

# BS in Ecology and Evolutionary Biology

The University of Texas at El Paso's College of Science opened the spring 2020 semester with its newest undergraduate degree offering – a Bachelor of Science in Ecology and Evolutionary Biology (EEB). The new degree is the campus' latest effort in an ongoing mission of providing competitive academic and research opportunities at one of the most reasonable prices for a U.S. top tier university. The new EEB program, which is housed in the Department of Biological Sciences, will benefit students preparing for careers or advanced degrees in such fields as ecology, evolutionary biology, systematics, zoology, plant science, conservation biology, or wildlife management. The 24 semester hours of required coursework offer students opportunities in topics such as introduction to research, desert ecology and population genetics. Sixteen courses are part of the formal degree plan, while many other electives can be applied. The program was created to meet the demand for more trained professionals in ecology and evolutionary biology that can fill jobs as science teachers, educators, and in government positions at agencies such as the National Park Service, the Environmental Protection Agency, and the U.S. Fish and Wildlife Service.

## Marketable Skills

1. Communication: Reach mutual understanding through the effective exchange of information, ideas, and feelings.
2. Critical thinking: Analyze and evaluate issues to solve problems and develop informed opinions.
3. Organization: Use resources effectively and efficiently to stay focused on different tasks.
4. Problem-solving: Find solutions to difficult or complex issues.
5. Research: Be able to search, investigate and critically analyze information in response to a specific research question.
6. Time management: Prioritize goals and organize time to be more productive and efficient.

## Learning Outcomes

1. Students are expected to have basic knowledge about the facts and principles of biology appropriate to their chosen path within this broad academic field.
2. Students will develop their critical thinking skills, enhancing their problem-solving abilities by direct application of factual knowledge and scientific methodologies as necessary.
3. Students are expected to be familiar with modern biology techniques.
4. Students are able to design experiments (or otherwise test scientific hypotheses).
5. Students are expected to carry out basic experiments or other hypothesis testing in the laboratory and/or the field.
6. Students will be able to communicate orally, in writing, and develop collaborative skills.

## Fast Track

The Fast-Track Program (<http://catalog.utep.edu/admissions/undergraduate/fast-track/#text>) enables outstanding undergraduate UTEP students to receive both undergraduate and graduate credit for up to 15 hours of UTEP course work as determined by participating Master's and Doctoral programs.

Not all undergraduate programs have elected to participate in the Fast Track option, so students should see their departmental graduate advisor for information about requirements and guidelines. A list of courses that have been approved for possible use at the graduate level is found here (<http://catalog.utep.edu/admissions/undergraduate/fast-track/#fastrackcoursestext>).

## Degree Plan

Code	Title	Hours
<b>University Core <sup>C</sup></b>		<b>42</b>
<b>Designated Core <sup>C</sup></b>		
MATH 1411	Calculus I	
<b>Life and Physical Sciences</b>		
Required:		
GEOL 1211 & GEOL 1111	Principles of Earth Sciences and Principles of Earth Sci - Lab	
and		
GEOL 1212 & GEOL 1112	Principles of Earth Science and Laboratory for Geology 1212	
Select one of the following sequences:		
PHYS 1403 & PHYS 1404	General Physics I and General Physics II	
<b>OR</b>		
PHYS 2320 & PHYS 2120	Introductory Mechanics and Laboratory for PHYS 2320	

