The Biology B.S. degree allows the student to choose coursework to be awarded the general Biology B.S. degree or to select a track in one (or more) of five areas, which are: - Ecology, Evolutionary and Conservation Biology- Marine and Aquatic Biology- Plant Sciences- Pre-Health Professional Biology- Zoology and Pre-Veterinarian Science. These tracks are designed to align students with specific courses that will prepare them for the job market or more advanced study.

Admission Requirements
- None

Degree Requirements
- Students who change degree programs and select this major must adopt the most current catalog.
- No credit by exam (TSD, Military credit) may be used for the major.
- Co-op or internship credit cannot be used in this major
- Departmental Residency Requirement consists of at least 22 semester hours of regularly scheduled 3000-4000 level courses taken from the UCF Department of Biology.
- Students seeking a double major must satisfy the requirements for both majors and must take no fewer than 40 semester hours of upper division restricted elective course work appropriate to the combined areas of specialization in the two majors.
- Courses designated in 2 (Common Program Prerequisites) and 3 (Core Requirements) are usually completed in the first 60 hours.
- A "C" (2.0) or better is required in all Core Courses with a BSC or PCB prefix.
- Students must achieve a minimum cumulative GPA of 2.0 in all UCF courses taken in the Common Program Prerequisites, the Biology Core and the Upper Division Restricted Electives.
- All prerequisites of courses taught within the College of Sciences will be enforced.
- No more than 4 hours of Independent Study, Directed Research, or the following similar types of credit, may be applied toward major requirements:
  - BSC 4422L Biology Laboratory Techniques 1 hr
  - BSC 4937 Instructional Experiences in Undergraduate Biology 2 hrs
- Upon reaching junior standing (60 hours), Biology majors are expected to have completed the following courses and associated chemistry laboratories. These classes are prerequisites for advanced science classes and students entering the major without these classes will be unable to register for most of the advanced courses.
  - BSC 2010C Biology I 4 hrs
  - BSC 2011C Biology II 4 hrs
  - CHM 2045C Chemistry Fundamentals I 4 hrs
  - CHM 2046 Chemistry Fundamentals II 3 hrs
  - CHM 2046L Chemistry Fundamentals Laboratory 1 hr
  - CHM 2210 Organic Chemistry I 3 hrs
  - CHM 2211 Organic Chemistry II 3 hrs
  - CHM 2211L Organic Laboratory Techniques I 2 hrs
  - PHY 2053C College Physics I 4 hrs
  - PHY 2054C College Physics II 4 hrs

1. UCF General Education Program (GEP)  (38 hrs)
- Certain courses must be selected in the GEP for this major, bringing the total GEP hours to more than 36.
- At least one course completed in each Foundation area must be a designated State General Education Core Course.

A: Communication Foundations  (9 hrs)
- Required ENC 1101 Composition I 3 hrs
- Required ENC 1102 Composition II 3 hrs
- Preferred SPC 1603C Fundamentals of Technical Presentations 3 hrs

B: Cultural & Historical Foundations  (9 hrs)
- Required MAC 2233 Concepts of Calculus 3 hrs
- Required MAC 2253 Applied Calculus 3 hrs
- Preferred MAC 2311C Calculus with Analytic Geometry I 4 hrs

Statistics  
- Required STA 2023 Statistical Methods I 3 hrs

D: Social Foundations  (6 hrs)
- Required STA 2023 Statistical Methods I 3 hrs

E: Science Foundations  (8 hrs)
- Required BSC 2010C Biology I 4 hrs

Select the sequence identified by the Chemistry Placement exam;
- Prior to enrolling in Math, take Math Placement Test at http://knightsource.sdes.ucf.edu/placement

2. Common Program Prerequisites (CPP)  (16 hrs)
- Completion of the CPPs should take into account the GEP and Major requirements. Although other courses may satisfy the CPP, those identified in this section specifically satisfy the major requirements.
- See “Common Prerequisites” in the Transfer and Transitions Services section for more information.
- See Transfer Notes for possible substitutes for the courses listed below.

