



**Biology-Chemistry Double Major**  
**Total Credits 136**

**Year 1**

<b>First Semester</b>			<b>Second Semester</b>		
<b>Course</b>	<b>Name</b>	<b>Credits</b>	<b>Course</b>	<b>Name</b>	<b>Credits</b>
Chem 125	General Chemistry I	3	Chem 124	General Chemistry Laboratory	1
Hum 101	English Composition I	3	Chem 126	General Chemistry II	3
Math 111	Calculus I	4	Hum 102	English Composition II	3
BNFO 135	Introduction to Computer Science	3	Math 112	Calculus II	4
R120:101	General Biology I	4	PE	Physical Education	1
Frsh	Freshman Seminar	0	R120:102	General Biology II	4
		<b>17</b>			<b>16</b>

**Year 2**

<b>First Semester</b>			<b>Second Semester</b>		
Chem 221	Analytical Chemical Methods	2	Chem 244	Organic Chemistry II	3
Chem 222	Analytical Chemistry	3	Chem 244A	Organic Chemistry Laboratory	2
Chem 243	Organic Chemistry I	3	Phys 121	Physics II	3
Math 211	Calculus III	3	Phys 121A	Physics II Laboratory	1
Phys111	Physics I	3	R120:301	Foundations of Biology	3
Phys 111A	Physics I Laboratory	1	R120:302	Foundations Laboratory	1
Elective	Cultural History GUR	3	EPS 202	Society Technology & Environ	3
			PE	Physical Education	1
		<b>18</b>			<b>17</b>

**Year 3**

<b>First Semester</b>			<b>Second Semester</b>		
Chem 231	Physical Chemistry I	3	Chem 235	Physical Chemistry II	3
Chem 473	Biochem I	3	Mgmt 390	Principles of Management	3
Elective	Math Cognate (3 or 4 credits)	3	Elective	Biology	3
Elective	Biology Laboratory	4	Chem 474	Biochemistry II	3
Elective	Biology	3	SS201	Economics	3
			Elective	Lit/Hist/Phil/STS - GUR	3
		<b>16</b>			<b>18</b>

**Year 4**

<b>First Semester</b>			<b>Second Semester</b>		
Chem 235A	Physical Chemistry II Laboratory	2	Chem 336	Physical Chemistry III	3
Elective	Biology	3	Elective	Chemistry	3
Chem 480	Instrumental Analysis	2	Chem 412	Inorganic Chemistry	3
Elective	Biology Laboratory	4	Elective	Biology	3
Math 333	Probability and Statistics	3	HSS 4**	HSS Capstone	3
Chem 475	Biochemistry Lab	2	Elective	Open GUR	3
		<b>16</b>			<b>18</b>

Biology Credits: **35**  
 Chemistry Credits: **47**  
 Total Credits **136**



**BIOLOGY ELECTIVES MUST BE CHOSEN AS OUTLINED BELOW:**

One course must be taken from A, B, and C

**A. ECOLOGY AND EVOLUTION**

**All courses three Cr.**

Evolution (120:222 & Biol 222)  
Ecology & Evolution of Disease (Biol 368)  
Plant Ecology (120:270)  
Ecology (120:280)  
Animal Behavior (120:382)  
Neural Basis of Behavior (Biol 383)

**B. THE FUNCTIONAL ORGANISM**

**All courses four Cr.**

Plant Kingdom (120:211)  
Biology of Seed Plants (120:230)  
Plant Physiology (120:330)  
General Microbiology (120:335)  
Mammalian Physiology (120:340)  
Developmental Biology & Lab (120:342 & 343)

**C. MOLECULAR AND CELLULAR MECHANISMS**

**All courses three Cr.**

Genetics (120:352)  
Cell Biology (120:355)  
Molecular Biology (120:356)  
Biochemistry (120:360 OR Chem 473)

**D. MAJORS ARE REQUIRED TO HAVE AT TWO ADDITIONAL LABORATORY OR FIELD COURSES CHOSEN FROM SECTION B ABOVE OR FROM THE LIST BELOW:**

Laboratory Courses (4 cr.)  
Biology of Invertebrates (120:227)  
Comparative Vertebrate Anatomy (120:285)  
Taxonomy of Vascular Plants (120:311)  
Animal Parasites & Lab (120:325 & 326)  
Microanatomy (120:358)  
Mycology (120:413)  
Plant Growth & Dev. (120:430)  
Marine Biology (120:481)

Laboratory Courses (3 cr.)  
Ecology of Birds (120:328)  
Field Studies in Plant Ecology (120:371)  
Field Studies in Animal Ecology (120:381)  
Field Ecology (120:380)

Laboratory Courses (2 cr.)  
Tropical Field Biology (120:486)

**E. THE COURSES LISTED BELOW MAY BE USED TO COMPLETE 35 Cr. OF BIOLOGY COURSE WORK**

**All courses three Cr. unless specified**

Insects and Human Society (Biol 225)  
Neurobiology (120:346)  
Human Ecology (120:365)  
Physiology and Medicine (Math 371)  
Population Biology (Math 372)  
Introduction to Math Biology (Math 373)  
Biological Ultrastructure (120:403)  
Light & Elect Microscope (120:404)  
Cell Physiology & Imaging (Biol 405)  
Biological Invasions (120:422)

Computational Neuroscience (Math 430)  
Immunology (120:443)  
Endocrinology (120:445)  
Cellular and Systems Neuroscience (Biol 447)  
Cellular Biophysics (120:451) 4 crs.  
Molecular Biotechnology (120:452) 4 crs.  
Molecular Cell Biology (120:455)  
Ecological Physiology (120:471)  
Systems Ecology (120:487)  
Problems in Biol. BIOL 491-492 (6crs. max.)