

## Overview of the Biology Degrees at McMurry University as of Fall 2016

B.S. in Biology Degree	B.S. in Biomedical Science Degree	B.S. in Life Sciences (and 8-12) Degree	B.S. in Environmental Science Degree
<p><b>Biology Core</b></p> <ul style="list-style-type: none"> <li>BIOL 1306/1106 General Biology I and lab</li> <li>BIOL 1307/1107 General Biology II and lab</li> <li>BIOL 3460 Genetics</li> <li>BIOL 3110 Junior Seminar</li> <li>Either <ul style="list-style-type: none"> <li>BIOL/BIMS 4201 Biology Capstone Experience and BIOL 4101 Biological Communication, OR</li> <li>BIOL 4388 Biology Internship, OR</li> <li>BIOL4397 Honors Thesis</li> </ul> </li> </ul> <p><b>Total Credit Hours for Biology Core: 16</b></p>	<p><b>Biology Core</b></p> <ul style="list-style-type: none"> <li>BIOL 1306/1106 General Biology I and lab</li> <li>BIOL 1307/1107 General Biology II and lab</li> <li>BIOL 3460 Genetics</li> <li>BIOL 3110 Junior Seminar</li> <li>Either <ul style="list-style-type: none"> <li>BIOL/BIMS 4201 BIMS Capstone Experience and BIOL 4101 Biological Communication, OR</li> <li>BIOL 4388 Biology Internship, OR</li> <li>BIOL4397 Honors Thesis</li> </ul> </li> </ul> <p><b>Total Credit Hours for Biology Core: 16</b></p>	<p><b>Biology Core</b></p> <ul style="list-style-type: none"> <li>BIOL 1306/1106 General Biology I and lab</li> <li>BIOL 1307/1107 General Biology II and lab</li> <li>BIOL 3460 Genetics</li> <li>BIOL 3110 Junior Seminar</li> <li>Either <ul style="list-style-type: none"> <li>BIOL/BIMS 4201Biology Capstone Experience and BIOL 4101 Biological Communication, OR</li> <li>BIOL 4388 Internship, OR</li> <li>BIOL4397 Honors Thesis</li> </ul> </li> </ul> <p><b>Total Credit Hours for Biology Core: 16</b></p>	<p><b>Environmental Science Core</b></p> <ul style="list-style-type: none"> <li>BIOL 1306/1106 General Biology I and lab</li> <li>BIOL 1307/1107 General Biology II and lab</li> <li>BIOL 3110 Junior Seminar</li> <li>Either <ul style="list-style-type: none"> <li>BIOL/BIMS 4201Biology Capstone Experience and BIOL 4101 Biological Communication, OR</li> <li>BIOL 4388 Internship, OR</li> <li>BIOL4397 Honors Thesis</li> </ul> </li> </ul> <p><b>Total Credit Hours for Environmental Science Core: 12</b></p>
<p><b>Required Courses for BS Biology</b></p> <ul style="list-style-type: none"> <li>BIOL 2110 Environmental Seminar</li> <li>BIOL 2410 Botany</li> <li>BIOL 2420 Invertebrate Zoology</li> <li>BIOL 3440 Comparative Anatomy</li> <li>BIOL 4430 Ecology</li> <li>BIOL 4450 Advanced Botany</li> </ul> <p><b>Total Credit Hours for Required Biology Courses: 21</b></p>	<p><b>Required Courses for BS Biomedical Science</b></p> <ul style="list-style-type: none"> <li>BIMS 3350 Cell Biology</li> <li>BIMS 3410 Microbiology</li> <li>BIMS 3430 Human Physiology</li> <li>BIMS 4350 &amp; BIMS 4150 Molecular Biology &amp; Molecular Biology lab</li> </ul> <p><b>Total Credit Hours for Required BIMS Courses: 15</b></p>	<p><b>Required Courses for BS Life Sciences</b></p> <ul style="list-style-type: none"> <li>BIOL 2410 Botany</li> <li>BIOL 3403 Foundations of Microbiology</li> <li>BIOL 4430 Ecology</li> <li>Either <ul style="list-style-type: none"> <li>BIOL 2401 &amp; BIOL 2402 Human A&amp;P I &amp; II, OR</li> <li>BIOL 3440 Comparative Anatomy and BIMS 3430 Human Physiology</li> </ul> </li> </ul> <p><b>Total Hours Required Life Sciences Courses: 20</b></p>	<p><b>Required Courses for BS Environmental Science</b></p> <ul style="list-style-type: none"> <li>BIOL 2110 Environmental Seminar</li> <li>BIOL 2410 Biology of Plants</li> <li>BIOL 2420 Invertebrate Zoology</li> <li>BIOL 3330 Biogeography</li> <li>BIOL 4430 Ecology</li> <li>ENVR 1405 Intro to Environmental Science</li> <li>ENVR 4350 Geographic Information Systems</li> </ul> <p><b>Total Hours for Required Environmental Science Courses: 23</b></p>
