

# BIOLOGY - ECOLOGY AND ORGANISMAL BIOLOGY (BACHELOR OF SCIENCE)

Ecology and Organismal Biology is designed for those majors who plan to enter graduate school or have careers in ecological or environmental research, environmental assessment, or education.

Course	Title	Credits
Jax MIX General Education Curriculum		41

The requirements for the major in Biology are:

Course	Title	Credits
<b>Freshman Biology Sequence</b>		
BY 101	Introductory Biology I	3
BY 102	Introductory Biology II	3
BY 103	Introductory Biology Lab I	1
BY 104	Introductory Biology Lab II	1
<b>Biology Core Courses</b>		
BY 322	Genetics (WI)	4
BY 324	Introduction to Evolutionary Biology	3
BY 332	Ecology	4
BY 373	Cell Biology	4
<b>Biology concentration (see requirements below)</b>		<b>15</b>
<b>Senior Seminar</b>		
BY 496	Senior Seminar (WI)	1
<b>Freshman Chemistry Sequence</b>		
CY 105	General Chemistry I	3
CY 106	General Chemistry II	3
CY 107	General Chemistry Laboratory I	1
CY 108	General Chemistry Laboratory II	1
<b>Organic Chemistry sequence</b>		
CY 231	Organic Chemistry I	4
CY 232	Organic Chemistry II	4
<b>Mathematics</b>		
Select one of the following:		3-4
MS 113	Precalculus Trigonometry	
MS 125	Calculus I	
or higher		
<b>Computer Science</b>		
CS 201	Introduction to Information Technology	3
<b>Physics Sequence</b>		
PHS 201 & PHS 203	College Physics I and College Physics Laboratory Techniques I	4
PHS 202 & PHS 204	College Physics II and College Physics Laboratory Techniques II	4
<b>Total Hours</b>		<b>69-70</b>

The requirements for the concentration in Ecology and Environmental Biology are:

Course	Title	Credits
<b>Biology Concentration Courses - select two of the following:</b>		
BY 320	Comparative Vertebrate Anatomy	
BY 336	General Botany	
BY 415	Biometrics	
<b>Biology 300+ Electives</b>		<b>7-8</b>
Suggested, but not limited to:		
BY 301	Field Zoology	
BY 302	Field Botany	
BY 303	Biological Conservation	
BY 310	Environmental Education	
BY 406	Ornithology	
BY 438	Freshwater Biology	
BY 442	General Entomology	
BY 452	Plant Taxonomy	
BY 458	Herpetology	
BY 463	General Toxicology	
<b>Total Hours</b>		<b>15</b>

In addition to courses noted below, candidates for graduation must successfully complete all JSU Academic Regulations. **More information about Jax MIX requirements (<https://catalog.jsu.edu/undergraduate/jax-mix-requirements/>) and Alabama Transfers equivalents (<https://catalog.jsu.edu/undergraduate/alabama-transfers-equivalents/>) can be found in their respective section of the catalog.**

Freshman		Hours
<b>Fall</b>		
Jax MIX Communication: EH Composition sequence		3
BY 101 & BY 103	Introductory Biology I and Introductory Biology Lab I (Jax MIX Inquiry)	4
MS 112	Precalculus Algebra (Jax MIX Communication)	3
CY 105 & CY 107	General Chemistry I and General Chemistry Laboratory I	4
SSC 101	First Year Experience	0
<b>Hours</b>		<b>14</b>
<b>Spring</b>		
Jax MIX Communication: EH Composition sequence		3
BY 102 & BY 104	Introductory Biology II and Introductory Biology Lab II (Jax MIX Inquiry)	4
CY 106 & CY 108	General Chemistry II and General Chemistry Laboratory II	4
MS 113	Precalculus Trigonometry (or higher excluding MS 114)	3
<b>Hours</b>		<b>14</b>
<b>Sophomore</b>		
<b>Fall</b>		
Jax MIX Expression: Literature		3
Jax MIX Experience: History		3
Jax MIX Experience: Social/Behavioral Science		3
CY 231	Organic Chemistry I	4
Biology Core		4
<b>Hours</b>		<b>17</b>
<b>Spring</b>		
Jax MIX Expression: (Literature, if sequence) <sup>1</sup>		3
Jax MIX Experience: (History, if sequence) <sup>1</sup>		3
CS 201	Introduction to Information Technology (or higher)	3
CY 232	Organic Chemistry II	4
Biology Core		4
<b>Hours</b>		<b>17</b>

2 Biology - Ecology and Organismal Biology (Bachelor of Science)

**Junior**

<b>Fall</b>		
EH 141	Speech (Jax MIX Communication)	3
PHS 201 & PHS 203	College Physics I and College Physics Laboratory Techniques I <sup>2</sup>	4
Biology Core		4
Biology Concentration Course		4
<b>Hours</b>		<b>15</b>

<b>Spring</b>		
Jax MIX Experience: Social/Behavioral Science		3
PHS 202 & PHS 204	College Physics II and College Physics Laboratory Techniques II <sup>2</sup>	4
Biology Core		3
Biology Concentration Course		4-3
<b>Hours</b>		<b>14-13</b>

<b>Senior</b>		
<b>Fall</b>		
Jax MIX Expression: Fine Arts		3
Biology 300+ Elective		4
Electives		6
<b>Hours</b>		<b>13</b>

<b>Spring</b>		
BY 496	Senior Seminar (WI)	1
Biology 300+ Elective		3-4
Electives		12
<b>Hours</b>		<b>16-17</b>
<b>Total Hours</b>		<b>120</b>

<sup>1</sup> A sequence in either literature or history is required, with a minimum of three credit hours in both history and literature.

<sup>2</sup> Students may elect to take calculus-based PHS 221 Physics for Scientists and Engineers I w/Lab (4)/PHS 222 Physics for Scientists and Engineers II w/Lab (4) in place of PHS 201 College Physics I (3)/PHS 202 College Physics II (3).