Biology: 
- A minimum grade of “C” (2.0) is required in these Biology courses to allow their use as a prerequisite. While a lower grade may satisfy the CPP, it will not satisfy the major.
  - BSC 2010C Biology I GEP
  - BSC 2011C Biology II 4 hrs

Chemistry: 
- Take Placement test before starting chemistry; http://knightsource.sdes.ucf.edu/placement
  - CHM 2045C Chemistry Fundamentals I 4 hrs
  - CHM 2046L Chemistry Fundamentals Laboratory 1 hr
  - CHM 2210 Organic Chemistry I 3 hrs
  - CHM 2211 Organic Chemistry II 3 hrs
  - CHM 2211L Organic Laboratory Techniques I 2 hrs
  - PHY 2053C College Physics I 4 hrs
  - PHY 2054C College Physics II 4 hrs

Math: 
- Select one math course and this statistics course.
  - MAC 2233 Concepts of Calculus or GEP
  - MAC 2253 Applied Calculus or GEP
  - STA 2023 Statistical Methods I 3 hrs

Physics: Complete one entire sequence  
  - PHY 2053C College Physics I and 4 hrs
  - PHY 2054C College Physics II 4 hrs
UCF Degree Programs

- or 8 hrs
  PHY 2048C General Physics Using Calculus I and 4 hrs
  PHY 2049C General Physics Using Calculus II 4 hrs

3. Core Requirements: Basic Level (8 hrs)
- All courses specifically identified in the preceding Common Program Prerequisites section of this catalog are also required in the Basic Core;

Biology Basic Core:
- A minimum grade of "C" (2.0) is required in these Biology courses to satisfy the requirement, and to allow their use as a course prerequisite.

Take all of the following:
- BSC 2010C Biology I and GEP/CPP
- BSC 2011C Biology II GEP/CPP

Cognate Sciences Basic Core:
Chemistry Sequence
- CHM 2045G Chemistry Fundamentals I GEP/CPP
- CHM 2040 Chemistry Fundamentals IA and GEP/CPP
- CHM 2041 Chemistry Fundamentals IB GEP/CPP
and
- CHM 2046 Chemistry Fundamentals II and GEP/CPP
- CHM 2046L Chemistry Fundamentals Laboratory CPP

Organic or Analytic Sequence 8 hrs
Preferred CHM 2110 Organic Chemistry I and 3 hrs
- CHM 2111 Organic Chemistry II and 3 hrs
- CHM 2211L Organic Laboratory Techniques I 2 hrs
or
- CHM 2205 Introduction to Organic and Biochemistry and 5 hrs
- CHM 3120 Analytical Chemistry and 3 hrs
- CHM 3120L Analytical Chemistry Laboratory 1 hr

Physics Sequence
- PHY 2053C College Physics I and GEP/CPP
- PHY 2054C College Physics II CPP
or
- PHY 2048C General Physics Using Calculus I and CPP
- PHY 2049C General Physics Using Calculus II CPP

Mathematics
- MAC 2233 Concepts of Calculus or GEP/CPP
- MAC 2233 Applied Calculus or GEP/CPP
- Preferred MAC 2311C Calculus with Analytic Geometry I GEP/CPP
and
- STA 2023 Statistical Methods I GEP/CPP

4. Core Requirements: Advanced Level (13 hrs)

Biology Advanced Core:
- Note: A minimum grade of "C" (2.0) is required in these Biology courses to satisfy the requirement, and to allow their use as a course prerequisite.

PCB 3023 Molecular Cell Biology 3 hrs
- PCB 3044 Principles of Ecology 3 hrs
- PCB 3063 Genetics 3 hrs
- PCB 4683 Evolutionary Biology 4 hrs

Biology Laboratories:
- Students are required to take two labs from those listed below
- One of these labs must come from section A. The second lab can come from section B or an additional lab from section A.

