHE 233 Organic Chemistry Laboratory II (P: CHE 231; conc. reg. in CHE 232)
- \_\_\_\_\_ 3 CHE 342 General Biochemistry I<sup>+</sup> (P: C or better in CHE 232 or 1 year of organic chemistry)
- 4 MAT 145 Calculus I (P: C or better in MAT 144 or placement)
- 4 MAT 146 Calculus II‡ (P: C or better in MAT 145)

#### Take 15 credit hours of additional Molecular & Cellular Biology electives:

At least 6 credit hours must be at the 300-level (BSC 329, 343, 345, 346, 351, 353\*, 354\*, 355, 361\*, 365, 367\*, 370). Please consult your academic advisor.



#### Choose one of the following options:

5/5 PHY 108 College Physics I AND PHY 109 College Physics II (P: PHY 108 or 110)

4/4 PHY 110 Physics for Science & Engineering I (P: MAT 145 or conc. reg.) AND PHY 111 Physics for Science & Engineering II (P: PHY 110 and MAT 146 or conc. reg.)

Students must complete five Biological Science courses with a lab (\*)

+ CHE 242 may substitute for CHE 342

- ‡ ECO 138, GEO 138, or PSY 138 may substitute for MAT 146
- BSC 202, 307 and Biological Sciences courses below 195 may not be used in the major.
- A minimum of 12 hours in Biological Sciences courses must be completed at Illinois State University.

#### **Biological Sciences Courses visit:**

https://coursefinder.illinoisstate.edu/directory/bsc/

#### All Courses:

# MAJOR IN BIOLOGICAL SCIENCES TEACHER EDUCATION (B.S.)

<b>General Education (39 credit hours)</b> Refer to the General Education section of the Undergraduate Catalog for a complete list of General Education requirements and courses.	197; two semester of college           4         BSC 196* Biological Diversity           4         BSC 197* Molecular & Cellula           4         BSC 201* Ecology (P: BSC 196           3         BSC 203 Cell Biology (P: BSC 196           1         BSC 203
Communication and Composition (2 courses required) 3 COM 110 Communication as Critical Inquiry 3 ENG 101 or ENG 101A10 Composition as Critical Inquiry	BSC 204 Biological Investigation     BSC 219 Genetics (P: BSC 196     BSC 231 Laboratory Methods     CHE 161)
Mathematics (1 course required) Please see major requirements for math options.	3 BSC 302 Student reaching se 3 BSC 307 Methods in the Teac Take 13 credit hours of additional Biolo At least two courses must have labs. Ple
Natural Science/Natural Science Alternatives (2 courses required) Students must complete 1 course from 2 different sciences. 4 BSC 196 Biological Diversity 4 CHE 140 General Chemistry I United States Traditions (1 course required)	Required courses outside of BSC (min. 2 4 CHE 140 General Chemistry I
Individuals & Civic Life (1 course required)	better in MAT 120 or 144 or 1 4 CHE 141 General Chemistry II 4 GEO 100 Earth Systems Scien Take one of the following courses:
Fine Arts (1 course/3 credit hours required)***	4 MAT 120 Finite Mathematics placement) 4 MAT 145 Calculus I (P: C or b
Humanities (1 course required)***	A PHY 105 Fundamentals of Ph     5 PHY 105 College Physics I     Take one of the following courses:
Language in the Humanities (1 course required)***	3 ECO 138 Economic Reasoning     or 145)     GEO 138 Quantitative Reason
Quantitative Reasoning (1 course required) Please see major requirements for quantitative reasoning options	or 130 or 145) 3 PSY 138 Reasoning in Psycho MAT 120 or 121 or 144 or 14 Professional Education requirements (2
Science, Math, & Technology (1 course required) Exempt for Biological Sciences Teacher Education majors	3 PSY 215 Educational Psycholo     TCH 212 The Teaching Profeserence hours; 2.5 major & cu     TCH 216 Principles & Practice
Social Sciences (1 course required)*** 3 PSY 110 Fundamentals of Psychology	Secondary Schools (P: TCH 21 3 TCH 219 Integrating Multiple
Additional Graduation Requirements	12 STT 399A03 Student Teachir Take one of the following courses (P: 4
/120 minimum total credit hours	3       EAF 228 Social Foundations         3       EAF 231 Introduction to Philo
/42 minimum senior college hours	3 EAF 235 Historical Foundatio
College of Arts & Sciences language requirement	<ul> <li>Admission to Professional Studies requ</li> </ul>
AWALI requirement ***certain courses in General Education fulfill the AMALI requirement See the AMALI Requirement section of the catalog or the Course Finder website for a list of courses.	<ul> <li>A minimum of 12 hours in Biological completed at Illinois State University</li> <li>BSC 202 and Biological Sciences council and a clastic size in the main with the withe with the with the with the with the with the with the wit</li></ul>

#### B.S. Science, Math, & Technology (1 course required)

See the B.S.—SMT Requirement section of the catalog or the Course Finder website for a list of courses.

