

## Sample Student Schedules

The schedules on the following pages are idealized. Each provides one example of how courses could be scheduled to enable completion of degree requirements within four years (eight semesters). There are certainly alternative schedules that could also achieve this goal. Although included in some of the sample schedules, credit loads above 16 hours per semester are not recommended. Students may want to consider taking winter or summer courses to lighten course loads and improve learning.

The sample schedule marked "highly prepared at admission" is designed for a student who enters Millersville University with a strong background in biology, chemistry and math that allows them to take Chem 111 and Math 161 or 160 during their first semester as a freshman. Schedules marked "less prepared at admission" are designed for students who will benefit by completing prerequisite courses before enrolling in these more advanced science classes.

If you have questions about course scheduling, please contact your academic advisor.

**Bachelor of Science in Allied Health Technologies - Medical Technology Option  
SAMPLE PROGRAM (120 s.h. minimum)**

<b>FIRST SEMESTER</b>				<b>SECOND SEMESTER</b>			
BIOL	100	General Biology <sup>§</sup>	3	G3	_____	Social Sciences #1	3
CHEM	111†	Intro Chemistry I	4	COMM	100	Fundamentals of Speech	3
ENGL	110	English Composition	3	MATH	160*	Precalculus	4
G1	_____	Humanities #1	3	CHEM	112†	Intro Chemistry II	4
BIOL	257 <sup>a</sup>	Intro to Allied Health	1	WELL	175	Wellness	3
		<i>TOTAL S.H.</i>	<u>14</u>			<i>TOTAL S.H.</i>	<u>17</u>
 <b>THIRD SEMESTER</b>				 <b>FOURTH SEMESTER</b>			
BIOL	362	Cell & Devel Biology, W	4	BIOL	255	Human Anat & Phys II	4
BIOL	254	Human Anat & Phys I	4	BIOL	364	Genetics & Molecular Bio	4
CHEM	235 <sup>a</sup>	Short Crse Organic Chem	4	G3	_____	Social Sciences #2, W	3
G1	_____	Humanities #2, W	3	G1	_____	Humanities #3, D	3
		<i>TOTAL S.H.</i>	<u>15</u>	MATH	130†	Elements of Statistics	3
						<i>TOTAL S.H.</i>	<u>17</u>
 <b>FIFTH SEMESTER</b>				 <b>SIXTH SEMESTER</b>			
BIOL	461	General Microbiology	3	BIOL	454 <sup>a</sup>	Immunology	2
BIOL	_____	Directed Elective <sup>b</sup> #1	2-4	CHEM	326	Biochemistry I	4
ELEC	_____	General Elective**	3	G3	_____	Social Sciences #3, W	3
P	_____	Perspective Course (P)	3	BIOL	_____	Dir Elec <sup>b</sup> #2 to ≥ 6 s.h. BIOL Elec	2-4
PHYS	131	Physics I with Algebra	4	ENGL	312	(or alt.) Advanced Writing (AW)	3
		<i>TOTAL S.H.</i>	<u>15-17</u>			<i>TOTAL S.H.</i>	<u>14-16</u>
 <b>CLINICAL PROGRAM</b>							
		<i>TRANSFER CREDITS</i>	<u>26</u>				

<sup>a</sup> BIOL 257 and CHEM 235 offered only in Fall Semester; BIOL 454 offered only in Spring Semester.

† Can serve a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

§ Must earn a B- or higher as prerequisite for BIOL 362 and 364.

\*\*Credits required if needed to bring overall total to 120 s.h.

<sup>b</sup> Minimum of two directed electives.