and

PHYS 2321 & PHYS 2121	Introductory Electromagnetism and Laboratory for PHYS 2321	
<b>Required Courses: <sup>1</sup></b>		<b>30</b>
BIOL 1305 & BIOL 1107	General Biology and Topics in Study of Life I	
BIOL 1306 & BIOL 1108	Organismal Biology and Organismal Biology Laboratory	
BIOL 3193	Prof Development in Eco Evol	
BIOL 3320	Genetics	
BIOL 3321	Evolution	
BIOL 3117 & BIOL 3316	Ecology Laboratory and Ecology	
CHEM 1305 & CHEM 1105	General Chemistry and Laboratory for CHEM 1305	
CHEM 1306 & CHEM 1106	General Chemistry and Laboratory for CHEM 1306	
MATH 1312 or STAT 2480	Calculus II Elementary Statistical Methods	
<b>Select eight lower-division hours from: <sup>2,C</sup></b>		<b>8</b>
BOT 2410	General Botany	
MICR 2340 & MICR 2141	General Microbiology and Gen Microbiology Laboratory	
ZOOL 2406	Vertebrate Zoology	
ZOOL 2466	Invertebrate Zoology	
<b>Upper-division courses #1</b>		<b>4</b>
Select one course from the following:		
BIOL 3342	Plants and People	
BIOL 3417	Plant Ecology	
BOT 3437	Plant Diversity & Systematics	
<b>Upper-division course #2</b>		<b>3</b>
Select one course from the following:		
BIOL 4324	Genetic, Env & Evol - Anim Beh	
BIOL 4327	Animal Ecology	
ZOOL 4476	Fish, Amphibians, and Reptiles	
ZOOL 4478	Birds and Mammals	
<b>Major Electives</b>		
Select seven to nine credit hours of which seven must be upper division hours of BIOL, BOT, MICR, or ZOOL		<b>9</b>
<b>Field of Study:</b>		
Select twenty-four hours with at least thirteen hours must be upper-division; any courses in CHEM, ESCI, GEOG, GEOP, or additional courses in BIOL, BOT, MICR or ZOOL are recommended; courses from all other subjects require departmental approval. (BIOL 1103, 1104, 1203, 1303, 1304 and MICR 2330 are not allowed.)		<b>24</b>
<b>Total Hours</b>		<b>120</b>

**C**

Courses require a grade of C or better.

**Concentrations****7-12 Life Science Certification**

The two Secondary Education Concentrations are for —Biological Sciences majors wishing to achieve secondary education certification as they complete the BS degree. These options require a minor in Secondary Education that follows certification tracks for either Science or Life Science for grades 7-12. The major and minor requirements for these tracks are the same, but the additional science requirements are different for the Science versus Life Science certification. Adequate scores on state-administered examinations after completion of all coursework are also required for teacher certification. A UTEP overall and content area GPA must be at least 2.75 for admission to the Educator Preparation Program.

Code	Title	Hours
<b>Education Concentration Required</b>		
This minor requires the Secondary Education concentration.		
<b>Background Check Required</b>		
A complete background check is required of all students who wish to receive teacher certification in the State of Texas. Students will be required to pass a background check before certification will be conferred by the State Board of Educator Certification (SBEC).		
<b>Designated Core (All courses require a grade of C or better)</b>		
Required Courses: <sup>1</sup>		
MATH 1411	Calculus I	4
Select one of the following sequences:		
GEOL 1211 & GEOL 1111	Principles of Earth Sciences and Principles of Earth Sci - Lab	3
AND		
GEOL 1212 & GEOL 1211	Principles of Earth Science and Principles of Earth Sciences	4
OR		
PHYS 1403 & PHYS 1404	General Physics I and General Physics II	8
OR		
PHYS 2420 & PHYS 2421	Introductory Mechanics and Introductory Electromagnetism	8
<b>University Core Curriculum</b>		
Complete the University Core Curriculum requirements.		
42		
<b>Biology Major</b>		
Required Courses:		
BIOL 1107	Topics in Study of Life I	1
BIOL 1108	Organismal Biology Laboratory	1
BIOL 1305	General Biology	3
BIOL 1306	Organismal Biology	3
BIOL 3193	Prof Development in Eco Evol	1
BIOL 3320	Genetics	3
BIOL 3321	Evolution	3
CHEM 1305 & CHEM 1105	General Chemistry and Laboratory for CHEM 1305	4
CHEM 1306 & CHEM 1106	General Chemistry and Laboratory for CHEM 1306	4
CHEM 2124	Lab for Organic Chemistry 2324	1
CHEM 2324	Organic Chemistry	3
MATH 1312 or STAT 2480	Calculus II Elementary Statistical Methods	3-4
Required:		
BIOL 3316 & BIOL 3117	Ecology and Ecology Laboratory	4
Select two courses of the following:		
BOT 2410	General Botany	8
MICR 2340 & MICR 2141	General Microbiology and Gen Microbiology Laboratory	
ZOOL 2406	Vertebrate Zoology	
ZOOL 2466	Invertebrate Zoology	
Select one of the following:		
BIOL 4388 & ZOOL 4181	Mammalian Physiology and Vertebrate Physiology Methods	4
BIOL 3314 & BIOL 3115	Molecular Cell Biology and Molecular Cell Biol Laboratory	