\_\_\_\_\_ 4 BSC 201 Ecology

	BSC 161 Introduction to Teaching Science Seminar (P: BSC 196 o
	197: two semester of college completed)
4	BSC 196* Biological Diversity
4	BSC 197* Molecular & Cellular Basis of Life
4	BSC 201* Ecology (P: BSC 196 & 197)
3	BSC 203 Cell Biology (P: BSC 196 & 197; CHE 110 & 112 or 141)
1	BSC 204 Biological Investigations (P: BSC 196 & 197)
3	BSC 219 Genetics (P: BSC 196 & 197)
2	BSC 231 Laboratory Methods in Teaching Science <sup>+</sup> (P: BSC 161 o
	CHE 161)
1	BSC 302 Student Teaching Seminar (P: conc. reg. in STT 399A03)
3	BSC 307 Methods in the Teaching of Biology <sup>+</sup> (P: TCH 216)
ake 13 c	redit hours of additional Biology electives:
t least tv	vo courses must have labs. Please consult your academic advisor.
equired	courses outside of BSC (min. 23 credit hours):
4	CHE 140 General Chemistry I (P: C or better in MAT 119; or C or
	better in MAT 120 or 144 or 145 or conc. reg.)
4	CHE 141 General Chemistry II (P: CHE 140)
4	GEO 100 Earth Systems Science
ake <u>one</u>	of the following courses:
4	MAT 120 Finite Mathematics (P: C or better in MAT 119 or
	placement)
4	MAT 145 Calculus I (P: C or better in MAT 144 or placement)
ake <u>one</u>	of the following courses:
4	PHY 105 Fundamentals of Physics
5	PHY 108 College Physics I
ake <u>one</u>	of the following courses:
3	ECO 138 Economic Reasoning Using Statistics (P: MAT 120 or 13)
	or 145)
3	GEO 138 Quantitative Reasoning in the Geosciences (P: MAT 120
	or 130 or 145)
3	PSY 138 Reasoning in Psychology Using Statistics (P: C or better i
	MAT 120 or 121 or 144 or 145)
rofessio	nal Education requirements (26 credit hours):
3	PSY 215 Educational Psychology (P: PSY 110 or 111)
2	TCH 212 The Teaching Profession in Secondary Schools (P: 45+
	earned hours; 2.5 major & cum. GPA; ENG 101, COM 110)
3	TCH 216 Principles & Practices for Teaching & Learning in
	Secondary Schools (P: TCH 212; 2.5 major & cum. GPA)
3	TCH 219 Integrating Multiple Literacies & Technology Across the
	Secondary Curriculum (P: TCH 212, 216; 2.5 major & cum. GPA)
12	STT 399A03 Student Teaching in Biological Science
ake one	of the following courses (P: 45+ earned hours):
3	EAF 228 Social Foundations
	EAF 231 Introduction to Philosophy of Education
3	EAE 22E Historical Foundations
3 3	EAF 255 FISTORICAL FOUNDATIONS
3 3	
3 3 Biologica	al Science courses with a lab

 BSC 202 and Biological Sciences courses at the 100 level may not be used as electives in the major with the exceptions of BSC 161, 182, 196 and 197.

#### **Biological Sciences Courses visit:**

https://coursefinder.illinoisstate.edu/directory/bsc/

#### All Courses:

## MAJOR IN BIOLOGICAL SCIENCES TEACHER EDUCATION (B.S.) Transfer Students

#### Illinois Articulation Initiative (min. 37 credit hours)

To be eligible for IAI, at least one transfer course must have been articulated to an IAI core requirement. Refer to the Undergraduate Catalog for a complete list of IAI courses and policies.

#### Communication and Composition (3 courses required)

A grade	of	C or bet	ter require	ed in ENG 101 and 145 or equivalents
	3	C2 900	COM 110	Communication as Critical Inquiry

- \_\_\_\_\_ 3 C1 900 ENG 101 or ENG 101A10 Composition as Critical Inquiry
- \_\_\_\_\_ 3 C1 901 ENG 145 Writing in the Academic Disciplines

#### Mathematics (1 course required)

Please see major requirements for mathematics options

#### Physical & Life Sciences (2 courses/7-8 hours required)

Students must complete 1 life science and 1 physical science course; at least one course must have a lab.