**Bachelor of Science in Allied Health Technologies -  
Sports Medicine/Pre-Athletic Training for Bloomsburg**

<b>FALL 1</b>				<b>SPRING 1</b>			
BIOL	100	General Biology <sup>§</sup>	3	CHEM	112†	Chemistry II	4
CHEM	111†	Chemistry I	4	COMM	100	Fundamentals of Speech	3
ENGL	110	English Composition	3	MATH	160*	Precalculus	4
WELL	175	Wellness	3	WSSD	311	First Aid	3
G3	_____	Social Sciences #1 (Psychology 100 recommended)	3	G1	_____	Humanities #1 (Philosophy 100 recommended)	3
<b>TOTAL S.H.</b>			<b>16</b>	<b>TOTAL S.H.</b>			<b>17</b>
 <b>SUMMER 1</b>				 <b>FALL 2</b>			
BIOL	254	Human Anat & Phys I	4	CHEM	235 <sup>§</sup>	Short Crse Organic Chem	4
BIOL	255	Human Anat & Phys II	4	BIOL	362	Cell & Devel Biology, W	4
<b>TOTAL S.H.</b>			<b>8</b>	PHYS	131†	Physics I	4
				WSSD	375	Prevent and Care	3
<b>TOTAL S.H.</b>			<b>8</b>	<b>TOTAL S.H.</b>			<b>15</b>
 <b>SPRING 2</b>				 <b>WINTER/SUMMER 2</b>			
G1	_____	Humanities #2	3	D (W)	_____	Diversity/Writing Course (BIOL 207 recommended)	3
BIOL	352	Nutritional Science (W)	3				
WSSD	450	Kines & Phys	3				
G3	_____	Social Sciences #2 (SOC 101/ANTH 121 recommended)	3				
G3	_____	Social Sciences #3 (PSYC 227/228 recommended)	3				
<b>TOTAL S.H.</b>			<b>15</b>	<b>TOTAL S.H.</b>			<b>3</b>

**APPLY TO MS PROGRAMS AT END OF 2<sup>ND</sup> OR BEGINNING OF 3<sup>RD</sup> YEAR OF STUDY AT MU.**

<b>FALL 3</b>				<b>SPRING 3</b>			
ENGL	312	Advanced Writing (AW)	3	BIOL	364	Genetics & Molecular Bio	4
WSSD	452	Nutritional Performance	3	BIOL	375	Biometry	3
WSSD	591	Exercise Physiology	3	WSSD	582	Sports Psychology	3
BIOL	461	Microbiology	3	G1	_____	Humanities #3	3
PSYC	356	Health Psychology	3	P	_____	Perspectives Course (COMM 461 recommended)	3
<b>TOTAL S.H.</b>			<b>15</b>	<b>TOTAL S.H.</b>			<b>16</b>

§ Must earn a B- or higher as prerequisite for BIOL 362 and 364.

<sup>§</sup>CHEM 235 offered only in Fall Semester

† Can serve as a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

**Bachelor of Science in Allied Health Technologies - Respiratory Therapy Option**  
**SAMPLE PROGRAM (120 s.h. minimum)**

**FIRST SEMESTER**

BIOL	100	General Biology	3
CHEM	103†	Gen, Org & Biochem I	3
ENGL	110	English Composition	3
G1	_____	Humanities #1	3
G3	_____	Social Sciences #1	3
		<i>TOTAL S.H.</i>	<u>15</u>

**SECOND SEMESTER**

COMM	100	Fundamentals of Speech	3
MATH	130*	Elements of Statistics	3
CHEM	104†	Gen, Org & Biochem II	3
G1	_____	Humanities #2	3
WELL	175	Wellness	3
		<i>TOTAL S.H.</i>	<u>15</u>

**THIRD SEMESTER**

BIOL	461	General Microbiology	3
BIOL	254	Human Anat & Phys I	4
PHYS	131†	Physics I with Algebra	4
G1	_____	Humanities #3, W	3
G3	_____	Social Sciences #2, D	3
		<i>TOTAL S.H.</i>	<u>17</u>

**FOURTH SEMESTER**

BIOL	255	Human Anat & Phys II	4
G3	_____	Social Sciences #3, W	3
ENGL	312	(or alt.) Advanced Writing (AW)	3
ELEC	_____	General Elective**	3
ELEC	_____	General Elective**	3
		<i>TOTAL S.H.</i>	<u>16</u>