<p><b>Elective Courses for BS Biology</b> Select 9 hours from upper level BIOL and BIMS courses</p> <p><b>Total Credit Hours for Approved BIOL and BIMS Electives: 9</b></p>	<p><b>Elective Courses for BS Biomedical Science</b> All students must complete at least 9 credit hours from the following:</p> <ul style="list-style-type: none"> <li>Any upper level BIMS or BIOL course</li> <li>CHEM 3441 Biochemistry I</li> </ul> <p><b>Total Credit Hours for Approved BIOL and BIMS Electives: 9</b></p>	<p><b>Elective Courses for BS Life Sciences</b> All students must complete at least 8 credit hours from any upper level BIOL or BIMS courses.</p> <p><b>Total Credit Hours for Approved BIOL and BIMS Electives: 8</b></p>	<p><b>Elective Courses for BS Environmental Science</b> All students must complete at least 9 credit hours from the following:</p> <ul style="list-style-type: none"> <li>4 hours from approved advanced ecology courses</li> <li>9 hours from: BIOL 3460, 4340, 4360, 4X91, 4X92; BIMS 3410, 4X91, 4X92; and 3000-4000 level CHEM</li> </ul> <p><b>Total Credit Hours for Approved Electives: 13</b></p>
<p><b>Total Credit Hours from Biology Core, Biology required courses, approved electives: 46</b></p>	<p><b>Total Credit Hours from Biology Core, BIMS required courses, approved BIMS electives: 40</b></p>	<p><b>Total Credit Hours from Biology Core, BIMS required courses, approved BIMS electives: 44</b></p>	<p><b>Total Credit Hours from ENVS Core, required courses, and approved electives: 48</b></p>
<p><b>Supporting Courses</b></p> <ul style="list-style-type: none"> <li>CHEM 1410 &amp; CHEM 1420 General Chemistry I &amp; II</li> <li>CHEM 3410 &amp; CHEM 3420 Organic Chemistry I &amp; II</li> <li>PHYS 1410 College Physics I</li> <li>MATH 2421 Calculus I OR MATH 3351 Statistics</li> </ul> <p><b>Total Credit Hours in Supporting Courses: 23-24</b></p>	<p><b>Supporting Courses</b></p> <ul style="list-style-type: none"> <li>CHEM 1410 &amp; CHEM 1420 General Chemistry I &amp; II</li> <li>CHEM 3410 &amp; CHEM 3420 Organic Chemistry I &amp; II</li> <li>PHYS 1410 &amp; PHYS 1420 College Physics I &amp; II</li> <li>MATH 2421 Calculus I OR MATH 3351 Statistics</li> </ul> <p><b>Total Credit Hours in Supporting Courses: 27-28</b></p>	<p><b>Supporting Courses</b></p> <ul style="list-style-type: none"> <li>Either <ul style="list-style-type: none"> <li>CHEM 1405 &amp; CHEM1406 GOB Chemistry I &amp; II, OR</li> <li>CHEM 1410 &amp; CHEM 1420 General Chemistry I &amp; II</li> </ul> </li> <li>MATH 2421 Calculus I OR MATH 3351 Statistics</li> </ul> <p><b>Total Credit Hours in Supporting Courses: 11-12</b></p>	<p><b>Supporting Courses</b></p> <ul style="list-style-type: none"> <li>Chemistry Minor <ul style="list-style-type: none"> <li>CHEM 1410 General Chemistry I</li> <li>CHEM 1420 General Chemistry II</li> <li>CHEM 2430 Quantitative Analysis</li> <li>Either CHEM 3410 Organic Chemistry I OR CHEM 3480 Inorganic Chemistry I</li> <li>CHEM 3440 Environmental Chemistry</li> </ul> </li> <li>MATH 3351 Statistics</li> </ul> <p><b>Total Credit Hours in Supporting Courses: 20 for Chemistry minor, 3 MATH = 23</b></p>
