

### **III. BIOLOGICAL SCIENCES**

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## 8-Semester Plans

### Biology B.S. with Biomedical Concentration

Course #	Course name	Credits	Course #	Course name	Credits
<b>First Year – Fall</b>			<b>First Year – Spring</b>		
BIOL 160	Molecular and Cellular Biology	4	BIOL 164	Animal Form/Systematics (J-Term)	2
CHEM 105	General Chemistry I	4	BIOL 166	Principles Comparative Physiology	2
IDFY 101	First Year Seminar*	3	BIOL 162	Plant Form and Function	3
COMM 105	Fundamentals of Oral Communication*	3	CHEM 106	General Chemistry II	4
WELL 1xx	Wellness Course*	1	IDCR 151	Created and Called for Community*	3
			Varies	1 <sup>st</sup> Language*	3
<b>TOTAL</b>		<b>14</b>	<b>TOTAL</b>		<b>17</b>
<b>Sophomore – Fall</b>			<b>Sophomore – Spring</b>		
BIOL 260	Genetics and Development	4	BIBL 2xx	Encountering the Bible*	3
CHEM 309	Organic Chemistry I	4	BIOL 262	Ecology and Adaptation	4
ENGL xxx	Literature*	3	CHEM 310	Organic Chemistry II	4
MATH 108	Intuitive Calculus	3	STAT 269	Introductory Statistics	3
Varies	2 <sup>nd</sup> Language*	3	Varies	3 <sup>rd</sup> Language or Cross-Cultural*	3
<b>TOTAL</b>		<b>17</b>	<b>TOTAL</b>		<b>17</b>
<b>Junior – Fall</b>			<b>Junior – Spring</b>		
BIOL 385	Physiology	4	BIOL 38x	Microbiology	4
CHEM 410	Biochemistry I	4	BIOL 393	Research Methods	1
PHIL 10x	Philosophy*	3	HIST xxx	History*	3
PHYS 201	Introduction to Physics	4	Varies	Non-Western Studies*	2-3
			Varies	Art, Music, Theatre or Dance*	3
			Varies	Social Science*	3
<b>TOTAL</b>		<b>15</b>	<b>TOTAL</b>		<b>16-17</b>
<b>Senior – Fall</b>			<b>Senior – Spring</b>		
BIOL xxx	Biodiversity/Adaptation Elective	3-4	BIOL 495	Natural Sciences Capstone	3
BIOL xxx	Biomedical Elective	3-4	BIOL xxx	Biomedical Elective	3-4
BIOL 422	Senior Research	1-2	THEO/RELI	Christian Beliefs*	3
IDS xxx	Ethics/World Views/Pluralism*	3	Varies	Elective	3
Varies	Elective	3	Varies	Elective	3
<b>TOTAL</b>		<b>13-16</b>	<b>TOTAL</b>		<b>15-16</b>

\*QuEST requirement

*Students must have a minimum of 17 credits in their concentration. They must also have three 300/400 level lab courses OR two 300/400 level lab courses and one BIOL course with extensive field experience (BIOL 218, 296, or 297) within the major.*

Students intending to pursue certain graduate level programs such as medical or veterinary school should also take PHYS 202 Intro to Physics II in the spring of the third year.