**SUMMER**

RESP	410	Acute Cardiopulmonary Care	2
RESP	411	Resp Care Techniques I	2
RESP	412	Prin of Aerosol & Gas Ther	3
RESP	422	Pharmacology	2
RESP	420	Arterial Blood Gas Analysis	3
		<i>TOTAL S.H.</i>	<u>12</u>

**FIFTH SEMESTER**

RESP	413	Resp Assessment & Therap	4
RESP	421	Phys Mechanical Ventilation	2
RESP	414	Resp Care Techniques II	3
RESP	460	Clinical Practice I	2
RESP	425	Neonatology	2
RESP	419	Resp Care in Alt Sites	2
		<i>TOTAL S.H.</i>	<u>15</u>

**WINTER SESSION**

RESP	461	Clinical Practicum I	1
		<i>TOTAL S.H.</i>	<u>1</u>

**SIXTH SEMESTER**

BIOL	352	Nutritional Science	3
RESP	417	Resp Care Techniques III, W	3
RESP	415	Tech Aspects Mech Vent	3
RESP	423	Infectious Diseases	2
RESP	424	Non-Infectious Diseases	2
RESP	462	Clinical Practice II	2
		<i>TOTAL S.H.</i>	<u>15</u>

**SUMMER**

RESP	463	Clinical Practicum II	2
		<i>TOTAL S.H.</i>	<u>2</u>

**SEVENTH SEMESTER**

RESP	464	Clinical Practicum III	10
RESP	495	Resp Care Research	2
		<i>TOTAL S.H.</i>	<u>12</u>

† Can serve a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

\*\*Credits required if needed to bring overall total to 120 s.h.

Note: The perspectives course (P) is waived for BS ALHT Resp Th.

**Bachelor of Science in Allied Health Technologies - Sports Medicine Option  
SAMPLE PROGRAM (120 s.h. minimum) (Well-Prepared at Admission)**

**FIRST SEMESTER**

BIOL	100	General Biology <sup>§</sup>	3
CHEM	111†	Chemistry I	4
ENGL	110	English Composition	3
WELL	175	Wellness	3
G3	_____	Social Sciences #1 (Psychology 100 recommended)	3
<b>TOTAL S.H.</b>			<u>16</u>

**SECOND SEMESTER**

CHEM	112†	Chemistry II	4
COMM	100	Fundamentals of Speech	3
MATH	160*	Precalculus	4
WSSD	311	First Aid	3
G1	_____	Humanities #1 (Philosophy 100 recommended)	3
<b>TOTAL S.H.</b>			<u>17</u>

**THIRD SEMESTER**

BIOL	254	Human Anat & Phys I	4
BIOL	362	Cell & Devel Biology, W	4
CHEM	235 <sup>a</sup>	Short Crse Organic Chem	4
WSSD	375	Prevent and Care	3
<b>TOTAL S.H.</b>			<u>15</u>

**FOURTH SEMESTER**

BIOL	255	Human Anat & Phys II	4
BIOL	352	Nutritional Science, W	3
WSSD	450	Kines & Phys	3
G3	_____	Social Sciences #2 (SOC 101/ANTH 121 recommended)	3
G3	_____	Social Sciences #3 (PSYC 227/228 recommended)	3
<b>TOTAL S.H.</b>			<u>16</u>

**FIFTH SEMESTER**

ENGL	312	Advanced Writing (AW)	3
WSSD	452	Nutritional Performance	3
WSSD	591	Exercise Physiology	3
BIOL	461	Microbiology	3
PSYC	356	Health Psychology	3
<b>TOTAL S.H.</b>			<u>15</u>

**SIXTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
WSSD	582	Sports Psychology	3
BIOL	375	Biometry	3
G1	_____	Humanities #2	3
P	_____	Perspectives Course (COMM 461 recommended)	3
<b>TOTAL S.H.</b>			<u>16</u>

**SEVENTH SEMESTER**

G1	_____	Humanities #3	3
PHYS	131	Physics I	4
D (W)	_____	Diversity/Writing Course (BIOL 207 recommended)	3
ELEC	_____	BIOL/WSSD Elective	2-4
<b>TOTAL S.H.</b>			<u>12-14</u>

**EIGHTH SEMESTER**

CHEM	326	Biochemistry	4
PHYS	132	Physics II	4
WSSD	492	Capstone Seminar	1
ELEC	_____	BIOL/WSSD Elective	2-4
<b>TOTAL S.H.</b>			<u>11-13</u>

§ Must earn a B- or higher as prerequisite for BIOL 362 and 364.