<p><b>Total Credit Hours Required for BS Biology major: 69-70</b></p>	<p><b>Total Credit Hours Required for BS Biomedical Science degree: 67-68</b></p>	<p><b>Total Credit Hours Required for BS Life Sciences major: 55-56... NOTE: This degree requires completion of a minor.</b></p>	<p><b>Total Credit Hours Required for BS Environmental Science degree and Chemistry minor: 71</b></p>

## Biology Department Degrees – Examples of Four-Year Plans for Students Beginning Fall 2016

	BS BIOLOGY	BS BIOMEDICAL SCIENCE	BS LIFE SCIENCES/8-12	BS ENVIRONMENTAL SCIENCE
Year 1	<p><b>FALL:</b></p> <ul style="list-style-type: none"> <li>BIMS 1306 General Biology 1</li> <li>BIMS 1106 General Biol. 1 Lab</li> <li>CHEM 1410 General Chemistry 1</li> <li>Gen Ed and electives</li> </ul> <p><b>SPRING:</b></p> <ul style="list-style-type: none"> <li>BIOL 1307 General Biology 2</li> <li>BIOL 1107 General Biol. 2 Lab</li> <li>CHEM 1420 General Chemistry 2</li> <li>Gen Ed and electives</li> </ul>	<p><b>FALL:</b></p> <ul style="list-style-type: none"> <li>BIMS 1306 General Biology 1</li> <li>BIMS 1106 General Biol. 1 Lab</li> <li>CHEM 1410 General Chemistry 1</li> <li>Gen Ed and electives</li> </ul> <p><b>SPRING:</b></p> <ul style="list-style-type: none"> <li>BIOL 1307 General Biology 2</li> <li>BIOL 1107 General Biol. 2 Lab</li> <li>CHEM 1420 General Chemistry 2</li> <li>Gen Ed and electives</li> </ul>	<p><b>FALL:</b></p> <ul style="list-style-type: none"> <li>BIMS 1306 General Biology 1</li> <li>BIMS 1106 General Biol. 1 Lab</li> <li>CHEM 1405 GOB Chemistry 1 or CHEM 1410 General Chemistry 1</li> <li>Gen Ed, minor, and electives</li> </ul> <p><b>SPRING:</b></p> <ul style="list-style-type: none"> <li>BIOL 1307 General Biology 2</li> <li>BIOL 1107 General Biol. 2 Lab</li> <li>CHEM 1406 GOB Chemistry 2 or CHEM 1420 General Chemistry 2</li> <li>Gen Ed, minor, and electives</li> </ul>	<p><b>FALL:</b></p> <ul style="list-style-type: none"> <li>BIMS 1306 General Biology 1</li> <li>BIMS 1106 General Biol. 1 Lab</li> <li>CHEM 1410 General Chemistry 1</li> <li>Gen Ed and electives</li> </ul> <p><b>SPRING:</b></p> <ul style="list-style-type: none"> <li>BIOL 1307 General Biology 2</li> <li>BIOL 1107 General Biol. 2 Lab</li> <li>CHEM 1420 General Chemistry 2</li> <li>Gen Ed and electives</li> </ul>
Year 2	<p><b>FALL:</b></p> <ul style="list-style-type: none"> <li>BIOL 2410 Biol. of Plants</li> <li>CHEM 3410 Organic Chemistry 1</li> <li>MATH 2421 Calculus I or MATH 3351 Statistics</li> <li>Gen Ed and electives</li> </ul> <p><b>SPRING:</b></p> <ul style="list-style-type: none"> <li>BIOL 3460 Genetics</li> <li>BIOL 2420 Invertebrate Zoology</li> <li>BIOL 2110 Environ. Seminar</li> <li>CHEM 3420 Organic Chemistry 2</li> <li>Gen Ed and electives</li> </ul>	<p><b>FALL:</b></p> <ul style="list-style-type: none"> <li>BIMS 3350 Cell Biology</li> <li>BIMS 3410 Microbiology</li> <li>CHEM 3410 Organic Chemistry 1</li> <li>MATH 2421 Calculus I or MATH 3351 Statistics</li> <li>Gen Ed and electives</li> </ul> <p><b>SPRING:</b></p> <ul style="list-style-type: none"> <li>BIOL 3460 Genetics</li> <li>BIMS 3430 Human Physiology</li> <li>CHEM 3420 Organic Chemistry 2</li> <li>Gen Ed and electives</li> </ul>	<p><b>FALL:</b></p> <ul style="list-style-type: none"> <li>BIOL 2410 Biol. of Plants</li> <li>MATH 2421 Calculus I or MATH 3351 Statistics</li> <li>Gen Ed, minor, and electives</li> </ul> <p><b>SPRING:</b></p> <ul style="list-style-type: none"> <li>BIOL 3460 Genetics</li> <li>BIOL 3403 Foundations of Microbiology</li> <li>Gen Ed, minor, and electives</li> </ul>	<p><b>FALL:</b></p> <ul style="list-style-type: none"> <li>ENVR 1405 Intro. Environ. Sci.