

ZOOLOGY

Zoology majors focus on the study of individual organisms and populations, as well as their relationships to each other and the environment, with the core foundation of evolution and ecology. Courses also emphasize the disciplines of anatomy, behavior, genetics, physiology, and other specialized fields.

About this Program

- **College:** Liberal Arts and Sciences (<http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/>)
- **Degree:** Bachelor of Science
- **Credits for Degree:** 120
- **More info**

To graduate with this major, students must complete all university, college, and major requirements.

Department Information

The Department of Biology studies life at all levels from molecules to the biosphere to understand the evolution, structure, maintenance and dynamics of biological systems. Our teaching and research provide the integrative and conceptual foundations of the life sciences.

Website (<https://biology.ufl.edu/>)

CONTACT

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Map (<http://campusmap.ufl.edu/#/index/0747>)

Curriculum

- Biology UF Online
- Biology | CALS
- Biology | CLAS
- Botany Minor
- Botany | CALS
- Botany | CLAS
- Combination Degrees
- Zoology
- Zoology Minor

Courses introduce zoology majors to a wide variety of topics while allowing individual interests to be pursued. Advanced undergraduate students are encouraged to participate in research with faculty.

Most career opportunities require advanced studies beyond the bachelor's degree. This includes preparation for graduate studies or employment in disciplines such as zoology, ecology, conservation, and biology research; preparation for medical, dental, or veterinary programs; or preparation for secondary-school teaching.

Ultimately, the undergraduate degree in zoology will be shaped by students' coursework, laboratory experience, field work, and the instructors they encounter. These experiences will help to shape their goals as biologists with a focus on zoology.

Majors should work both with a department advisor and a CLAS advisor. CLAS advisors will assist with degree requirements, university and college policy and course selection. Department advisors will help students select appropriate graduate programs, guide them in the admissions process, and help identify appropriate career choices. More Info (<https://biology.ufl.edu/undergraduates/zoology/>)

Coursework for the Major

A zoology major consists of a minimum of 32 credits of core zoology coursework plus a minimum of 31 credits of foundation coursework in chemistry, physics, and mathematics/statistics. Courses used toward the major must be completed with minimum grades of C.

Code	Title	Credits
Required Foundation Coursework		
CHM 2045 & 2045L	General Chemistry 1 and General Chemistry 1 Laboratory	4
CHM 2046 & 2046L	General Chemistry 2 and General Chemistry 2 Laboratory	4
CHM 2210	Organic Chemistry 1	3
CHM 2211 & 2211L	Organic Chemistry 2 and Organic Chemistry Laboratory	5
MAC 2311	Analytic Geometry and Calculus 1	4
MAC 2312 or STA 2023	Analytic Geometry and Calculus 2 Introduction to Statistics 1	3-4
Select one:		8-10
Option A		
PHY 2053 & 2053L	Physics 1 and Laboratory for Physics 1	
PHY 2054 & 2054L	Physics 2 and Laboratory for Physics 2	
Option B		
PHY 2048 & 2048L	Physics with Calculus 1 and Laboratory for Physics with Calculus 1	
PHY 2049 & 2049L	Physics with Calculus 2 and Laboratory for Physics with Calculus 2	
Required Core Coursework		
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1	4
BSC 2011 & 2011L	Integrated Principles of Biology 2 and Integrated Principles of Biology Laboratory 2	4
PCB 3063	Genetics	4
Zoology or zoology-related electives		20
Select at least three courses in zoology:		9-10
One or more 3000/4000-level ZOO course(s) offered through the Department of Biology ¹		
BSC 3402	Theory and Practice in the Biological Sciences	
BSC 4936	Critical Analysis of Biological Research	
PCB 4043C	General Ecology	
PCB 4674	Evolution	
PCB 4723C	Physiology and Molecular Biology of Animals	
PCB 5415C	Behavioral Ecology	
Additional zoology courses (minimum) ^{2,3}		11
Total Credits		83-87

¹ Students may not apply ZOO 4232, ZOO 4905, ZOO 4911, or ZOO 4940 toward this requirement.

² Including up to two zoology major-approved biological science courses (<https://biology.ufl.edu/undergraduates/approvedcourses/>) (3000/5000 level) outside of zoology.

³ Up to six credits of Individual Studies in Zoology will count toward this requirement:

- BOT 4911
- BSC 4910
- BSC 4912
- ZOO 4905
- ZOO 4911

Students should begin the chemistry and math sequences as soon as possible. A full year of calculus and a course in statistics (such as STA 2023) are highly recommended.

Transfer students must take at least three courses from the Department of Biology (excluding ZOO 4905, ZOO 4911, and ZOO 4940) at the University of Florida as part of the requirements for the major.