<sup>a</sup>CHEM 235 offered only in Fall Semester

† Can serve as a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

**Bachelor of Science in Allied Health Technologies - Sports Medicine Option**  
**SAMPLE PROGRAM (120 s.h. minimum) (Less Prepared at Admission)**

**FIRST SEMESTER**

BIOL	100	General Biology <sup>§</sup>	3
CHEM	110	Fundamentals of Chem	3
MATH	101	College Algebra	3
WELL	175	Wellness	3
COMM	100	Fundamentals of Speech	3
<b>TOTAL S.H.</b>			<u>15</u>

**SECOND SEMESTER**

CHEM	111†	Chemistry I	4
ENGL	110	English Composition	3
MATH	160*	Precalculus	4
WSSD	311	First Aid	3
G3		Social Sciences #1 (Psychology 100 recommended)	3
<b>TOTAL S.H.</b>			<u>17</u>

**THIRD SEMESTER**

BIOL	254	Human Anat & Phys I	4
BIOL	362	Cell & Devel Biology, W	4
CHEM	112†	Chemistry II	4
WSSD	375	Prevent and Care	3
<b>TOTAL S.H.</b>			<u>15</u>

**FOURTH SEMESTER**

BIOL	255	Human Anat & Phys II	4
BIOL	352	Nutritional Science, W	3
WSSD	450	Kines & Phys	3
G3		Social Sciences #2 (SOC 101/ANTH 121 recommended)	3
G1		Humanities #1	3
<b>TOTAL S.H.</b>			<u>16</u>

**FIFTH SEMESTER**

CHEM	235 <sup>a</sup>	Short Crse Organic Chem	4
WSSD	452	Nutritional Performance	3
WSSD	591	Exercise Physiology	3
BIOL	461	Microbiology	3
G1		Humanities #2 (Philosophy 100 recommended)	3
<b>TOTAL S.H.</b>			<u>16</u>

**SIXTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
BIOL	375	Biometry	3
G3		Social Sciences #3 (PSYC 227 or 228 recommended)	3
G1		Humanities #3	3
P		Perspectives Course (COMM 461 recommended)	3
<b>TOTAL S.H.</b>			<u>16</u>

**SEVENTH SEMESTER**

ENGL	312	Advanced Writing (AW)	3
PHYS	131†	Physics I	4
D (W)		Diversity/Writing Course (BIOL 207 recommended)	3
PSYC	356	Health Psychology	3
ELEC		BIOL/WSSD Elective	2-4
<b>TOTAL S.H.</b>			<u>15-17</u>

**EIGHTH SEMESTER**

CHEM	326	Biochemistry	4
PHYS	132	Physics II	4
WSSD	582	Sports Psychology	3
WSSD	492	Capstone Seminar	1
ELEC		BIOL/WSSD Elective	2-4
<b>TOTAL S.H.</b>			<u>11-13</u>

§ Must earn a B- or higher as prerequisite for BIOL 362 and 364.