Select one of the following:		4
BIOL 4324	Genetic, Env & Evol - Anim Beh	
BIOL 4327	Animal Ecology	
ZOOL 4476	Fish, Amphibians, and Reptiles	
ZOOL 4478	Birds and Mammals	
Select three hours from the following or another course with advisor approval:		3
BIOL 3427	Desert Ecology	
BIOL 4198	Special Problems	
BIOL 4225	Field Biology	
Additional Coursework:		
Select one or two additional hours of coursework		1-2
<b>Secondary Education Minor</b>		
Required Courses:		
BED 4317	Tch & Empwr ELLs in Sec Schls	3
EDPC 3300	Intro to Youth Dev & Spec Ed	3
RED 3342	Content Area Literacy	3
SCED 3311	Curriculum Plan-Secondary Schl	3
SCED 4368	Teaching Science in Sec School	3
SCED 4691	Student Teaching in Sec School	6
<b>Total Hours</b>		<b>120</b>

1  
Although the UTEP choice is larger, these choices satisfy the requirements of both the core and the major.

2  
A total of thirty-seven hours of upper division coursework is required of all Bachelor of Science degrees

**C**  
Course requires a grade of C or better

## 7-12 Science Certification

The two Secondary Education Concentrations are for —Biological Sciences majors wishing to achieve secondary education certification as they complete the BS degree. These options require a minor in Secondary Education that follows certification tracks for either Science or Life Science for grades 7-12. The major and minor requirements for these tracks are the same, but the additional science requirements are different for the Science versus Life Science certification. Adequate scores on state-administered examinations after completion of all coursework are also required for teacher certification. A UTEP overall and content area GPA must be at least 2.75 for admission to the Educator Preparation Program.

Code	Title	Hours
<b>Background Check Required</b>		
A complete background check is required of all students who wish to receive teacher certification in the State of Texas. Students will be required to pass a background check before certification will be conferred by the State Board of Educator Certification (SBEC).		
<b>Designated Core (All courses require a grade of C or better)</b>		
Required Courses: <sup>1</sup>		11
MATH 1411	Calculus I	
Select one of the following sequences:		
GEOL 1211 & GEOL 1111	Principles of Earth Sciences and Principles of Earth Sci - Lab	3
AND		
GEOL 1212 & GEOL 1112	Principles of Earth Science and Laboratory for Geology 1212	
OR		
PHYS 1403 & PHYS 1404	General Physics I and General Physics II	
OR		
PHYS 2420 & PHYS 2421	Introductory Mechanics and Introductory Electromagnetism	

**University Core Curriculum**

Complete the University Core Curriculum requirements.	42
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**Biology Major**

Required Courses:

BIOL 1107	Topics in Study of Life I	1
BIOL 1108	Organismal Biology Laboratory	1
BIOL 1305	General Biology	3
BIOL 1306	Organismal Biology	3
BIOL 3117	Ecology Laboratory	1
BIOL 3193	Prof Development in Eco Evol	1
BIOL 3316	Ecology	3
BIOL 3320	Genetics	3
BIOL 3321	Evolution	3
CHEM 1305 & CHEM 1105	General Chemistry and Laboratory for CHEM 1305	4
CHEM 1306 & CHEM 1106	General Chemistry and Laboratory for CHEM 1306	4
MATH 1312 or STAT 2480	Calculus II Elementary Statistical Methods	3-4