Additional Zoology Courses

Code	Title	Credits
Additional 3000/4000-level ZOO course(s) offered through the Department of Biology ^{1,2}		
Up to two zoology-major approved biological sciences courses offered outside the Department of Biology ³		
BSC 3911	Entering Research in Biology	1

¹ Up to six credits of Individual Studies in Zoology will count toward this requirement:

- BOT 4911
- BSC 4910
- BSC 4912
- ZOO 4905
- ZOO 4911

² Students may not apply ZOO 4232 or ZOO 4940 toward this requirement.

³ More Info (<https://biology.ufl.edu/undergraduates/approvedcourses/>)

Relevant Minors and/or Certificates

Majors in zoology can minor in most other disciplines, and this is a good way to organize students' electives around areas of interest. For instance, a zoology major can earn a minor in chemistry by adding just two chemistry courses: CHM 3400, CHM 3610, or any 4000-level CHM course. Students could also consider language and humanities minors. Note that zoology majors cannot minor in biology, nor can biology majors minor in zoology (the curricula for the zoology and biology majors are too similar).

Zoology students might want to consider the UFTeach Program. There is a severe shortage of qualified high school science teachers in Florida and nationwide. Students interested in the high-demand teaching profession should see a biology department advisor or the UFTeach advisor.

Students who complete the UFTeach minor in science teaching and a B.S. in zoology will have the coursework and preparation for professional teacher certification in Florida when they graduate.

More Info (<http://education.ufl.edu/uf-teach/>)

Research

All zoology majors are strongly encouraged to participate in research. Research experience is valuable on many levels: it diversifies your college experience; it teaches you how scientists apply the knowledge gained in the classroom to real-world questions; it gives you the opportunity to work with and get to know researchers who are the best in their field; it introduces you to cutting-edge scientific questions and techniques; it enhances your resume/CV if you apply to graduate or professional school; and finally, it is essential in helping you determine if science is a good career choice for you.

More Info (<https://biology.ufl.edu/undergraduates/research/>)

CLAS zoology majors may participate in research for course credit, as a scholar (e.g., University Scholar, HHMI Science for Life Scholar, Beckman Scholar), as a volunteer, or, in rare cases, as a paid research assistant. Please visit Undergraduate Research for more information regarding course credit. Students who plan to enroll for course credit must contact potential research mentors before the end of drop/add. If they miss the drop/add window, they should still contact potential research mentors, if only to discuss upcoming opportunities.

More Info (<https://cur.aa.ufl.edu/>)

Critical Tracking

Critical Tracking records each student's progress in courses that are required for progress toward each major. Please note the critical-tracking requirements below on a per-semester basis.

For degree requirements outside of the major, refer to CLAS Degree Requirements: Structure of a CLAS Degree.

Equivalent critical-tracking courses as determined by the State of Florida Common Course Prerequisites (<http://www.flvc.org/cpp/displayRecord.jsp?cip=260701&track=01>) may be used for transfer students.

Semester 1

- Complete one of the following in BSC, CHM, or MAC: BSC 2010/BSC 2010L; CHM 1025 or CHM 2045/CHM 2045L; MAC 1114, MAC 1140, MAC 1147, or MAC 2311
- 2.0 UF GPA required

Semester 2

- Complete CHM 2045/CHM 2045L; and BSC 2010/BSC 2010L or MAC 2311
- 2.0 UF GPA required

Semester 3

- Complete BSC 2010/BSC 2010L and MAC 2311 with a 2.5 critical-tracking GPA
- 2.0 UF GPA required

Semester 4

- Complete CHM 2046/CHM 2046L and BSC 2011/BSC 2011L with a 2.5 critical-tracking GPA
- 2.0 UF GPA required

Semester 5

- Complete CHM 2210 with a 2.5 critical-tracking GPA
- 2.0 UF GPA required

Semester 6

- Complete at least one 3000/4000 level course towards the required core coursework (3000/4000 level ZOO course, PCB 3063, BSC 3402, PCB 4043C, PCB 4674, PCB 5415C, PCB 4723C, or approved biological science course)
- 2.0 UF GPA required

Semester 7

- Complete Physics I requirement: PHY 2053/PHY 2053L or PHY 2048/PHY 2048L
- Complete at least two 3000/4000 level courses towards the required core coursework
- 2.0 UF GPA required

Semester 8

- Complete all remaining major course requirements.
- 2.0 UF GPA required

Model Semester Plan

Students are expected to complete the writing requirement while in the process of taking the courses below. Students are also expected to complete the general education international (GE-N) and diversity (GE-D) requirements concurrently with another general education requirement (typically, GE-C, H, or S).

Approved Zoology electives outside of the department may not count towards the 3000 level or above elective outside of the major requirement. CHM 2211, CHM 2211L, PHY 2054, PHY 2054L, PHY 2049, and PHY 2049L may count towards 3000 level or above electives outside of the major.

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold. These courses must be completed by the terms as listed above in the Critical Tracking criteria.

This semester plan represents an example progression through the major. Actual courses and course order may be different depending on the student's academic record and scheduling availability of courses. Prerequisites still apply.