† Can serve as a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

<sup>a</sup>CHEM 235 offered only in Fall Semester

**Bachelor of Arts in Biology**  
**SAMPLE PROGRAM (120 s.h. minimum) (Well-Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
CHEM	111†	Intro Chemistry I	4
MATH	160* or 161(163)	Precalculus or Calculus 1	4-5
COMM	100	Fundamentals of Speech	3
<i>TOTAL S.H.</i>			<i>15-16</i>

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
	or 221	Concepts of Botany	
CHEM	112†	Intro Chemistry II	4
MATH	161†	Calculus I or	3-4
	or other	(II, Stats or CSCI)	
ENGL	110	English Composition	3
<i>TOTAL S.H.</i>			<i>14-15</i>

**THIRD SEMESTER**

BIOL	221	Concepts of Botany	4
or	211	Concepts of Zoology	
CHEM	_____	Chemistry, ≥200 level	4
G1	_____	Humanities(G1) (Non-FORL)	3
FORL	101 <sup>§</sup>	Foreign Language (G1)	3
<i>TOTAL S.H.</i>			<i>14</i>

**FOURTH SEMESTER**

BIOL	362	Cell & Devel Biology, W	4
CHEM	_____	Chemistry, ≥200 level	4
G3	_____	Social Sciences #1	3
FORL	102 <sup>§</sup>	Foreign Language (G1)	3
WELL	175	Wellness Course	3
<i>TOTAL S.H.</i>			<i>17</i>

**FIFTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
or	343	Ecology & Evolution	
PHYS	131	Physics I with Algebra	4
FORL	201 <sup>§</sup>	Foreign Language (G1)	3
G3	_____	Social Sciences #2, W	3
<i>TOTAL S.H.</i>			<i>14</i>

**SIXTH SEMESTER**

BIOL	343	Ecology & Evolution	4
or	364	Genetics & Molecular Bio	
PHYS	132	Physics II with Algebra	4
FORL	202 <sup>§</sup>	Foreign Language (G1)	3
P	_____	Perspectives Course (P)	3
<i>TOTAL S.H.</i>			<i>14</i>

**SEVENTH SEMESTER**

BIOL	_____	Biology Elective #1	3-4
ESCI	_____	Earth Science, ≥200 level	3-4
G3	_____	Social Sciences #3, W	3
D	_____	Diversity Course (D)	3
ELEC	_____	General Elective**	3
<i>TOTAL S.H.</i>			<i>15-17</i>

**EIGHTH SEMESTER**

BIOL	_____	Biology Elective #2	3-4
BIOL	470	or 472 Seminar in Biology	1-2
BIOL	Elec <sup>§</sup>	for total of 33 BIOL s.h.	0-2
ENGL	312	or alt Advd Writing (AW)	3
ELEC	_____	General Elective**	3
ELEC	_____	General Elective(s)**	2-5
<i>TOTAL S.H.</i>			<i>13-17</i>

† Can serve as a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

§ The General Education requirement for 2 additional Humanities Courses (G1) is met by taking beginning or intermediate FORL courses.

\*\*Credits required if needed to bring overall total to 120 s.h.

**Bachelor of Arts in Biology**  
**SAMPLE PROGRAM (120 s.h. minimum) (Less Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
MATH	101	College Algebra	3
ENGL	110	English Composition	3
G1	_____	Humanities #1	3
WELL	175	Wellness	3
<i>TOTAL S.H.</i>			16

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
	or 221	Concepts of Botany	
CHEM	111†	Intro Chemistry I	4
MATH	110*	Trigonometry/	4-6
	or 160	Precalculus	
COMM	100	Fundamentals of Speech	3
<i>TOTAL S.H.</i>			15-17

**THIRD SEMESTER**

BIOL	221	Concepts of Botany	4
or	211	Concepts of Zoology	
CHEM	112†	Intro Chemistry II	4
MATH	161†	Calculus I	4
FORL	101 <sup>§</sup>	Foreign Language (G1)	3
<i>TOTAL S.H.</i>			15

**FOURTH SEMESTER**

BIOL	362	Cell & Devel Biology, W	4
ESCI	_____	Earth Science, ≥200 level	3-4
G3	_____	Social Sciences #1	3
G1	_____	Humanities(G1) (Non-FORL)	3
FORL	102 <sup>§</sup>	Foreign Language (G1)	3
<i>TOTAL S.H.</i>			16-17

**FIFTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
or	343	Ecology & Evolution	
CHEM	_____	Chemistry, ≥200 level	4
FORL	201 <sup>§</sup>	Foreign Language (G1)	3
G3	_____	Social Sciences #2, W	3
<i>TOTAL S.H.</i>			14

**SIXTH SEMESTER**

BIOL	343	Ecology & Evolution	4
or	364	Genetics & Molecular Bio	
CHEM	_____	Chemistry, ≥200 level	4
FORL	202 <sup>§</sup>	Foreign Language (G1)	3
G3	_____	Social Sciences #3, W	3
<i>TOTAL S.H.</i>			14

**SEVENTH SEMESTER**

BIOL	_____	Biology Elective #1	3-4
PHYS	131	Physics I with Algebra	4
P	_____	Perspectives Course (P)	3
D	_____	Diversity Course (D)	3
ELEC	_____	General Elective**	1-3
<i>TOTAL S.H.</i>			14-17

**EIGHTH SEMESTER**

BIOL	_____	Biology Elective #2	3-4
BIOL	470	or 472 Seminar in Biology	1-2
BIOL	Elec <sup>§</sup>	for total of 33 BIOL s.h.	0-2
ENGL	312	or alt Advd Writing (AW)	3
PHYS	132	Physics II with Algebra	4
ELEC	_____	General Elective**	0-3
<i>TOTAL S.H.</i>			12-16

† Can serve a a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

§ The General Education requirement for 2 additional Humanities Courses (G1) is met by taking beginning or intermediate FORL courses.

\*\*Credits required if needed to bring overall total to 120 s.h.

**Bachelor of Science in Biology**  
**SAMPLE PROGRAM (120 s.h. minimum) (Well-Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
CHEM	111†	Intro Chemistry I	4
MATH	160*	Precalculus or Calculus 1 or 161(163)	4-5
COMM	100	Fundamentals of Speech	3
		<i>TOTAL S.H.</i>	<u>15-16</u>

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
	or 221	Concepts of Botany	
CHEM	112†	Intro Chemistry II	4
MATH	161†	Calculus I or (II, Stats or CSCI)	3-4
ENGL	110	English Composition	<u>3</u>
		<i>TOTAL S.H.</i>	<u>14-15</u>

**THIRD SEMESTER**

BIOL	221	Concepts of Botany	4
or	211	Concepts of Zoology	
CHEM	231	Organic Chem I	4
PHYS	131	Physics I with Algebra	4
WELL	175	Wellness	<u>3</u>
		<i>TOTAL S.H.</i>	<u>15</u>

**FOURTH SEMESTER**

BIOL	362	Cell & Devel Biology, W	4
CHEM	232	Organic Chem II	4
PHYS	132	Physics II with Algebra	4
G1		Humanities #1	<u>3</u>
		<i>TOTAL S.H.</i>	<u>15</u>

**FIFTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
or	343	Ecology & Evolution	
CHEM	326	Biochemistry I	4
D		Diversity Course (D)	3
G3		Social Sciences #1, W	<u>3</u>
		<i>TOTAL S.H.</i>	<u>14</u>

**SIXTH SEMESTER**

BIOL	343	Ecology & Evolution	4
or	364	Genetics & Molecular Bio	
BIOL		Biology Elective <sup>s</sup> #1	3
BIOL		Biology Elective <sup>s</sup> #2, W	3
G1		Humanities #2	3
G3		Social Sciences #2	<u>3</u>
		<i>TOTAL S.H.</i>	<u>16</u>

**SEVENTH SEMESTER**

BIOL	472	or 470 Seminar in Biology	1-2
BIOL		Biology Elective <sup>s</sup> #3	3-4
BIOL		Biology Elective <sup>s</sup> #4	3
ENGL	312	or alt Advd Writing (AW)	3
G1		Humanities #3	<u>3</u>
		<i>TOTAL S.H.</i>	<u>13-15</u>

**EIGHTH SEMESTER**

BIOL		Biology Elective <sup>s</sup> #5	3
BIOL		Elec <sup>s</sup> #6 for total of 43 BIOL s.h.	0-3
G3		Social Sciences #3	3
P		Perspectives Course (P)	3
ELEC		General Elective**	3
ELEC		General Elective**	<u>0-3</u>
		<i>TOTAL S.H.</i>	<u>14-18</u>

† Can serve a a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

§ At least 12 s.h. of electives must be 300-level or above.