Select two Courses of the following:	8
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BIOL 2311 & BIOL 2111	Human Anat/Physiology I and Human Anat/Physio Lab I	
BOT 2410	General Botany	
MICR 2340 & MICR 2141	General Microbiology and Gen Microbiology Laboratory	
ZOOL 2406	Vertebrate Zoology	
ZOOL 2466	Invertebrate Zoology	

Select one of the following:	3
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BIOL 3342	Plants and People	
BIOL 3417	Plant Ecology	
BOT 3437	Plant Diversity & Systematics	

Select one of the following:	3
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BIOL 4324	Genetic, Env & Evol - Anim Beh	
BIOL 4327	Animal Ecology	
ZOOL 4476	Fish, Amphibians, and Reptiles	
ZOOL 4478	Birds and Mammals	

Additional Coursework:

Select an additional 4 upper-division hours of BIOL (except BIOL 3351 and 3357), BOT, MICR, or ZOOL <sup>2</sup>	4
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**Secondary Education Minor**

Required Courses:

BED 4317	Tch & Empwr ELLs in Sec Schls	3
EDPC 3300	Intro to Youth Dev & Spec Ed	3
RED 3342	Content Area Literacy	3
SCED 3311	Curriculum Plan-Secondary Schl	3
SCED 4368	Teaching Science in Sec School	3
SCED 4691	Student Teaching in Sec School	6

**Upper Division Requirement**

Select a total of thirty-seven hours of upper division coursework <sup>2</sup>	
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<b>Total Hours</b>	<b>120</b>
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1  
Although the UTEP choice is larger, these choices satisfy the requirements of both the core and the major.

2  
A total of thirty-seven hours of upper division coursework is required for all Bachelor of Science degrees.

**C**  
Course requires a grade of C or better

1  
This area requires forty hours in total.

2  
At least two of the following are strongly recommended: BOT 2410 General Botany, ZOO 2406 Vertebrate Zoology, ZOO 2466 Invertebrate Zoology

**C**  
Course requires a grade of C or better

## 4-Year Sample Degree Plan

### BS Ecology and Evolutionary Biology (starting with Pre-Calculus)

Code	Title	Hours
<b>BS ECOLOGY AND EVOLUTIONARY (STARTING WITH PRE-CALCULUS)</b>		
<b>FRESHMAN</b>		
<b>Fall</b>		
BIOL 1305 & BIOL 1107	General Biology and Topics in Study of Life I	4
HIST 1301	History of U.S. to 1865 (*)	3
MATH 1508 or MATH 1310	Precalculus Trigonometry and Conics	5
RWS 1301	Rhetoric & Composition I (*)	3
SCI 1301	Inquiry in Math & Science (*)	3
<b>Spring</b>		
BIOL 1306 & BIOL 1108	Organismal Biology and Organismal Biology Laboratory	4
COMM 1301	Public Speaking (*)	3
HIST 1302	History of U.S. Since 1865 (*)	3
MATH 1411	Calculus I (*)	4
RWS 1302	Rhetoric & Composition 2 (*)	3
<b>SOPHOMORE</b>		
<b>Fall</b>		
CHEM 1305 & CHEM 1105	General Chemistry and Laboratory for CHEM 1305 (*)	4
PHIL 2306	Ethics (*)	3
PHYS 1403	General Physics I	4
POLS 2310	Introduction to Politics (*)	3
STAT 2480	Elementary Statistical Methods	4
<b>Spring</b>		
ART 1300	Art Appreciation (*)	3
CHEM 1306 & CHEM 1106	General Chemistry and Laboratory for CHEM 1306 (*)	4
MICR 2340 & MICR 2141	General Microbiology and Gen Microbiology Laboratory	4
POLS 2311	American Gover & Politics (*)	3
PHYS 1404	General Physics II	4
<b>JUNIOR</b>		
<b>Fall</b>		
BIOL 3192	Professional Development Sem.	1