## Biology B.S. with Cellular Concentration 8 Semester Plan

Course #	Course name	Credits	Course #	Course name	Credits
<b>First Year – Fall</b>			<b>First Year – Spring</b>		
BIOL 160	Molecular and Cellular Biology	4	BIOL 164	Animal Form/Systematics (J-Term)	2
CHEM 105	General Chemistry I	4	BIOL 166	Principles Comparative Physiology	2
IDFY 101	First Year Seminar*	3	BIOL 162	Plant Biology	3
COMM 105	Fundamentals of Oral Communication*	3	CHEM 106	General Chemistry II	4
WELL 1xx	Wellness Course*	1	IDCR 151	Created and Called for Community*	3
			Varies	1 <sup>st</sup> Language*	3
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>15</b>			<b>17</b>
<b>Sophomore – Fall</b>			<b>Sophomore – Spring</b>		
BIOL 260	Genetics and Development	7	BIOL 262	Ecology and Adaptation	4
CHEM 309	Organic Chemistry I	4	CHEM 310	Organic Chemistry II	4
ENGL xxx	Literature*	3	PHIL 10x	Philosophy*	3
MATH 108	Intuitive Calculus	3	STAT 269	Introductory Statistics	3
			Varies	2 <sup>nd</sup> Language*	3
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>17</b>			<b>17</b>
<b>Junior – Fall</b>			<b>Junior – Spring</b>		
BIBL 2xx	Encountering the Bible*	3	BIOL 412 OR BIOL 417	Cellular Biology <b>OR</b> Molecular Genetics	4
BIOL 413	Molecular Biology	4	BIOL 393	Research Methods	1
PHYS 201	Intro to Physics I	4	HIST xxx	History*	3
Varies	Social Science*	3	Varies	Non-Western Studies*	2-3
Varies	3 <sup>rd</sup> Language <b>OR</b> Cross-Cultural*	3	Varies	Art, Music, Theatre or Dance*	3
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>17</b>			<b>13-14</b>
<b>Senior – Fall</b>			<b>Senior – Spring</b>		
BIOL xxx	Integrative Elective	3-4	BIOL 495	Natural Sciences Capstone	3
BIOL xxx	Biodiversity/Adaptation Elective	3-4	BIOL xxx	Cellular Biology elective	1-4
BIOL 422	Senior Research	1-2	THEO/RELI	Christian Beliefs*	3
IDS xxx	Ethics/World Views/Pluralism*	3	Varies	Elective	3
Varies	Elective	3	Varies	Elective	3
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>13-16</b>			<b>13-16</b>

\*QuEST requirement

*Students must have a minimum of 17 credits in their concentration. They must also have three 300/400 level lab courses OR two 300/400 level lab courses and one BIOL course with extensive field experience (BIOL 218, 296, or 297) within the major.*

## Biology B.S. with Ecological Concentration 8 Semester Plan

Course #	Course name	Credits	Course #	Course name	Credits
<b>First Year – Fall</b>			<b>First Year – Spring</b>		
BIOL 160	Molecular and Cellular Biology	4	BIOL 164	Animal Form/Systematics (J-Term)	2
CHEM 105	General Chemistry I	4	BIOL 166	Principles Comparative Physiology	2
IDFY 101	First Year Seminar*	3	BIOL 162	Plant Biology	3
COMM 105	Fundamentals of Oral Communication*	3	CHEM 106	General Chemistry II	4
WELL 1xx	Wellness Course*	1	IDCR 151	Created and Called for Community*	3
			Varies	1 <sup>st</sup> Language*	3
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>15</b>			<b>17</b>
<b>Sophomore – Fall</b>			<b>Sophomore – Spring</b>		
BIOL 260	Genetics and Development	4	BIOL 262	Ecology and Adaptation	4
CHEM 309	Organic Chemistry I	4	CHEM 310	Organic Chemistry II	4
ENGL xxx	Literature*	3	PHIL 10x	Philosophy*	3
MATH 108	Intuitive Calculus	3	STAT 269	Introductory Statistics	3
Varies	2 <sup>nd</sup> Language*	3	Varies	3 <sup>rd</sup> Language or Cross-Cultural*	3
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>17</b>			<b>17</b>
<b>Junior – Fall</b>			<b>Junior – Spring</b>		
BIBL 2xx	Encountering the Bible*	3	BIOL 381 or BIOL 382	Microbiology OR Microbiology for Health Professions	4
BIOL 2xx	Integrative Biology elective	3-4	BIOL 393	Research Methods	1
PHYS 201	Introduction to Physics	4	HIST xxx	History*	3
Varies	Social Science*	3	Varies	Non-Western Studies*	2-3
			Varies	Art, Music, Theatre or Dance*	3
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>13-14</b>			<b>13-14</b>
<b>Senior – Fall</b>			<b>Senior – Spring</b>		
BIOL xxx	Biodiversity/Adaptation elective	4	BIOL 495	Natural Sciences Capstone	3
BIOL xxx	Ecological elective	3-4	BIOL xxx	Ecosystems elective	4
BIOL 422	Senior Research	1-2	THEO/RELI	Christian Beliefs*	3
IDS xxx	Ethics/World Views/Pluralism*	3	Varies	Elective	3
Varies	Elective	3	Varies	Elective	3
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>14-16</b>			<b>16</b>