Course	Title	Credits
Semester One		
Quest 1 (Gen Ed Humanities)		3
BSC 1920	First Year Introduction: Biology at UF (recommended elective)	1
CHM 2045 & 2045L	General Chemistry 1 and General Chemistry 1 Laboratory (Critical Tracking ; State Core Gen Ed Physical Sciences)	4
MAC 2311	Analytic Geometry and Calculus 1 (Critical Tracking ; State Core Gen Ed Mathematics)	4
State Core Gen Ed Social and Behavioral Sciences (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext)		3
Credits		15

Semester Two

CHM 2046 & 2046L	General Chemistry 2 and General Chemistry 2 Laboratory (Critical Tracking)	4
Select one:		3-4
MAC 2312	Analytic Geometry and Calculus 2 (Gen Ed Mathematics)	
STA 2023	Introduction to Statistics 1 (Gen Ed Mathematics)	
State Core Gen Ed Composition (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext); Writing Requirement		3
Gen Ed Social and Behavioral Sciences		3
Credits		13-14

Semester Three

Quest 2 (Gen Ed Social and Behavioral Sciences)		3
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1 (Critical Tracking ; Gen Ed Biological Sciences)	4
Select one:		3-4
CHM 2210	Organic Chemistry 1 (Critical Tracking)	
CHM 3217	Organic Chemistry/Biochemistry 1 (Critical Tracking)	
Elective		3
State Core Gen Ed Humanities (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext)		3
Credits		16-17

Semester Four

BSC 2011 & 2011L	Integrated Principles of Biology 2 and Integrated Principles of Biology Laboratory 2 (Critical Tracking ; Gen Ed Biological Sciences)	4
Select one:		3-4
CHM 2211	Organic Chemistry 2 ¹	
CHM 3218	Organic Chemistry/Biochemistry 2	
CHM 2211L	Organic Chemistry Laboratory	2
Elective		3
Gen Ed Humanities		3
Credits		15-16

Semester Five

PHY 2053 & 2053L	Physics 1 and Laboratory for Physics 1 (Critical Tracking)	5
Gen Ed Composition		3
Zoology courses (Critical Tracking)		5-10
Credits		13-18

Semester Six

PCB 3063	Genetics (Critical Tracking)	4
PHY 2054 & 2054L	Physics 2 and Laboratory for Physics 2	5
Electives (3000 level or above, not in major, if needed)		4
Zoology courses (or other approved biological sciences course; Critical Tracking)		3-5
Credits		16-18

Semester Seven

Elective		4
BSC 4936	Critical Analysis of Biological Research (recommended elective)	2
Foreign language		5

Zoology courses (Critical Tracking)	6-7
Credits	17-18
Semester Eight	
Electives (3000 level or above, not in major, if needed)	4
Foreign language	5
Zoology course	3-5
Zoology course (or other approved biological sciences course)	3-4
Credits	15-18
Total Credits	120

ZOO 4205C	R	R
ZOO 4307C	R	R

Assessment Types

- Biology Field Test
- Bioethics module quiz
- Scientific literacy paper

¹ Select CHM 2211 if CHM 2210 was taken Semester 3.

Academic Learning Compact

The Bachelor of Science in zoology offers students an education in the life sciences with an emphasis on animal systems. Students gain knowledge about the diversity of life (its evolution and significance) and about the structure of organisms and ecosystems and how they function (i.e., the acquisition, flow, organization and uses of information, energy and nutrients in living systems). They will learn about the scientific method and how it facilitates the discovery of new knowledge in zoology and biology. This includes how to critically evaluate hypotheses and conclusions in science using verifiable data and how to clearly and effectively communicate the major concepts and hypotheses in zoology and biology and in an appropriate style of presentation.

Before Graduating Students Must

- Pass an assessment in the two or three 3000/5000-level zoology courses.
- Complete requirements for the baccalaureate degree, as determined by faculty.

Students in the Major Will Learn to Student Learning Outcomes (SLOs)

Content

1. Identify, describe and define the basic terminology, concepts, methodologies and theories used within the biological sciences.

Critical Thinking

2. Analyze biological information and develop reasoned solutions to problems using the processes and applications of scientific inquiry.
3. Discriminate ethical behavior from unethical behavior in scientific research.

Communication

4. Communicate knowledge, ideas and reasoning clearly and effectively in written or oral forms appropriate to the biological sciences.

Curriculum Map

I = Introduced; R = Reinforced; A = Assessed

Courses	SLO 1	SLO 2	SLO 3	SLO 4
BSC 2010	I	I	I	
BSC 2011	I	I	I	
PCB 3063	R	R		I
PCB 3713	R	R		R
PCB 4043C	R/A	R/A	R/A	R/A
PCB 4674	R/A	R/A		R/A
PCB 4723C	R/A	R/A		R/A