BIOL 3316 & BIOL 3117	Ecology and Ecology Laboratory	4
BIOL 3320	Genetics	3
PSYC 1301	Introduction to Psychology (*)	3
Field of Study Course		3
<b>Spring</b>		
BIOL 3321	Evolution	3
BOT 2410	General Botany	4
BIOL 3342 or BIOL 3317 or BOT 3437	Plants and People  Plant Diversity & Systematics	3-4
Major Elective		3
Field of Study course		3
<b>SENIOR</b>		
<b>Fall</b>		
BIOL 4324 or BIOL 4327 or ZOOL 4476 or ZOOL 4478	Genetic, Env & Evol - Anim Beh Animal Ecology Fish, Amphibians, and Reptiles Birds and Mammals	3-4
Major Elective		3
Field of Study course		3
Field of Study course		3
<b>Spring</b>		
Field of Study Course		3
Field of Study course		3
Field of Study course		3
Field of Study course		3
<b>Total Hours</b>		<b>125-127</b>

## BS Ecology and Evolutionary Biology (starting with Calculus)

Code	Title	Hours
<b>BS ECOLOGY AND EVOLUTIONARY (STARTING WITH CALCULUS)</b>		
<b>FRESHMAN</b>		
<b>Fall</b>		
BIOL 1305 & BIOL 1107	General Biology and Topics in Study of Life I	4
HIST 1301	History of U.S. to 1865 (*)	3
MATH 1411	Calculus I (*)	4
RWS 1301	Rhetoric & Composition I (*)	3
SCI 1301	Inquiry in Math & Science (*)	3
<b>Spring</b>		
BIOL 1306 & BIOL 1108	Organismal Biology and Organismal Biology Laboratory	4
COMM 1301	Public Speaking (*)	3
HIST 1302	History of U.S. Since 1865 (*)	3
RWS 1302	Rhetoric & Composition 2 (*)	3
STAT 2480	Elementary Statistical Methods	4
<b>SOPHOMORE</b>		
<b>Fall</b>		
CHEM 1305 & CHEM 1105	General Chemistry and Laboratory for CHEM 1305 (*)	4
MICR 2340 & MICR 2141	General Microbiology and Gen Microbiology Laboratory	4

PHIL 2306	Ethics (*)	3
PHYS 1403	General Physics I	4
POLS 2310	Introduction to Politics (*)	3
<b>Spring</b>		
ART 1300	Art Appreciation (*)	3
CHEM 1306 & CHEM 1106	General Chemistry and Laboratory for CHEM 1306 (*)	4
POLS 2311	American Gover & Politics (*)	3
PHYS 1404	General Physics II	4
Field of Study Course		3
<b>JUNIOR</b>		
<b>Fall</b>		
BIOL 3192	Professional Development Sem.	1
BIOL 3316 & BIOL 3117	Ecology and Ecology Laboratory	4
BIOL 3320	Genetics	3
PSYC 1301	Introduction to Psychology (*)	3
Field of Study course		3
<b>Spring</b>		
BIOL 3321	Evolution	3
BIOL 3342	Plants and People	3-4
or BIOL 3317		
or BOT 3437	Plant Diversity & Systematics	
BIOL 4324	Genetic, Env & Evol - Anim Beh	3-4
or BIOL 4327	Animal Ecology	
or ZOOL 4476	Fish, Amphibians, and Reptiles	
or ZOOL 4478	Birds and Mammals	
ZOOL 2406	Vertebrate Zoology	4
<b>SENIOR</b>		
<b>Fall</b>		
Major Elective		3
Major Elective		3
Field of Study course		3
Field of Study course		3
<b>Spring</b>		
Field of Study Course		3
Field of Study course		3
Field of Study course		3
Field of Study course		3
<b>Total Hours</b>		<b>120-122</b>

