EVOLUTION, ECOLOGY & BIODIVERSITY, BACHELOR OF ARTS

College of Biological Sciences

The major in Evolution, Ecology & Biodiversity offers the student a broad background in the theoretical and empirical basis of our understanding of the diversity and distribution of living organisms.

The Program

The program of study for the major begins with a core of introductory courses in mathematics, physical sciences, and biology. These are followed by survey courses in biodiversity, evolution and ecology and various more specialized courses that focus the student on particular disciplines or organisms, with an emphasis on problem-solving and critical thinking. Evolution, Ecology & Biodiversity majors may earn either a Bachelor of Science or a Bachelor of Arts degree. The requirements for the B.S. degree program include more science courses, such as biochemistry, whereas those for the A.B. degree program allow room for more electives within the humanities and social sciences. The A.B. degree is especially appropriate for those students who wish to combine arts or languages with evolution and ecology for career preparation in such areas as scientific writing, translating or illustration.

Career Alternatives

A degree in Evolution, Ecology & Biodiversity prepares the student for career opportunities in research, teaching, health professions, veterinary medicine, agriculture, environmental management, and industry. Many students gain some research experience while at UC Davis and choose to continue their training at the graduate level. This track offers careers in academics, government, environmental organizations, or business.

Faculty Advisor

Laci M. Gerhart, Ph.D.

Advising

Biology Academic Success Center (BASC) (https://basc.biology.ucdavis.edu/) in 1023 Katherine Esau Science Hall (formerly Sciences Laboratory Building); 530-752-0410.

Teaching Credential Subject Representative

Students planning for a teaching career should consult the School of Education in regards to preparation for certification; see the Teaching Credential/M.A. Program (https://education.ucdavis.edu/teaching-credentialma/).

The major requirements below are in addition to meeting University Degree Requirements (https://catalog.ucdavis.edu/undergraduate-education/university-degree-requirements/) & College Degree Requirements (https://catalog.ucdavis.edu/undergraduate-education/college-degree-requirements/); unless otherwise noted. The minimum number of units required for the Evolution, Ecology & Biodiversity Bachelor of Arts is 76.

Code	Title	Units
Preparatory Subject Matter		
Biological Science		*15*
BIS 002A & BIS 002B & BIS 002C	Introduction to Biology: Essentials of Life on Earth and Introduction to Biology: Principles of Ecology & Evolution and Introduction to Biology: Biodiversity & the Tree of Life	
Chemistry		
Choose the 002 series or 004 series and 008 series:		16
CHE 002A & CHE 002B	General Chemistry and General Chemistry	
OR		
CHE 004A & CHE 004B	General Chemistry for the Physical Sciences & Engineering and General Chemistry for the Physical Sciences & Engineering	
AND		
CHE 008A & CHE 008B	Organic Chemistry: Brief Course and Organic Chemistry: Brief Course	
Mathematics		
Choose the MAT 017 series, the MAT 021 series, or STA 100: [1]		4-8
MAT 017A & MAT 017B & MAT 017C	Calculus for Biology & Medicine and Calculus for Biology & Medicine and Calculus for Biology & Medicine (Recommended)	
OR		
MAT 021A & MAT 021B & MAT 021C	Calculus and Calculus and Calculus (Recommended)	
OR		
STA 100	Applied Statistics for Biological Sciences	
Physics		
PHY 001A	Principles of Physics	3
PHY 001B	Principles of Physics	3
Preparatory Subject Matter Subtotal		41-45
Depth Subject Matter		
Biological Science		
BIS 101	Genes & Gene Expression	4
or BIS 101V	Genes & Gene Expression	
Choose one:		3-4
EVE 100	Introduction to Evolution	
GEL 107	Earth History: Paleobiology	
ANT 151	Primate Evolution	
Choose one:		4
EVE 101	Introduction to Ecology	
ESP 100	General Ecology	
WFC 151	Wildlife Ecology	
Areas of Study		
Choose additional upper division restricted electives in biological science relevant to the student's interest. Chosen in consultation with a BASC advisor to achieve a total of 36 or more units.		24-25
Include at least one course from each of the areas of study below.		
(1) Biodiversity (p. 2)		
(2) Advanced Evolution & Ecology (p. 2)		

Depth Subject Matter Subtotal	35-37
Total Units	**76-82**

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With BASC advisor approval, this combination also satisfies the Mathematics requirement: MAT 021A-MAT 017B or MAT 017A-MAT 021B

(1) Biodiversity Area of Study

Code	Title	Units
EVE 105	Phylogenetic Analysis of Vertebrate Structure (Discontinued)	4
ENT 107	California Insect Diversity	5
EVE 108/ PLB 108 DISCONTINUED FOR WINTER 2024 **	(Discontinued for winter 2024) **	5
EVE 112	Biology of Invertebrates	3
EVE 114	Experimental Invertebrate Biology	3
EVE 140	Paleobotany (Discontinued)	4
MIC 105	Microbial Diversity	3
NEM 110	Introduction to Nematology	2
PLB/PLS 116	Plant Morphology & Evolution	5
PLB/PLP 148	Introductory Mycology	4
PLS 147	California Plant Communities	3
WFC 110	Biology & Conservation of Wild Mammals	3
WFC 111	Biology & Conservation of Wild Birds	3
WFC 120	Biology & Conservation of Fishes	3
WFC 134	Herpetology	3

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Course(s) discontinued; see your advisor for course options.

(2) Advanced Evolution & Ecology Area of Study

Code	Title	Units
EVE 102	Population & Quantitative Genetics	4
EVE 103	Phylogeny, Speciation & Macroevolution	4
EVE 104	Community Ecology	4
EVE 106	Mechanical Design in Organisms (Discontinued)	3
EVE 107	Animal Communication	4
EVE 110	Running, Swimming & Flying (Discontinued)	3
EVE 115	Marine Ecology	4
EVE/PLB 117	Plant Ecology	4
EVE/PLB 119	Population Biology of Invasive Plants & Weeds	3
EVE 120	Global Change Ecology	3
EVE 131	Human Genetic Variation & Evolution	3
EVE 138	Ecology of Tropical Latitudes (Discontinued)	5
EVE 141	Principles of Systematics (Discontinued)	3
EVE 147	Biogeography	4
EVE 149	Evolution of Ecological Systems (Discontinued)	4
EVE 150	Evolution of Animal Development (Discontinued)	3
EVE 161	Microbial Phylogenomics; Genomic Perspectives on the Diversity & Diversification of Microbes	3
EVE 175	Computational Genetics	3
Choose EVE 180A or ENT 180A & EVE 180B or ENT 180B:		8
EVE/ENT 180A	Experimental Ecology & Evolution in the Field	
EVE/ENT 180B	Experimental Ecology & Evolution in the Field	
EVE 181	Ecology & Evolution of Animal-Plant Interactions	4