\*QuEST requirement

*Students must have a minimum of 17 credits in their concentration. They must also have three 300/400 level lab courses OR two 300/400 level lab courses and one BIOL course with extensive field experience (BIOL 218, 296, or 297) within the major.*

## Biology B.S. with General Concentration

### 8 Semester Plan

Course #	Course name	Credits	Course #	Course name	Credits
<b>First Year – Fall</b>			<b>First Year – Spring</b>		
BIOL 160	Molecular and Cellular Biology	4	BIOL 164	Animal Form/ Systematics (J-Term)	2
CHEM 105	General Chemistry I	4	BIOL 166	Principles Comparative Physiology	2
IDFY 101	First Year Seminar*	3	BIOL 162	Plant Biology	3
COMM 105	Fundamentals of Oral Communication*	3	CHEM 106	General Chemistry II	4
WELL 1xx	Wellness Course*	1	IDCR 151	Created and Called for Community*	3
			Varies	1 <sup>st</sup> Language*	3
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>15</b>			<b>17</b>
<b>Sophomore – Fall</b>			<b>Sophomore – Spring</b>		
BIOL 260	Genetics and Development	7	BIOL 262	Ecology and Adaptation	4
CHEM 309	Organic Chemistry I	4	CHEM 310	Organic Chemistry II	4
BIBL 2xx	Encountering the Bible*	3	PHIL 10x	Philosophy*	3
MATH 108	Intuitive Calculus	3	STAT 269	Introductory Statistics	3
			Varies	2 <sup>nd</sup> Language*	3
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>17</b>			<b>17</b>
<b>Junior – Fall</b>			<b>Junior – Spring</b>		
BIOL xxx	Elective	3	BIOL xxx	Cellular/Molecular Biology elective	4
ENGL xxx	Literature Integrative Biology	3-4	BIOL 393	Research Methods	1
PHYS 201	Introduction to Physics	4	HIST xxx	History*	3
Varies	Social Science*	3	IDNW xxx	Non-Western Studies*	2-3
Varies	3 <sup>rd</sup> Language <b>OR</b> Cross Cultural*	3	Varies	Art, Music, Theatre or Dance*	3
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>16-17</b>			<b>13-14</b>
<b>Senior – Fall</b>			<b>Senior – Spring</b>		
BIOL xxx	Biodiversity/Adaptation Elective	3	BIOL 495	Natural Sciences Capstone	3
BIOL xxx	Biology elective	3-4	BIOL xxx	Biology elective	3-4
BIOL 422	Senior Research	1-2	THEO/RELI	Christian Beliefs*	3
IDS xxx	Ethics/World Views/Pluralism*	3	Varies	Elective	3
Varies	Elective	3	Varies	Elective	3
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>13-15</b>			<b>15-16</b>

\*QuEST requirement

*Students must have a minimum of 17 credits in their concentration. They must also have three 300/400 level lab courses OR two 300/400 level lab courses and one BIOL course with extensive field experience (BIOL 218, 296, or 297) within the major.*