### BS Ecology and Evolutionary Biology- 7-12 Life Science (starting with Pre-Calculus)

Code	Title	Hours
<b>BS ECOLOGY AND EVOLUTIONARY BIOLOGY - 7-12 LIFE SCIENCE CERTIFICATION (Starting with Pre-Calculus)</b>		
<b>FRESHMAN</b>		
<b>Fall</b>		
BIOL 1305 & BIOL 1107	General Biology and Topics in Study of Life I	4
MATH 1508	Precalculus	3-5
or MATH 1310	Trigonometry and Conics	
RWS 1301	Rhetoric & Composition I	3
SCI 1301	Inquiry in Math & Science	3
HIST 1301	History of U.S. to 1865	3



**Spring**

MATH 1411	Calculus I	4
BIOL 1306 & BIOL 1108	Organismal Biology and Organismal Biology Laboratory	4
RWS 1302	Rhetoric & Composition 2	3
COMM 1301	Public Speaking	3
HIST 1302	History of U.S. Since 1865	3

**SOPHOMORE****Fall**

STAT 2480	Elementary Statistical Methods	4
CHEM 1305 & CHEM 1105	General Chemistry and Laboratory for CHEM 1305	4
BOT 2410	General Botany	4
PHIL 2306	Ethics	3
POLS 2310	Introduction to Politics	3

**Spring**

CHEM 1306 & CHEM 1106	General Chemistry and Laboratory for CHEM 1306	4
PHYS 1403	General Physics I	4
ZOOL 2406	Vertebrate Zoology	4
PSYC 1301	Introduction to Psychology	3
POLS 2311	American Govern & Politics	3

**JUNIOR****Fall**

ART 1300	Art Appreciation	3
BIOL 3192	Professional Development Sem.	1
BIOL 3316 & BIOL 3117	Ecology and Ecology Laboratory	4
BIOL 3320	Genetics	3
GEOL 1313 & GEOL 1103	Intro to Physical Geology and Lab for GEOL 1313	4

**Spring**

BIOL 3321	Evolution	3
BIOL 3314 & BIOL 3115	Molecular Cell Biology and Molecular Cell Biol Laboratory	4
CHEM 2324 & CHEM 2124	Organic Chemistry and Lab for Organic Chemistry 2324	4
Secondary Educ Minor		3

**SENIOR****Fall**

BIOL 4327	Animal Ecology	3
BIOL 4324 or BIOL 4327 or ZOOL 4476 or ZOOL 4478	Genetic, Env & Evol - Anim Beh Animal Ecology Fish, Amphibians, and Reptiles Birds and Mammals	3-4
Secondary Educ Minor		3
Secondary Educ Minor		3
Secondary Educ Minor		3
Secondary Educ Minor		3

**Spring**

SCED 4691	Student Teaching in Sec School	6
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**Total Hours****122-125**