\*\*Credits required if needed to bring overall total to 120 s.h.

**Bachelor of Science in Biology**  
**SAMPLE PROGRAM (120 s.h. minimum) (Less Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
MATH	101	College Algebra	3
ENGL	110	English Composition	3
G1		Humanities #1	3
WELL	175	Wellness	3
		<b>TOTAL S.H.</b>	<u>16</u>

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
	or 221	Concepts of Botany	
CHEM	111†	Intro Chemistry I	4
MATH	110*	Trigonometry/	4-6
	or 160	Precalculus	
COMM	100	Fundamentals of Speech	3
		<b>TOTAL S.H.</b>	<u>15-17</u>

**THIRD SEMESTER**

BIOL	221	Concepts of Botany	4
	or 211	Concepts of Zoology	
CHEM	112†	Intro Chemistry II	4
MATH	161†	Calculus I	4
G1		Humanities #2	3
		<b>TOTAL S.H.</b>	<u>15</u>

**FOURTH SEMESTER**

BIOL	362	Cell & Devel Biology, W	4
CHEM	231	Organic Chemistry I	4
G3		Social Sciences #1	3
G1		Humanities #3	3
		<b>TOTAL S.H.</b>	<u>14</u>

**FIFTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
	or 343	Ecology & Evolution	
CHEM	232	Organic Chem II	4
BIOL		Biology Elective <sup>§</sup> #1	3
BIOL		Biology Elective <sup>§</sup> #2	3-4
		<b>TOTAL S.H.</b>	<u>14-15</u>

**SIXTH SEMESTER**

BIOL	343	Ecology & Evolution	4
	or 364	Genetics & Molecular Bio	
BIOL		Biology Elective <sup>§</sup> #3, W	3
CHEM	326	Biochemistry I	4
G3		Social Sciences #2, D	3
		<b>TOTAL S.H.</b>	<u>14</u>

**SEVENTH SEMESTER**

PHYS	131	Physics I with Algebra	4
BIOL		Biology Elective <sup>§</sup> #4	3-4
BIOL		Biology Elective <sup>§</sup> #5	3
ENGL	312	or alt Advd Writing (AW)	3
P		Perspectives Course (P)	3
		<b>TOTAL S.H.</b>	<u>16-17</u>

**EIGHTH SEMESTER**

PHYS	132	Physics II with Algebra	4
BIOL	472	or 470 Seminar in Biology	1-2
BIOL		Elec <sup>§</sup> #6 for total of 43 BIOL s.h.	0-3
G3		Social Sciences #3, W	3
ELEC		General Elective**	3
ELEC		General Elective**	0-2
		<b>TOTAL S.H.</b>	<u>12-16</u>

† Can serve a a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

§ At least 12 s.h. of electives must be 300-level or above.

\*\*Credits required if needed to bring overall total to 120 s.h.

**Bachelor's Degree: BSE**  
**SAMPLE PROGRAM (126 s.h. minimum) (Well-Prepared at Admission)**

NOTE: Education students must fill out state and federal forms (Criminal Clearance Acts 34 & 151) EACH year.  
 NOTE: The student must take the PRAXIS test (required by the PDE) at least a semester before student teaching.