</li> <li>BIOL 2410 Biol. of Plants</li> <li>CHEM 3410 Organic Chem. 1 or CHEM 3480 Inorganic Chem.</li> <li>MATH 3351 Statistics</li> </ul> <p><b>SPRING:</b></p> <ul style="list-style-type: none"> <li>BIOL 2110 Environ. Seminar</li> <li>BIOL 2420 Invertebrate Zoology</li> <li>CHEM 2340 Quant. Analysis</li> <li>Gen Ed and electives</li> </ul>
Year 3	<p><b>FALL:</b></p> <ul style="list-style-type: none"> <li>BIOL 3440 Comparative Anatomy</li> <li>BIOL 3110 Junior Seminar</li> <li>PHYS 1410 College Physics 1</li> <li>Gen Ed and electives</li> </ul> <p><b>SPRING:</b></p> <ul style="list-style-type: none"> <li>BIOL 4450 Advanced Botany</li> <li>BIOL 4430 Ecology</li> <li>Gen Ed and electives</li> </ul>	<p><b>FALL:</b></p> <ul style="list-style-type: none"> <li>BIMS 4350 Molecular Biology</li> <li>BIMS 4150 Molecular Biology Lab</li> <li>BIOL 3110 Junior Seminar</li> <li>PHYS 1410 College Physics 1</li> <li>Gen Ed and electives</li> </ul> <p><b>SPRING:</b></p> <ul style="list-style-type: none"> <li>Advanced electives BIOL/BIMS</li> <li>PHYS 1420 College Physics 2</li> <li>Gen Ed and electives</li> </ul>	<p><b>FALL:</b></p> <ul style="list-style-type: none"> <li>BIOL 2401 Human A&amp;P 1 or BIOL 3440 Comparative Anatomy</li> <li>BIOL 3110 Junior Seminar</li> <li>Gen Ed, minor, and electives</li> </ul> <p><b>SPRING:</b></p> <ul style="list-style-type: none"> <li>BIOL 2402 Human A&amp;P 2 or BIMS 3430 Human Physiology</li> <li>BIOL 4430 Ecology</li> <li>Gen Ed, minor, and electives</li> </ul>	<p><b>FALL:</b></p> <ul style="list-style-type: none"> <li>Advanced electives BIOL/BIMS/CHEM</li> <li>ENVR 4350 Geo. Info. Sys.</li> <li>CHEM 3440 Environ. Chemistry</li> <li>Gen Ed and electives</li> </ul> <p><b>SPRING:</b></p> <ul style="list-style-type: none"> <li>BIOL 3110 Junior Seminar</li> <li>BIOL 3330 Biogeography</li> <li>BIOL 4430 Ecology</li> <li>Gen Ed and electives</li> </ul>
Year 4	<p><b>FALL:</b></p> <ul style="list-style-type: none"> <li>Advanced electives BIOL/BIMS</li> <li>Capstone/Internship/Honors Research</li> </ul> <p><b>SPRING:</b></p> <ul style="list-style-type: none"> <li>BIOL 4101</li> <li>Advanced electives BIOL/BIMS</li> <li>Gen Ed and Electives</li> </ul>	<p><b>FALL:</b></p> <ul style="list-style-type: none"> <li>Advanced electives BIOL/BIMS</li> <li>Capstone/Internship/Honors Research</li> </ul> <p><b>SPRING:</b></p> <ul style="list-style-type: none"> <li>BIOL 4101</li> <li>Advanced electives BIOL/BIMS</li> <li>Gen Ed and Electives</li> </ul>	<p><b>FALL:</b></p> <ul style="list-style-type: none"> <li>Advanced Electives BIOL/BIMS</li> <li>Capstone/Internship/Honors Research</li> </ul> <p><b>SPRING:</b></p> <ul style="list-style-type: none"> <li>BIOL 4101</li> <li>Advanced electives BIOL/BIMS</li> <li>Gen Ed and Electives</li> </ul>	<p><b>FALL:</b></p> <ul style="list-style-type: none"> <li>Advance Ecology Course</li> <li>Capstone/Internship/Honors Research</li> </ul> <p><b>SPRING:</b></p> <ul style="list-style-type: none"> <li>BIOL 4101</li> <li>Advanced electives BIOL/BIMS/CHEM</li> <li>Gen Ed and Electives</li> </ul>