4	P1	902L	CHE	140	General	Chemistry	1

\_\_\_\_\_ 4 L1 910L BSC 196 Biological Diversity

#### Humanities & Fine Arts (3 courses required)

At least one humanities and 1 fine arts course required

#### Social & Behavioral Sciences (3 courses required)

Two different disciplines must be represented

\_\_\_\_\_ 3 S6 900 PSY 110 Fundamentals of Psychology

**Additional Graduation Requirements** 

/120	minimum	total	credit	hours

\_\_\_\_/42 minimum senior college hours

\_\_\_\_ College of Arts & Sciences language requirement

#### AMALI requirement

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See the AMALI Requirement section of the catalog or the Course Finder website for a list of courses.

#### B.S. Science, Math, & Technology (1 course required)

See the B.S.—SMT Requirement section of the catalog or the Course Finder website for a list of courses.

\_\_\_\_\_ 4 BSC 201 Ecology

	107: two competer of college completed)
	4 BSC 196* Biological Diversity
	4 BSC 197* Molecular & Cellular Basis of Life
	4 BSC 201* Ecology (P: BSC 196 & 197)
	3 BSC 203 Cell Biology (P: BSC 196 & 197: CHE 110 & 112 or 141)
	1 BSC 204 Biological Investigations (P: BSC 196 & 197)
	3 BSC 219 Genetics (P: BSC 196 & 197)
	2 BSC 231 Laboratory Methods in Teaching Science <sup>†</sup> (P: BSC 161
	CHE 161)
	1 BSC 302 Student Teaching Seminar (P: conc. reg. in STT 399A0)
	3 BSC 307 Methods in the Teaching of Biologyt (P: TCH 216)
Take 13	credit hours of additional Biology electives:
At least	two courses must have labs. Please consult your academic advise
Require	<u>a courses outside of BSC (IIIII: 25 credit flours)</u>
	4 CHE 140 General Chemistry I (P. C of beller in MAT 119; of C o
	Deller III MAT 120 of 144 of 145 of conc. reg.)
	4 CHE 141 General Chemistry II (P. CHE 140)
	4 GEO 100 Earth Systems Science
Take <u>or</u>	e of the following courses:
	4 MAT 120 Finite Mathematics (P: C or better in MAT 119 or
	placement)
	4 MAT 145 Calculus I (P: C or better in MAT 144 or placement)
Take <u>or</u>	e of the following courses:
	4 PHY 105 Fundamentals of Physics
	5 PHY 108 College Physics I
Take <u>or</u>	e of the following courses:
	3 ECO 138 Economic Reasoning Using Statistics (P: MAT 120 or 1
	or 145)
	3 GEO 138 Quantitative Reasoning in the Geosciences (P: MAT 1
	or 130 or 145)
	3 PSY 138 Reasoning in Psychology Using Statistics (P: C or bette
	MAT 120 or 121 or 144 or 145)
Profess	ional Education requirements (26 credit hours):
	3 PSY 215 Educational Psychology (P: PSY 110 or 111)
	2 TCH 212 The Teaching Profession in Secondary Schools (P: 45+
	earned hours; 2.5 major & cum. GPA; ENG 101, COM 110)
	3 TCH 216 Principles & Practices for Teaching & Learning in
	Secondary Schools (P: TCH 212; 2.5 major & cum. GPA)
	3 TCH 219 Integrating Multiple Literacies & Technology Across th
	Secondary Curriculum (P: TCH 212, 216: 2.5 maior & cum. GPA
	12 STT 399A03 Student Teaching in Biological Science
Take or	e of the following courses (P: 45+ earned hours):
. and Of	3 FAE 228 Social Foundations
	3 EAE 220 Jocial Foundations 3 EAE 231 Introduction to Philosophy of Education
	2 EAE 225 Historical Equipations
	5 EAF 255 HISTORICAI FOUNDATIONS

- A minimum of 12 hours in Biological Sciences courses must be completed at Illinois State University.
- BSC 202 and Biological Sciences courses at the 100 level may not be used as electives in the major with the exceptions of BSC 161, 182, 196 and 197.

#### **Biological Sciences Courses visit:**

https://coursefinder.illinoisstate.edu/directory/bsc/

#### All Courses: