

# BS IN BIOLOGY WITH A CONCENTRATION IN ECOLOGY AND ORGANISMAL BIOLOGY

The Bachelor of Science degree in Biology with a concentration in Ecology and Organismal Biology requires a minimum of 120 hours. Students in this degree focus on the ecology of animals, plants and microorganisms and their roles in the biosphere. This degree prepares students for employment or graduate school in life sciences fields, such as wildlife biology, freshwater biology, zoology, conservation biology and forestry.

NOTE: Students pursuing a BS in Biology with a Concentration in Ecology and Organismal Biology cannot double major with a BS in Environmental Sciences/Biology Minor.

The Bachelor of Science degree in biology with a concentration in ecology and organismal biology (BIOM) requires the following courses:

EEES 2150	Biodiversity
EEES 2160	Biodiversity Laboratory
EEES 3050	General Ecology
EEES 3060	General Ecology Laboratory
EEES 3900	Literature And Communications In The Environmental Sciences
EEES 4150	Evolution

Twelve additional hours of advanced elective EEES courses (3000 - 4000 level), including three advanced laboratory courses.

BIOL 2170	Fundamentals of Life Science: Biomolecules, Cells, and Inheritance
BIOL 3010	Molecular Genetics
BIOL 3030	Cell Biology

CHEM 1230	General Chemistry I
CHEM 1240	General Chemistry II
CHEM 1280	General Chemistry Lab I
CHEM 1290	General Chemistry Lab II
CHEM 2410	Organic Chemistry I
CHEM 2420	Organic Chemistry II
CHEM 2460	Organic Chemistry Laboratory I for Non-Majors

MATH 2640 Statistics for Applied Science  
Calculus I and II: (MATH 1750 & MATH 1760, or MATH 1830 & MATH 1840, or MATH 1850 & MATH 1860)

Two semesters of general physics either algebra or calculus based: (PHYS 2070 & PHYS 2080, or PHYS 2130 & PHYS 2140)

Below is a sample plan of study. Consult your degree audit for your program requirements.

First Term		Hours
NSM 1000	Natural Sciences & Mathematics	2
CHEM 1230	General Chemistry I	4
CHEM 1280	General Chemistry Lab I	1
ENGL 1110	College Composition I	3

Social Science Core		3
Arts/Humanities Core		3
<b>Hours</b>		<b>16</b>

## Second Term

EEES 2150	Biodiversity	4
EEES 2160	Biodiversity Laboratory	1
CHEM 1240	General Chemistry II	4
CHEM 1290	General Chemistry Lab II	1
Social Science Core		3
ENGL 1130	College Composition II: Academic Disciplines And Discourse	3

**Hours** **16**

## Third Term

BIOL 2170	Fundamentals of Life Science: Biomolecules, Cells, and Inheritance	4
CHEM 2410	Organic Chemistry I	3
CHEM 2460	Organic Chemistry Laboratory I for Non-Majors	1
MATH 1750 or MATH 1850	Calculus For The Life Sciences With Applications I or Single Variable Calculus I	4
Arts/Humanities Core		3

**Hours** **15**

## Fourth Term

MATH 1760 or MATH 1860	Calculus For The Life Sciences With Applications II or Single Variable Calculus II	3
CHEM 2420	Organic Chemistry II	3
BIOL 3010	Molecular Genetics	3
EEES 3900	Literature And Communications In The Environmental Sciences	3
Electives		3

**Hours** **15**

## Fifth Term

EEES 3050	General Ecology	3
EEES 3060	General Ecology Laboratory	1
BIOL 3030	Cell Biology	3
US Diversity		3
Elective- WAC		3

**Hours** **13**

## Sixth Term

MATH 2640	Statistics for Applied Science	3
Electives -Major <sup>1</sup>		6
EEES Advanced Lab <sup>2</sup>		1
Electives		6

**Hours** **16**

## Seventh Term

PHYS 2070	General Physics I	5
Non-US Diversity		3
Electives- Major <sup>1</sup>		6



EEES Advanced Lab <sup>2</sup>	1
<b>Hours</b>	<b>15</b>
<b>Eighth Term</b>	
PHYS 2080 General Physics II	5
EEES 4150 Evolution	3
EEES Advanced Lab <sup>2</sup>	1
Electives	5-6
<b>Hours</b>	<b>14-15</b>
<b>Total Hours</b>	<b>120-121</b>

<sup>1</sup> Choose from any upper level EEES course (4000 level) for which prerequisites are met.

<sup>2</sup> Appropriate lab courses to be chosen with consent of BIOM advisor (Dr. Sigler).

PLO 1. Students will be able to demonstrate a thorough understanding of the fundamental concepts of cell and molecular biology, biochemistry, evolutionary biology and physiology and use these concepts to analyze and evaluate biological observations, in written and mathematical terms, and predict the behavior of biological manipulations.

PLO 2. Students will be able to read primary biological literature and apply critical thinking skills to analyze and interpret conclusions from biological experiments. They should be able to perform effective literature searches and identify relevant primary literature.

PLO 3. Students will be able to clearly discuss, analyze and evaluate subjects relating to biological sciences in both written and spoken presentations. They should be able to interpret these discoveries in the context of current understanding.