A. Laboratories
- PCB 3044L Principles of Ecology Laboratory 1 hr
- PCB 3063L Genetics Laboratory 1 hr
- PCB 4683L Evolutionary Biology Lab 1 hr

B. Laboratories
- May include other laboratories as approved by an advisor

BOT 4223C Plant Anatomy 4 hrs
- BOT 4303C Plant Kingdom 5 hrs
- BOT 3018C Culinary Botany Across the Cultures 3 hrs
- BOT 4713C Plant Taxonomy 5 hrs

Biology Laboratories:
- PCB 4312C Advanced Marine Biology 4 hrs
- PCB 4445C Genomics Lab: Methods in Data Collection and Analysis 4 hrs
- ENY 4004C General Entomology 4 hrs
- ZOO 3713C Comparative Vertebrate Anatomy 5 hrs
- ZOO 4205C Biology and Ecology of Metazoans 4 hrs

Biology Tracks
For each track the following apply:
- A student must complete at least one course dealing exclusively with zoology and one course dealing exclusively with botany.
- A minimum C (2.0) required in each course taken to meet the “Required Electives” within each track (does not apply to courses taken to meet “Restricted Electives”).
- A minimum C (2.0) overall required for the track.
- No substitutions are allowed.
- At least 10 hours of the Upper Division Restricted electives must be taken within the UCF Biology Department. Courses offered by the Department of Biology have been identified. Additional courses may be used to meet requirements with approval of the undergraduate program coordinator via petition.
- Transferred courses must be at a 3000 level or higher, and be evaluated by the undergraduate program coordinator, in order to count as an Upper Division Restricted Elective.
- Courses at the 5000 level are only open to seniors and beginning graduate students. Faculty teaching course must approve override.

5. Restricted Electives 22 hrs

Biology B.S.: General Track 22 hrs
- A biology major who meets the GEP, core, lab, and upper division restricted electives requirements, as well as all UCF graduation requirements is eligible to receive a general B.S. in Biology.

Restricted Electives 22 hrs
Courses must be selected from the list below.
- 1 ANT 3550C Primatology 3 hrs
- 2 BCH 4053 Biochemistry I 3 hrs
- 4 BCH 4054 Biochemistry II 3 hrs
- 3 BOT 3018C Culinary Botany Across the Cultures 3 hrs
- 2 BOT 3802 Ethnobotany 3 hrs
- 4 BOT 4223C Plant Anatomy 4 hrs
- 4 BOT 4303C Plant Kingdom 5 hrs
- 4 BOT 4434C General Mycology 4 hrs
- 4 BOT 4503 Plant Physiology 3 hrs
- 2 BOT 4713C Plant Taxonomy 5 hrs
- 2 BOT 4850 Medicinal Botany 3 hrs
- 3 BSC 3052 Conservation Biology 3 hrs
- 3 BSC 3312 Principles of Marine Biology 3 hrs
- 3 BSC 4312C Advanced Marine Biology 4 hrs
- 3 BSC 4330 Invasion Biology 3 hrs
- 3 BSC 4445C Genomics Lab: Methods in Data Collection and Analysis 4 hrs
- 3 BSC 4821 Biogeography 4 hrs
- 3 BSC 4861L Urban Ecological Field Studies 3 hrs
- 3 BSC 5258L Tropical Biology Research and Conservation 3 hrs
- 1 ENY 4004C General Entomology 4 hrs
- 1 ENY 5004C Entomology 4 hrs
- 3 MCB 3020C General Microbiology 5 hrs
- 3 PAZ 4234 Zoo and Aquarium Management 3 hrs
- 3 PCB 3044L Principles of Ecology Laboratory 1 hr
- 3 PCB 3083L Genetics Laboratory 1 hr
- 3 PCB 3343L Principles of Field Ecology 2 hrs
- 3 PCB 3354 Tropical Ecology and Conservation 3 hrs
- 3 PCB 3355L Tropical Marine Biology 2 hrs
- 3 PCB 3442 Aquatic Ecology 3 hrs
- 3 PCB 4353 Florida Ecology, Natural History and Conservation 3 hrs

UNIVERSITY OF CENTRAL FLORIDA Undergraduate Catalog 2017-2018
### UCF Degree Programs

#### Biology B.S.: Ecology, Evolutionary and Invertebrates

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>PCB 4681L</td>
<td>Principles of Field Ecology</td>
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<tr>
<td>PCB 5354C</td>
<td>Tropical Ecology and Conservation</td>
<td>3 hrs</td>
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<td>PCB 5435C</td>
<td>Marine Ecology of Florida</td>
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<td>PCB 5485</td>
<td>Models in Ecology</td>
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<tr>
<td>PCB 3233</td>
<td>Immunology</td>
<td>3 hrs</td>
</tr>
<tr>
<td>PCB 3703C</td>
<td>Human Physiology</td>
<td>3 hrs</td>
</tr>
<tr>
<td>PCB 4402</td>
<td>Disease Ecology &amp; Ecoinmunology</td>
<td>3 hrs</td>
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<tr>
<td>PCB 4514</td>
<td>Genetics II</td>
<td>3 hrs</td>
</tr>
<tr>
<td>PCB 4524</td>
<td>Molecular Biology</td>
<td>3 hrs</td>
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<tr>
<td>PCB 4678</td>
<td>Evolution and Medicine</td>
<td>3 hrs</td>
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<tr>
<td>PCB 4683L</td>
<td>Evolutionary Biology Lab</td>
<td>1 hr</td>
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<tr>
<td>PCB 4684</td>
<td>Population Genetics</td>
<td>3 hrs</td>
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<tr>
<td>PCB 4723</td>
<td>Animal Physiology</td>
<td>4 hrs</td>
</tr>
<tr>
<td>ZOO 3713C</td>
<td>Comparative Vertebrate Anatomy</td>
<td>5 hrs</td>
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<tr>
<td>ZOO 3733C</td>
<td>Human Anatomy</td>
<td>4 hrs</td>
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<tr>
<td>ZOO 4205C</td>
<td>Biology and Ecology of Metazoan</td>
<td>4 hrs</td>
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<td></td>
<td>Vertebrate Evolution &amp; Ecology</td>
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</tr>
<tr>
<td></td>
<td>Mammalogy</td>
<td>4 hrs</td>
</tr>
<tr>
<td></td>
<td>Animal Behavior</td>
<td>3 hrs</td>
</tr>
<tr>
<td></td>
<td>Ichthyology</td>
<td>4 hrs</td>
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</table>

#### Additional Biology Electives: 7 hrs
- Courses must be selected from the General Biology Track restricted elective list

#### Biology B.S.: Pre-Health Professional Biology

<table>
<thead>
<tr>
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<th>Course Title</th>
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<td>PCB 3442</td>
<td>Aquatic Ecology</td>
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<tr>
<td>PCB 4723</td>
<td>Animal Physiology</td>
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</tr>
<tr>
<td>PAZ 4234</td>
<td>Zoo and Aquarium Management</td>
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</tr>
<tr>
<td>ZOO 3713C</td>
<td>Comparative Vertebrate Anatomy</td>
<td>5 hrs</td>
</tr>
<tr>
<td>ZOO 4205C</td>
<td>Biology and Ecology of Metazoan</td>
<td>4 hrs</td>
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<tr>
<td></td>
<td>Vertebrate Evolution &amp; Ecology</td>
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</tr>
<tr>
<td></td>
<td>Mammalogy</td>
<td>4 hrs</td>
</tr>
<tr>
<td></td>
<td>Animal Behavior</td>
<td>3 hrs</td>
</tr>
<tr>
<td></td>
<td>Ichthyology</td>
<td>4 hrs</td>
</tr>
</tbody>
</table>

#### Additional Biology Electives: 7 hrs
- Courses must be selected from the General Biology Track restricted elective list

### Undergraduate Catalog 2017-2018
1. Program Overview
The Biology major is designed to provide students with a comprehensive understanding of biological systems and processes. It includes a strong foundation in the biological sciences and prepares students for careers in various fields, including research, healthcare, education, and environmental management.

2. Program Objectives
- Students will acquire a solid understanding of biological principles and concepts.
- Students will develop critical thinking, problem-solving, and analytical skills.
- Students will learn to use and interpret scientific research data.
- Students will gain practical experience through laboratory and fieldwork.
- Students will engage in community service and professional development.

3. Course Requirements
- Biology Core Courses (22 hrs)
- Upper Division Electives (3-8 hrs)
- Capstone Requirement
- Additional Biology Electives (6-8 hrs)
- General Education Requirements
- Minimum Semester Hours Required

4. Program Prerequisites
- Completion of specific prerequisite courses before enrolling in required major courses.
- Satisfactory performance on placement exams.

5. Program Residency Requirement
- Students must complete at least 12 semester hours of upper division Biology courses at UCF.

6. Program Exit Requirements
- Minimum GPA of 2.0 in all Biology courses.
- Completion of a capstone course.

7. Program Duration
- Full-Time: 4 years
- Part-Time: 8 years

8. Program Flexibility
- Students may choose from a variety of courses and electives to tailor their degree to their specific interests.

9. Program Exit Exam
- Students must pass a comprehensive exam to demonstrate their knowledge and understanding of the major.

10. Program Admissions
- Admission requirements vary depending on the student's background and previous academic performance.

11. Program Advising
- Students are encouraged to consult with their academic advisor regularly to ensure they are on track to meet their academic goals.

12. Program Transfer Credits
- Transfer credits may be accepted with approval from the Biology Program.

13. Program Cost
- Estimated tuition and fees for in-state residents.

14. Program Career Services
- Assistance with job placement, resume building, and interview preparation.

15. Program Brochures
- Available online or in the Biology Department office.

16. Program Resources
- Online resources, including course syllabi, lab manuals, and research opportunities.

17. Program Policies
- Read the program policies and procedures to understand the expectations and requirements.

18. Program Contact Information
- Contact the Biology Program office for more information.

19. Program Review
- The program is reviewed every five years to ensure it meets the needs of students and the job market.

20. Program Outcome
- Graduates of the Biology major are well-prepared for careers in a variety of fields or for further study in graduate programs.

21. Program Update
- The program is updated regularly to reflect the latest developments in the field of biology.

22. Program voyeurism
- The program is designed to provide students with a comprehensive understanding of biological systems and processes.
<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
<th>Credits</th>
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<tr>
<td>Sophomore Year - Spring</td>
<td>CHM 2211 Organic Chemistry II</td>
<td>3 hrs</td>
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<td>GEP</td>
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<td></td>
<td>PCB 3044 Principles of Ecology</td>
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<td>PHY 2054C College Physics II</td>
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<td>Sophomore Year - Summer</td>
<td>CHM 2211L Organic Laboratory Techniques I</td>
<td>2 hrs</td>
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<td>GEP</td>
<td>3 hrs</td>
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<td>Junior Year - Fall</td>
<td>STA 2023 Statistical Methods I</td>
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<td>Botany Elective or Upper Division Biology Elective</td>
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<td>Upper Division Biology</td>
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<tr>
<td></td>
<td>Free Elective</td>
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<tr>
<td>Junior Year - Spring</td>
<td>PCB 3063 Genetics</td>
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<td>Zoology Elective or Botany Elective</td>
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<td>Junior Year - Summer</td>
<td>Upper Division Biology Elective</td>
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<tr>
<td>Senior Year - Fall</td>
<td>PCB 4683 Evolutionary Biology</td>
<td>4 hrs</td>
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<td></td>
<td>PCB 3023 Molecular Cell Biology</td>
<td>3 hrs</td>
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<td>Upper Division Biology Lab</td>
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<tr>
<td></td>
<td>Upper Division Biology Elective</td>
<td>3 hrs</td>
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</tbody>
</table>

Program Academic Learning Compacts

- Program Academic Learning Compacts (student learning outcomes) for undergraduate programs are located at:
  [http://www.oeas.ucf.edu/alc/academic_learning_compacts.htm](http://www.oeas.ucf.edu/alc/academic_learning_compacts.htm)

Equipment Fees

- Part-Time Student: $24.85 per term
- Full-Time Student: $49.70 per term