## Biology B.S. with Organismal Concentration 8 Semester Plan

Course #	Course name	Credits	Course #	Course name	Credits
<b>First Year – Fall</b>			<b>First Year – Spring</b>		
BIOL 160	Molecular and Cellular Biology	4	BIOL 164	Animal Form/ Systematics (J-Term)	2
CHEM 105	General Chemistry I	4	BIOL 166	Principles Comparative Physiology	2
IDFY 101	First Year Seminar*	3	BIOL 162	Plant Biology	3
COMM 105	Fundamentals of Oral Communication*	3	CHEM 106	General Chemistry II	4
WELL 1xx	Wellness Course*	1	IDCR 151	Created and Called for Community*	3
			Varies	1 <sup>st</sup> Language*	3
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>15</b>			<b>17</b>
<b>Sophomore – Fall</b>			<b>Sophomore – Spring</b>		
BIOL 260	Genetics and Development	4	BIOL 262	Ecology and Adaption	4
CHEM 309	Organic Chemistry I	4	CHEM 310	Organic Chemistry II	4
ENGL xxx	Literature*	3	PHIL 10x	Philosophy*	3
MATH 108	Intuitive Calculus	3	STAT 269	Introductory Statistics	3
Varies	2 <sup>nd</sup> Language*	3	Varies	3 <sup>rd</sup> Language or Cross-Cultural*	3
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>17</b>			<b>17</b>
<b>Junior – Fall</b>			<b>Junior – Spring</b>		
BIBL 2xx	Encountering the Bible*	3	BIOL 38x	Microbiology	4
BIOL xxx	Integrative Bio. elective	3-4	BIOL 393	Research Methods	1
PHYS 201	Introduction to Physics	4	HIST xxx	History*	3
Varies	Social Science*	3	Varies	Non-Western Studies*	2-3
			Varies	Art, Music, Theatre or Dance*	3
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>13-14</b>			<b>13-14</b>
<b>Senior – Fall</b>			<b>Senior – Spring</b>		
BIOL xxx	Biodiversity/Adaptation elective	4	BIOL 495	Natural Sciences Capstone	3
BIOL xxx	Organismal elective	1-4	BIOL xxx	Biodiversity/Adaptation elective	4
BIOL 422	Senior Research	1-2	THEO/RELI	Christian Beliefs*	3
IDS xxx	Ethics/World Views/Pluralism*	3	Varies	Elective	3
Varies	Elective	3	Varies	Elective	3
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>12-16</b>			<b>16</b>

\*QuEST requirement

*Students must have a minimum of 17 credits in their concentration. They must also have three 300/400 level lab courses OR two 300/400 level lab courses and one BIOL course with extensive field experience (BIOL 218, 296, or 297) within the major.*

## Biology (B.S.) with Secondary Teaching Certification 8 Semester Plan

Course #	Course name	Credits	Course #	Course name	Credits
<b>First Year – Fall</b>			<b>First Year – Spring</b>		
BIOL 160	Molecular and Cellular Biology	4	BIOL 164	Animal Form/ Systematics (J-Term)	2
CHEM 105	General Chemistry I	4	BIOL 166	Principles Comparative Physiology	2
COMM 105 <sup>a</sup>	Fundamentals of Oral Communication*	3	BIOL 162	Plant Biology	3
IDFY 101 <sup>a</sup>	First Year Seminar*	3	CHEM 106	General Chemistry II	4
Varies	1st Language*	3	IDCR 151	Created and Called for Community*	3
			Varies	2 <sup>nd</sup> Language*	3
				Submit the three required security clearances (FBI, Child Abuse, Criminal) by 3/31 to B414.	
<b>TOTAL</b>		<b>17</b>	<b>TOTAL</b>		<b>17</b>
<b>Sophomore – Fall</b>			<b>Sophomore – Spring</b>		
BIOL 260	Genetics and Development	4	BIOL 262	Ecology and Adaptation	4
CHEM 204	Intro to Organic Chemistry	4	EDUC 346	Sociocultural Perspectives in Education	3
ENGL 122-176 <sup>a</sup>	Literature*	3	EDSP 207 <sup>c</sup>	Intro to Special Ed	3
MATH 108 <sup>a</sup>	Intuitive Calculus	3	EDUC 203 <sup>c</sup>	Educational Psychology	3
Varies	3 <sup>rd</sup> Language or Cross Cultural*	3	EDUC 210 <sup>c</sup>	Sophomore Field Experience	0
			STAT 269 <sup>a</sup>	Introductory Statistics	3
			WELL 1xx	Wellness Course*	1
				Submit Teacher Ed. Program application by 3/31 to B414.	
<b>TOTAL</b>		<b>17</b>	<b>TOTAL</b>		<b>17</b>
<b>Junior – Fall</b>			<b>Junior – Spring</b>		
BIOL xxx	Integrative Biology Elective	3-4	BIBL 20x	Knowledge of the Bible*	3
BIOL xxx	Cellular Biology Elective	4	EDUC 331 <sup>b c</sup>	Instruct. Design & Assessment	3
PHIL 10x	Philosophy*	3	EDSP 307 <sup>b</sup>	Inclusion Practices	3
PHYS 201	Intro to Physics I	4	EDUC 310 <sup>b c</sup>	Junior Field Experience	0
			ENGL 330 <sup>b c</sup>	TESOL Methodology	3
	Submit professional semester app. by 11/1 to B414.		ESS 201	Earth and Space Science	3
			SCI 307	Teaching Lab Sciences in Secondary Education	1
<b>TOTAL</b>		<b>14-15</b>	<b>TOTAL</b>		<b>16</b>
<b>Senior – Fall</b>			<b>Senior – Spring</b>		
	<b>Professional Semester</b>		BIOL 495	Capstone	3
BIOL 407 <sup>b c</sup>	Secondary Science C&I	1	BIOL xxx	Integrative/Botany Elective	3-4
EDUC xxx <sup>b c</sup>	Student Teaching	8	HIST 1xx	History*	3
EDUC 420 <sup>b c</sup>	Professional Issues	2	THEO/RELI	Christian Beliefs*	3
			Varies	Art, Music, Theatre, or Dance*	3
<b>TOTAL</b>		<b>11</b>	<b>TOTAL</b>		<b>15-16</b>

\*QuEST requirement

<sup>a</sup> Indicates requirement for admission to the TEP

<sup>b</sup> Indicates a course that cannot be taken until the student is admitted to the TEP

