

ECOLOGY AND CONSERVATION BIOLOGY - BS, VERTEBRATE ZOOLOGY TRACK

The Department of Ecology and Conservation Biology at Texas A&M University provides advanced educational opportunities to prepare students for careers in the science and stewardship of biological diversity, ecosystems and their services, and the biosphere. Our undergraduate and graduate degrees in Ecology and Conservation Biology emphasize fundamental ecological knowledge and its application to biodiversity conservation, environmental health, and management of complex systems, involving diverse aspects of ecology, ranging from genes to ecosystems and microcosms to the entire biosphere. ECCB is home to more than 70 experts and 400 students, representing a community of scholars working to understand nature, to conserve our natural resources, and to maintain the health and services of natural and human-dominated systems that sustain our communities.

Vertebrate Zoology Track (pre-vet)

The Vertebrate Zoology track is tailored specifically for those ECCB students with a deep interest in vertebrates, their diversity, ecology, and conservation and/or are interested in pursuing veterinary school. This track capitalizes on the collective experience of ECCB faculty in the areas of vertebrate ecology, evolution, genetics, anatomy, physiology, and behavior to provide a comprehensive understanding of vertebrate biology and ecology. In addition to core courses in ecology and conservation, ECCB students in the Vertebrate Zoology track complete coursework in vertebrate ecology, diversity, and evolution, and enroll in national or international field courses that focus on vertebrates, including their collection and identification. This is a flexible track that permits the inclusion of courses specifically required by graduate programs as well as schools of veterinary medicine. Students on this track may use free electives to personalize or broaden their experience to meet certification requirements for vertebrate-focused professional societies (e.g., American Fisheries Society and The Wildlife Society). The Vertebrate Zoology track satisfies all prerequisite requirements for veterinary school.

Program Requirements

First Year

Fall		Semester Credit Hours
BIOL 111	Introductory Biology I	
ECCB 101	Introduction to Ecology and Conservation Biology	1
ECCB 205	Fundamentals of Ecology	3
MATH 140	Mathematics for Business and Social Sciences	3
General elective ¹		3
Semester Credit Hours		14
Spring		
BIOL 112	Introductory Biology II	4
MATH 142	Business Calculus	3

American history (<http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history>) ² 3

Language, philosophy and culture (<http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture>) ² 3

Social and behavioral sciences (<http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences>) ² 3

Semester Credit Hours 16

Second Year

Fall

CHEM 119 Fundamentals of Chemistry I 4

ECCB 215 Fundamentals of Ecology–Laboratory 1

ECCB 285 Directed Studies 1
or ECCB 385 or Communication in Ecology and Conservation Biology

ECCB 302 Diversity and Evolution of Vertebrates 3

STAT 302 Statistical Methods 3

American history (<http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history>) ² 3

Semester Credit Hours 15

Spring

CHEM 222 Elements of Organic and Biological Chemistry 3

ECCB 304 Conservation Biology 3

Biodiversity ³ 3

Communication (<http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication>) ² 3

Government/Political science (<http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science>) ² 3

Semester Credit Hours 15

Third Year

Fall

ECCB 403 Population and Community Ecology 3

Select one of the following: 4

CHEM 120 Fundamentals of Chemistry II

GEOL 101 Principles of Geology
& GEOL 102 and Principles of Geology Laboratory

OCNG 251 The Blue Planet - Our Oceans
& OCNG 252 and The Blue Planet - Our Oceans Laboratory

PHYS 201 College Physics

SCSC 301 Soil Science

Ecosystem

Select one of the following: 3

ECCB 309 Forest Ecology

ECCB 320 Ecosystem Restoration and Management

ECCB 416 Fire Ecology and Natural Resource Management

RWFM 404 Aquatic Ecosystems

Creative arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts) ²	3
Government/Political science (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science) ²	3

Semester Credit Hours 16

Spring

ECCB 301 Diversity and Evolution of Plants	3
ECCB 303 Fire Ecology and Biogeochemistry	3
Communication (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication) ²	3
Ecology practice ⁴	3
Professional development ⁵	3

Semester Credit Hours 15

Fourth Year

Fall

ECCB 400 Molecular Ecology	3
Biodiversity ³	3
Ecology practice ⁴	4
Professional development ⁵	3
General elective ¹	3

Semester Credit Hours 16

Spring

ECCB 485 Directed Studies	1
Individual Function	
Select one of the following:	3-4
BIOL 206 Introductory Microbiology	
BIOL 318 Chordate Anatomy	
BIOL 351 Fundamentals of Microbiology	
BIOL 388 Principles of Animal Physiology	
ECCB 422 Behavioral Ecology	
ECCB 448 Fish Ecophysiology	
RWFM 447 Aquatic Animal Nutrition, Diet Formulation and Feeding	
VTPB 405 Biomedical Microbiology	
Ethical Dimensions	
Select one of the following:	3
AGEC 350 Environmental and Natural Resource Economics	
ECCB 308 Fundamentals of Environmental Decision-Making	
ECCB 318 Coupled Social and Ecological Systems	
ECCB 405 Forest Resource Assessment and Management	
ECCB 460/ RPTS 460 Nature, Values, and Protected Areas	
RWFM 308 Fish and Wildlife Laws and Administration	
RWFM 436 Natural Resources Policy	
Professional development ⁵	3

General elective¹ 2-3

Semester Credit Hours 13

Total Semester Credit Hours 120

¹ Select from any 100-499 course not used elsewhere.

² Graduation requirements include a requirement for 3 hours of International and Cultural Diversity (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/>) courses and 3 hours of Cultural Discourse (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/cultural-discourse-requirements/>) courses. A course satisfying a Core category, a college/department requirement, or a general elective can be used to satisfy this requirement.

³ Select from ECCB 311, ECCB 315, ECCB 401, ECCB 402.

⁴ Select from ECCB 314, ECCB 316, ECCB 324, ECCB 351, ECCB 406/ GEOG 462, ECCB 407, ECCB 417, ECCB 444, ECCB 446, ECCB 462, ECCB 484, ECCB 485, ECCB 491; ENTO 300/ECCB 300, ENTO 450/ ECCB 450, ENTO 451/ECCB 451; PHYS 201, PHYS 202; RWFM 325, RWFM 400/ECCB 452, RWFM 408, RWFM 410, RWFM 484, RWFM 485, RWFM 491; STAT 307.

⁵ Select from ANSC 303, ANSC 318, ANSC 320; CHEM 227 & CHEM 237, CHEM 228 & CHEM 238; ECCB 203, ECCB 311, ECCB 312, ECCB 313, ECCB 315, ECCB 401, ECCB 402, ECCB 420, ECCB 430; ENTO 201; OCNG 251; RWFM 301, RWFM 302, RWFM 314, RWFM 443, RWFM 470.

Must make a grade of C or better in BIOL 111, BIOL 112, MATH 140, and all ECCB major core coursework or any course substituted for an ECCB major core coursework requirement (ECCB 101, ECCB 205, ECCB 301, ECCB 302, ECCB 303, ECCB 304, ECCB 400, ECCB 403, and ECCB 485).