**BS Ecology and Evolutionary Biology- 7-12 Life Science (starting with Calculus)**

Code	Title	Hours
<b>BS ECOLOGY AND EVOLUTIONARY BIOLOGY - 7-12 LIFE SCIENCE CERTIFICATION (Starting with Calculus)</b>		
<b>FRESHMAN</b>		
<b>Fall</b>		
BIOL 1305 & BIOL 1107	General Biology and Topics in Study of Life I	4
MATH 1411	Calculus I	4
RWS 1301	Rhetoric & Composition I	3
SCI 1301	Inquiry in Math & Science	3
HIST 1301	History of U.S. to 1865	3
<b>Spring</b>		
BIOL 1306 & BIOL 1108	Organismal Biology and Organismal Biology Laboratory	4
RWS 1302	Rhetoric & Composition 2	3
COMM 1301	Public Speaking	3
HIST 1302	History of U.S. Since 1865	3
STAT 2480 or MATH 1312	Elementary Statistical Methods Calculus II	3-4
<b>SOPHOMORE</b>		
<b>Fall</b>		
CHEM 1305 & CHEM 1105	General Chemistry and Laboratory for CHEM 1305	4
BOT 2410	General Botany	4
PHIL 2306	Ethics	3
POLS 2310	Introduction to Politics	3
PHYS 1403	General Physics I	4
<b>Spring</b>		
BIOL 3427	Desert Ecology	4
CHEM 1306 & CHEM 1106	General Chemistry and Laboratory for CHEM 1306	4
ZOOL 2406	Vertebrate Zoology	4
PSYC 1301	Introduction to Psychology	3
POLS 2311	American Govern & Politics	3
<b>JUNIOR</b>		
<b>Fall</b>		
ART 1300	Art Appreciation	3
BIOL 3192	Professional Development Sem.	1
BIOL 3316 & BIOL 3117	Ecology and Ecology Laboratory	4
BIOL 3320	Genetics	3
GEOL 1313 & GEOL 1103	Intro to Physical Geology and Lab for GEOL 1313	4
<b>Spring</b>		
BIOL 3321	Evolution	3
BIOL 3314 & BIOL 3115	Molecular Cell Biology and Molecular Cell Biol Laboratory	4
CHEM 2324 & CHEM 2124	Organic Chemistry and Lab for Organic Chemistry 2324	4
Secondary Educ Minor		3
<b>SENIOR</b>		
<b>Fall</b>		
BIOL 4324	Genetic, Env & Evol - Anim Beh	3-4

or BIOL 4327	Animal Ecology	
or ZOOL 4476	Fish, Amphibians, and Reptiles	
or ZOOL 4478	Birds and Mammals	
Secondary Educ Minor		3
Secondary Educ Minor		3
Secondary Educ Minor		3
Secondary Educ Minor		3
<b>Spring</b>		
SCED 4691	Student Teaching in Sec School	6
<b>Total Hours</b>		<b>119-121</b>

### BS Ecology and Evolutionary Biology- 7-12 Science Certification (starting with Pre-Calculus)

Code	Title	Hours
<b>BS ECOLOGY AND EVOLUTIONARY BIOLOGY - 7-12 SCIENCE CERTIFICATION (Starting with Pre-Calculus)</b>		
<b>FRESHMAN</b>		
<b>Fall</b>		
BIOL 1305 & BIOL 1107	General Biology and Topics in Study of Life I	4
MATH 1508	Precalculus	5
HIST 1301	History of U.S. to 1865	3
RWS 1301	Rhetoric & Composition I	3
SCI 1301	Inquiry in Math & Science	3
<b>Spring</b>		
BIOL 1306 & BIOL 1108	Organismal Biology and Organismal Biology Laboratory	4
COMM 1301	Public Speaking	3
HIST 1302	History of U.S. Since 1865	3
MATH 1411	Calculus I	4
RWS 1302	Rhetoric & Composition 2	3
<b>SOPHOMORE</b>		
<b>Fall</b>		
BOT 2410	General Botany	4
CHEM 1305 & CHEM 1105	General Chemistry and Laboratory for CHEM 1305	4
PHIL 2306	Ethics	3
PHYS 1403	General Physics I	4
POLS 2310	Introduction to Politics	3
<b>Spring</b>		
BIOL 3342 or BIOL 3317 or BOT 3437	Plants and People  Plant Diversity & Systematics	3-4
CHEM 1306 & CHEM 1106	General Chemistry and Laboratory for CHEM 1306	4
PHYS 1404	General Physics II	4
PSYC 1301	Introduction to Psychology	3
POLS 2311	American Gover & Politics	3
STAT 2480	Elementary Statistical Methods	4
ZOOL 2406	Vertebrate Zoology	4
<b>JUNIOR</b>		
<b>Fall</b>		
ART 1300	Art Appreciation	3
BIOL 3192	Professional Development Sem.	1