<sup>c</sup> Indicates courses that must be taken concurrently

## Biopsychology B.S. 8 Semester Plan

Course #	Course name	Credits	Course #	Course name	Credits
<b>First Year – Fall</b>			<b>First Year – Spring</b>		
BIOL 160**	Molecular and Cellular Biology	4	BIOL 164**	Animal Form/Systematics (J-Term)	2
CHEM 105	General Chemistry I	4	BIOL 166	Principles Comparative Physiology	2
IDFY 101	First Year Seminar*	3	CHEM 106	General Chemistry II	4
PSYC 099**	Writing for Psychology	1	IDCR 151	Created and Called for Comm.*	3
PSYC 101	Introduction to Psychology	3	STAT 269 OR MATH xxx	Statistics (recommended) <b>OR</b> Mathematical Science	3
WELL 1xx	Wellness Course*	1			
<b>TOTAL</b>		<b>16</b>	<b>TOTAL</b>		<b>17</b>
<b>Sophomore – Fall</b>			<b>Sophomore – Spring</b>		
BIBL 2xx	Encountering the Bible*	3	CHEM 310***	Organic Chemistry II	4
BIOL 260**	Genetics and Development	4	Varies	Language course*/ elective	3
CHEM 309***	Organic Chemistry I	4	PSYC 209	Life Span Development	1
PSYC 204 OR	Cognition <b>OR</b>	3	PSYC 272	Research Methods in Psychology	3
PSYC 319	Abnormal Psychology		Varies	Elective	3
Varies or	Language course* or	3			
PSYC 271	Statistics (if MATH xxx taken)				
<b>TOTAL</b>		<b>17</b>	<b>TOTAL</b>		<b>14</b>
<b>Junior – Fall</b>			<b>Junior – Spring</b>		
BIOL 387	Neuroscience	3	BIOL xxx	Biology elective†	3-4
ENGL xxx	Literature*	3	COMM 105	Fundamentals of Oral Communication*	3
Varies	Language or Cross-Cultural*	3	Varies	Language or Cross-Cultural*	3
PSYC 350	Biological Basis of Behavior	3	PHIL 10x	Philosophy*	3
Varies	Elective	3	PSYC 351	Sensation and Perception	3
<b>TOTAL</b>		<b>15</b>	<b>TOTAL</b>		<b>15-16</b>
<b>Senior – Fall</b>			<b>Senior – Spring</b>		
BIOL xxx	Biology elective	3-4	BIOL/PSYC 495	Capstone Biology <b>OR</b> Psychology	3
Varies	Non-Western Studies*	2-3	HIST xxx	History*	3
PSYC 408	Experimental Psychology	3	THEO/RELI	Christian Beliefs*	3
Varies	Ethics/World Views/Pluralism*	3	Varies	Art, Music, Theatre or Dance*	3
Varies	Elective	3	Varies	Elective	3
<b>TOTAL</b>		<b>14-16</b>	<b>TOTAL</b>		<b>15</b>

\*QuEST requirement

\*\*Students may take BIOL 185, 186, 189 and PSYC 099 in place of BIOL 160, 162, 164, 166 and 260.

\*\*\* Students may take CHEM 204 in place of CHEM 309 and 310.

† Needed only if CHEM 204 taken



## Environmental Science 8 Semester Plan

Course #	Course name	Credits	Course #	Course name	Credits
<b>First Year – Fall</b>			<b>First Year – Spring</b>		
BIOL 160	Molecular and Cellular Biology	4	BIOL 164	Animal Form/Systematics (J-Term)	2
CHEM 105	General Chemistry I	4	BIOL 166	Principles Comparative Physiology	2
IDFY 101	First Year Seminar*	3	BIOL 162	Plant Biology	3
WELL 1xx	Wellness*	1	CHEM 106	General Chemistry II	4
Varies	1 <sup>st</sup> Language*	3	IDCR 151	Created and Called for Community*	3
			Varies	2 <sup>nd</sup> Language	3
<b>TOTAL</b>		<b>15</b>	<b>TOTAL</b>		<b>17</b>
<b>Sophomore – Fall</b>			<b>Sophomore – Spring</b>		
GEOL 201	Foundations of Geology	4	BIOL 262	Ecology & Adaptation	4
CHEM 204	Intro to Organic Chemistry	4	CHEM 240	Environmental Chemistry*	4
ENGL 174	Literature & the Environment	3	GIS 245	Intro to Geo. Info. Systems	3
COMM 105	Fundamentals of Oral Communication*	3	STAT 269	Statistics	3
ENVS 216	Envi. Issues/Sust. Sol. (if BIOL 334 not taken)	3	Varies	3 <sup>rd</sup> Language or Cross-Cultural*	3
<b>TOTAL</b>		<b>17</b>	<b>TOTAL</b>		<b>17</b>
<b>Junior – Fall</b>			<b>Junior – Spring</b>		
ENVS 315	Environmental Ethics	3	BIOL 3xx	Ornithology or Herpetology	4
ENVS 270/271	Environmental Techniques	2	HIST 1xx	History*	3
BIBL 2xx	Encountering the Bible*	3	PHIL/RELI	Philosophy/Religion*	3
THEO/RELI	Christian Beliefs*	3	Varies	Arts*	3
Varies	Elective	3	Varies	Elective	3
<b>TOTAL</b>		<b>14</b>	<b>TOTAL</b>		<b>16</b>
<b>Senior – Fall</b>			<b>Senior – Spring</b>		
BIOL 332	Plant Taxonomy/Systematics	4	ENVS 495	Environmental and Sustainability Studies Capstone	3
BIOL 422 OR	Senior Research OR	1-4	INTE 391	Internship (if not taken in Fall)	1-4
INTE 391	Internship		IDCC 260	Cross-Cultural	3
IDNW 2xx	Non-Western Studies	2-3	BIOL	Plant Ecology (if ENVS 216 not taken)	4
Varies	Electives	1-3	Varies	Elective	3-5
<b>TOTAL</b>		<b>8-14</b>	<b>TOTAL</b>		<b>14-19</b>

