

# BIOLOGY: Life Science Studies

MILLIKIN UNIVERSITY

## [B.S Degree - Biology: Life Science Studies] 8 Semester Plan

Semester #1	Term: _____	Hours	Spg/Fall/Evry	Semester #2	Term: _____	Hours	Spg/Fall/Evry
BI 105/155: Ecology and Evolution & Lab		4		BI 205 Cell Bio & Lab		4	
CH 121/151: Gen Chem & Intro Chem Lab I		4		CH 122 Gen Chem II (or CH 232 Analytical Chem)		3	
MA 110: College Algebra		3		CH 152: Introductory Chem Lab II		1	
IN 140: University Seminar		3		CO 200: Public Speaking		3	
EN 181: University Writing		3		____ : Elective		3	
				____ : Elective		3	
Semester Total		17		Semester Total		17	
<b>Cumulative Total</b>		<b>17</b>		<b>Cumulative Total</b>		<b>34</b>	
Semester #3	Term: _____	Hours	Spg/Fall/Evry	Semester #4	Term: _____	Hours	Spg/Fall/Evry
BI 200: Genetics with Lab		4		BI ____ : Biology Content Category		4	
CH 301/251: Organic Chemistry & Intermed Chem Lab I		4		PY 112/172: College PY II & Physics Lab II		4	
US Cultural Studies		3		US Structural Studies		3	
PY 111/171: College PY I & Physics Lab I		4		BI 240: Analysis of BIological Data (or other Data Analysis course)		3	
EN 281: Writing in the Disciplines		3					
Semester Total		18		Semester Total		14	
<b>Cumulative Total</b>		<b>52</b>		<b>Cumulative Total</b>		<b>66</b>	
Semester #5	Term: _____	Hours	Spg/Fall/Evry	Semester #6	Term: _____	Hours	Spg/Fall/Evry
BI ____ : Biology Content Category		4		BI ____ : Biology Content Category		4	
International Cultures & Structures		3		____ : Elective		3	
Global Studies		3		BI 392: Research		1	
____ : Elective		3		International Cultures & Structures		3	
____ : Elective		3				3	
Semester Total		16		Semester Total		14	
<b>Cumulative Total</b>		<b>82</b>		<b>Cumulative Total</b>		<b>96</b>	
Semester #7	Term: _____	Hours	Spg/Fall/Evry	Semester #8	Term: _____	Hours	Spg/Fall/Evry
BI ____ : Biology Content Category		4		BI ____ : Biology Content Category		4	
EN ____ : Literature or Elective		3		BI 482: Senior Seminar		1	
____ : Elective		3		HS ____ : Historical Studies (or Elective)		3	
____ : Elective		3		____ : Creative Arts		3	
____ : Elective		3		____ : Elective		3	
Semester Total		16		Semester Total		14	
<b>Cumulative Total</b>		<b>112</b>		<b>Cumulative Total</b>		<b>126</b>	

**Major Requirements:**

Core (12 Credits)	<ul style="list-style-type: none"> <li>• BI105/155 Ecology &amp; Evolution</li> <li>• BI205 Cell Biology</li> <li>• BI200 Genetics</li> </ul>
Research (1 credit)	<ul style="list-style-type: none"> <li>• BI391 or 392 Research</li> </ul>
Senior Seminar (1 credit)	<ul style="list-style-type: none"> <li>• BI481 or 482 Senior Seminar</li> </ul>
Upper-level Content Courses (19-20 credits) <i>Students must select at least 1 from each category</i>	<ul style="list-style-type: none"> <li>• Ecology Content</li> <li>• Cell/Molec Bio Content</li> <li>• Systems Content</li> <li>• + 2 additional content</li> </ul>
Mathematics (6-10 credits)	<ul style="list-style-type: none"> <li>• MA110 College Algebra</li> <li>• Data Analysis course (<i>must complete ONE</i>) <ul style="list-style-type: none"> <li>○ BI 240 Analysis of Biological Data</li> <li>○ MA130 Elementary Probability and Statistics with Spreadsheets</li> <li>○ CH232/CH253 Analytical Chemistry with Lab</li> <li>○ CS135 Introduction to Computer Science</li> <li>○ Other course approved by department chair</li> </ul> </li> </ul>
Chemistry (12-19 credits)	<ul style="list-style-type: none"> <li>• CH121/151 Gen Chem 1</li> <li>• CH122/152 Gen Chem 2</li> <li>• Select ONE: <ul style="list-style-type: none"> <li>○ CH203/205 Essentials of Organic &amp; Biochem</li> <li>○ CH301/251 Organic Chemistry</li> </ul> </li> </ul>
Physics (8 credits)	<ul style="list-style-type: none"> <li>• PY111/171 College Physics 1</li> <li>• PY112/172 College Physics 2</li> </ul>

**Content Courses:** *Students must select at least 1 from each category, for a total of 5. Must earn a C- or better*

Ecology	Cell/Molecular	Systems
BI 314 Ecology	BI 302 Histology	BI 301 Comparative Anatomy
BI 320 Field Ecology	BI 304 Developmental Biology	BI 303 Entomology
BI 323 Animal Behavior	BI 312 Immunology	BI 306 Comparative Animal Physiology
BI 335 Physiological Ecology	BI 330 Microbiology	BI 322 Neurobiology
BI 340 Conservation Biology	BI 407 Molecular Genetics	BI 325 Vertebrate Biology
BI 380 Ecological Journeys		BI 326 Plant Biology
BI 404 Evolution		BI 206 & BI 207 Human Anatomy & Physiology I & II # <i>(must take both to count as one Content Course)</i>

**General Education Requirements:**

University Studies Courses (37-39 credits)	<ul style="list-style-type: none"> <li>• IN140 University Seminar</li> <li>• EN181 University Writing</li> <li>• EN281 Writing in the Disciplines</li> <li>• US Cultural Studies</li> <li>• US Structural Studies</li> <li>• Global Studies</li> <li>• International Cultures &amp; Structures (<i>must complete 2</i>)</li> <li>• Creative Arts</li> <li>• Natural Science with a Lab Experience (<i>met through the major</i>)</li> <li>• Public Speaking (CO 200)</li> <li>• Quantitative Reasoning (<i>met through math course for the major</i>)</li> </ul>
College of Arts & Sciences Distribution (6 credits)	<ul style="list-style-type: none"> <li>• Literature course</li> <li>• History course</li> </ul>

*Additional Recommended Courses, depending on student career path:*

"Organismal" career path	<ul style="list-style-type: none"> <li>• MA115 Trigonometry</li> <li>• CH302/CH252 Organic Chemistry II and Lab</li> </ul>
Conservation Biology or Ecology career path	<ul style="list-style-type: none"> <li>• MA115 Trigonometry</li> <li>• CH302/CH252 Organic Chemistry II and Lab</li> <li>• BI130 Environmental Biology</li> <li>• IN251 Creating a Green Society (<i>counts as US Structural Studies</i>)</li> <li>• IN350 Global Environmentalism (<i>counts as US Structural Studies</i>)</li> </ul>
Cellular/Molecular career path	<ul style="list-style-type: none"> <li>• MA115 Trigonometry</li> <li>• MA140 Calculus I</li> <li>• CH232/CH253 Analytical Chemistry with Lab</li> <li>• CH302/CH252 Organic Chemistry II and Lab</li> <li>• CH331/CH354 Biochemistry with Lab</li> <li>• CH482 Advanced Biochemistry</li> <li>• CH420/CH352 Instrumental Analysis with Lab</li> </ul>