BIOL 3316 & BIOL 3117	Ecology and Ecology Laboratory	4
BIOL 3320	Genetics	3
GEOL 1313 & GEOL 1103	Intro to Physical Geology and Lab for GEOL 1313	4
<b>Spring</b>		
BIOL 3314 & BIOL 3115	Molecular Cell Biology and Molecular Cell Biol Laboratory	4
BIOL 3321	Evolution	3
GEOL 1314 & GEOL 1104	Intro to Historical Geol and Lab for GEOL 1314	4
Secondary Educ Minor		3
<b>SENIOR</b>		
<b>Fall</b>		
BIOL 4327	Animal Ecology	3
Secondary Educ Minor		3
Secondary Educ Minor		3
Secondary Educ Minor		3
Secondary Educ Minor		3
<b>Spring</b>		
SCED 4691	Student Teaching in Sec School	6
<b>Total Hours</b>		<b>128-129</b>

### BS Ecology and Evolutionary Biology- 7-12 Science Certification (starting with Calculus)

Code	Title	Hours
<b>BS ECOLOGY AND EVOLUTIONARY BIOLOGY - 7-12 SCIENCE CERTIFICATION (Starting with Calculus)</b>		
<b>FRESHMAN</b>		
<b>Fall</b>		
MATH 1411	Calculus I	4
BIOL 1305 & BIOL 1107	General Biology and Topics in Study of Life I	4
RWS 1301	Rhetoric & Composition I	3
SCI 1301	Inquiry in Math & Science	3
HIST 1301	History of U.S. to 1865	3
<b>Spring</b>		
STAT 2480	Elementary Statistical Methods	4
BIOL 1306 & BIOL 1108	Organismal Biology and Organismal Biology Laboratory	4
RWS 1302	Rhetoric & Composition 2	3
COMM 1301	Public Speaking	3
HIST 1302	History of U.S. Since 1865	3
<b>SOPHOMORE</b>		
<b>Fall</b>		
BOT 2410	General Botany	4
CHEM 1305 & CHEM 1105	General Chemistry and Laboratory for CHEM 1305	4
PHIL 2306	Ethics	3
PHYS 1403	General Physics I	4
POLS 2310	Introduction to Politics	3
<b>Spring</b>		
BIOL 3342 or BIOL 3317 or BOT 3437	Plants and People  Plant Diversity & Systematics	3-4

CHEM 1306 & CHEM 1106	General Chemistry and Laboratory for CHEM 1306	4
PHYS 1404	General Physics II	4
PSYC 1301	Introduction to Psychology	3
POLS 2311	American Gover & Politics	3
<b>JUNIOR</b>		
<b>Fall</b>		
ART 1300	Art Appreciation	3
BIOL 3192	Professional Development Sem.	1
BIOL 3316 & BIOL 3117	Ecology and Ecology Laboratory	4
BIOL 3320	Genetics	3
GEOL 1313 & GEOL 1103	Intro to Physical Geology and Lab for GEOL 1313	4
<b>Spring</b>		
BIOL 3314 & BIOL 3115	Molecular Cell Biology and Molecular Cell Biol Laboratory	4
BIOL 3321	Evolution	3
BIOL 4324	Genetic, Env & Evol - Anim Beh	3
GEOL 1314 & GEOL 1104	Intro to Historical Geol and Lab for GEOL 1314	4
Secondary Educ Minor		3
<b>SENIOR</b>		
<b>Fall</b>		
BIOL 4327	Animal Ecology	3
Secondary Educ Minor		3
Secondary Educ Minor		3
Secondary Educ Minor		3
Secondary Educ Minor		3
<b>Spring</b>		
SCED 4691	Student Teaching in Sec School	6
<b>Total Hours</b>		<b>122-123</b>