\*QuEST requirement

Note 1: All Environmental Science majors must take CHEM 204 and CHEM 240. Those students intending to enter graduate school and whose work will involve a significant amount of chemical emphasis should substitute CHEM 309 and 310 for CHEM 204.

Note 2: All Environmental Science majors are encouraged to complete one course at AuSable Institute. AuSable courses can count only as elective credit. Majors are encouraged to do an internship and/or research experience.

+ Offered fall, odd years only.

++ Offered spring, even years only.

## Molecular Biology B.S. 8 Semester Plan

Course #	Course name	Credits	Course #	Course name	Credits
<b>First Year – Fall</b>			<b>First Year – Spring</b>		
BIOL 160	Molecular and Cellular Biology	4	BIOL 164	Animal Form/Systematics (J-Term)	2
CHEM 105	General Chemistry I	4	BIOL 166	Principles Comparative Physiology	2
IDFY 101	First Year Seminar*	3	BIOL 162	Plant Biology	3
WELL 1xx	Wellness Course*	1	CHEM 106	General Chemistry II	4
Varies	Social Science	3	COMM 105	Fundamentals of Oral Communication*	3
			IDCR 151	Created and Called for Community*	3
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>15</b>			<b>17</b>
<b>Sophomore – Fall</b>			<b>Sophomore – Spring</b>		
BIOL 260	Genetics and Development	4	CHEM 310	Organic Chemistry II	4
CHEM 309	Organic Chemistry I	4	BIBL 20x	Encountering the Bible*	3
MATH 108/111	Calculus	3/4	STAT 269	Introductory Statistics	3
IDNW 2xx	Non-Western Studies	2/3	Varies	Art, Music, Theatre or Dance*	3
Varies	1 <sup>st</sup> Language	3	Varies	2 <sup>nd</sup> Language*	3
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>16-18</b>			<b>16</b>
<b>Junior – Fall</b>			<b>Junior – Spring</b>		
BIOL 413	Molecular Biology**	4	BIOL 417	Molecular Genetics**	4
CHEM 410	Biochemistry I**	4	CHEM 412	Biochemistry II**	4
BIOL 385	Physiology	4	HIST 1xx	History*	3
PHIL/RELI	Philosophy/Religion*	3	ENGL xxx	Literature*	3
			Varies	3 <sup>rd</sup> Language or Cross-Cultural*	3
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>15</b>			<b>17</b>
<b>Senior – Fall</b>			<b>Senior – Spring</b>		
PHYS 201	Intro to Physics I**	4	BIOL 412	Cell Biology*	4
THEO/RELI	Christian Beliefs*	3	BIOL/CHEM	Biology/Chemistry Elective	4
Varies	Ethics/World Views/Pluralism*	3	BIOL 495	Natural Science Capstone	3
Varies	Elective	3	PHYS 202	Intro to Physics II**	4
Varies	Elective	3			
		<b>TOTAL</b>			<b>TOTAL</b>
		<b>16</b>			<b>15</b>

\*QuEST requirement

\*\*Interchangeable between junior and senior year. Note that BIOL 413 is a pre-requisite for BIOL 417, and that BIOL 417 is only offered every other spring.

## Sustainability Studies (B.A.) with Community Development concentration 8-semester Plan

Course #	Course name	Credits	Course #	Course name	Credits
<b>First Year – Fall</b>			<b>First Year – Spring</b>		
COMM 105	Fundamentals of Oral Communication*	3	IDCR 151	Created and Called for Community*	3
IDFY 101	First Year Seminar*	3	varies	2 <sup>nd</sup> Language*	3
PHIL/RELI	Philosophy/Religion*	3	STAT 269	Statistics or Quest mathematics	3-4
ENVS 140	Intro to Ecology & Sustainability** (meets lab sci)	3	SOCI 212	Cultural Anthropology (meets NW)	3
varies	1 <sup>st</sup> Language course*	3	HIST 1xx	History*	3
<b>TOTAL</b>		<b>15</b>	<b>TOTAL</b>		<b>15-16</b>
<b>Sophomore – Fall</b>			<b>Sophomore – Spring</b>		
varies	3 <sup>rd</sup> Language or Cross-Cultural*	3	Varies	Art, Music, Theatre or Dance*	3
BIBL 20x	Knowledge of the Bible*	3	WELL 1xx	Wellness Course*	1
Varies	Major Elective (ECON 117, POLI 113, SOCI 315 or STAT 269)	3	GIS 245	Intro to Geographic Information System (alt year) or Major Elective (ECON 117, POLI 113, SOCI 315 or STAT 269)	3
ENVS 216	Environmental Issues (meets STW)	3	BIOL 162	Plant Biology	3
CHEM 103	Chemical Science	3	ENGL 1xx	Literature* (suggested: 174)	3
			Varies	Minor or Free Elective	2-3
<b>TOTAL</b>		<b>15</b>	<b>TOTAL</b>		<b>15-16</b>
<b>Junior – Fall</b>			<b>Junior – Spring</b>		
ENVS 315	Environmental Ethics (meets Ethics)	3	SOCI 310	Food, Power and Society (meets social sci)	3
BIOL 334	Plant Ecology	3	BIOL 335	Plant Propagation	3
Varies	Concentration Elective	3	GIS 245	Intro to Geographic Information System (alt year) or Major Elective (ECON 117, POLI 113, SOCI 315 or STAT 269)	3
varies	Minor or Free Elective	3	Varies	Concentration Elective	3
Varies	Concentration Elective	3	varies	Minor or Free Elective	3
<b>TOTAL</b>		<b>15</b>	<b>TOTAL</b>		<b>15</b>
<b>Senior – Fall</b>			<b>Senior – Spring</b>		
varies	Minor or Free Elective or Study Abroad	3	SUST 495	Environmental Science and Sustainability Capstone	3
varies	Minor or Free Elective or Study Abroad	3	INTE 391 <b>OR</b> SOCI 395	Internship Practicum	3
varies	Minor or Free Elective or Study Abroad	3	varies	Minor or Free Elective	3
varies	Minor or Free Elective or Study Abroad	3	varies	Minor or Free Elective	3
varies	Minor or Free Elective or Study Abroad	3	varies	Minor or Free Elective	3
<b>TOTAL</b>		<b>15</b>	<b>TOTAL</b>		<b>15</b>

\*QuEST requirement

- ECON 117 and GIS 245 alternate years but BOTH occur in the same spring).
- This does not include your AuSable Institute options of BIOL\AGRIC\GEOG 303- Tropical Agriculture which meets in May term in Costa Rica or BIOL\AGRIC\GEOG 343 International Development and Environmental Sustainability which meets in Washington State mid-July through Mid-August. Financial Aid deadlines for these courses are 12/15 of the winter before, 2/15 and 3/15 of the course year.