<b>FIRST SEMESTER</b>				<b>SECOND SEMESTER</b>			
BIOL	101	Foundations of Biology	4	BIOL	211	Concepts of Zoology	4
CHEM	111†	Intro Chemistry I	4	or	221	Concepts of Botany	
MATH	160*	Precalculus or Calculus 1	4-5	CHEM	112†	Intro Chemistry II	4
		or 161(163)		ENGL	_____	Literature Course, G1 #1	3
ENGL	110	English Composition	3	G3	_____	Social Sciences #1, W	3
PPST <sup>a</sup>		Pre-Professional Skills Test		COMM	100	Fundamentals of Speech	3
		<b>TOTAL S.H.</b>	<u>15-16</u>			<b>TOTAL S.H.</b>	<u>17</u>
<b>THIRD SEMESTER</b>				<b>FOURTH SEMESTER</b>			
BIOL	221	Concepts of Botany	4	BIOL	362	Cell & Devel Biology, W	4
or	211	Concepts of Zoology		CHEM	326	Biochemistry	4
CHEM	235 <sup>b</sup>	Short Crse Organic Chem	4	ESCI	_____	Earth Science, ≥ 200 level	3-4
EDFN	211	Fdns of Modern Ed	3	G3	_____	Social Sciences #2	3
EDFN	241	Psyc Fdns Teaching	3				
WELL	175	Wellness	3				
		<b>TOTAL S.H.</b>	<u>17</u>			<b>TOTAL S.H.</b>	<u>14-15</u>
<b>FIFTH SEMESTER</b>				<b>SIXTH SEMESTER</b>			
BIOL	364	Genetics & Molecular Bio	4	BIOL	343	Ecology & Evolution	4
BIOL	375	Biometry	3	PHYS	132	Physics with Algebra	4
PHYS	131	Physics with Algebra	4	G3	_____	Social Sciences #3, D	3
BIOL	_____	Biology Elective #1	3-4	G1	_____	Humanities #3	3
BIOL	_____	Elect #2, total 32 BIOL s.h.	0-1	ENGL	312	or alt Advd Writing (AW)	3
G1	_____	Humanities #2, W	3				
		<b>TOTAL S.H.</b>	<u>18<sup>§</sup></u>			<b>TOTAL S.H.</b>	<u>17</u>
<b>SEVENTH SEMESTER (Last chance to take PRAXIS)</b>				<b>EIGHTH SEMESTER</b>			
BIOL	473 <sup>b</sup>	Methods Teach Biology	1	EDSC	461	Student Teaching	9
EDFN 001	321	EDFN:Issues in Teaching Sec Ed	3	EDSE	471	Differentiated Instruction	3
EDFN 001	330	EDFN:Instruc Technology Design	3				
EDFN 001	340	EDSE:Content Area Literacy	3				
EDFN 001	346	SPED:Sec Students w/Disabilities	3				
EDSE	435 <sup>b</sup>	Teaching of Science	3				
		<b>TOTAL S.H.</b>	<u>16</u>			<b>TOTAL S.H.</b>	<u>12</u>

<sup>a</sup>Students should take the Pre-Professional Skills Tests (PPST) the 1st semester of freshman year.

<sup>b</sup>CHEM 235, BIOL 473, and EDSE 435 are only offered in the Fall semester.

† Can serve as a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

§ Note: Student will need to wait until the end of registration to enroll in >17 credits, or one of these courses could be completed during Winter or Summer.

NOTE: The perspectives course (P) is waived for BSE program.

**Bachelor's Degree: BSE**  
**SAMPLE PROGRAM (126 s.h. minimum) (Less Prepared at Admission)**

NOTE: Education students must fill out state and federal forms (Criminal Clearance Acts 34 & 151) EACH year.  
 NOTE: The student must take the PRAXIS test (required by the PDE) at least a semester before student teaching.

<b>FIRST SEMESTER</b>				<b>SECOND SEMESTER</b>			
BIOL	101	Foundations of Biology	4	BIOL	211	Concepts of Zoology	4
MATH	101	College Algebra	3	or	221	Concepts of Botany	
ENGL	110	English Composition	3	CHEM	111†	Intro Chemistry I	4
G1		Humanities #1	3	MATH	110*	Trigonometry	4-6
WELL	175	Wellness	3	or	160*	Precalculus	
PPST <sup>a</sup>		Pre-Professional Skills Test		COMM	100	Fundamentals of Speech	3
		<i>TOTAL S.H.</i>	<i>16</i>			<i>TOTAL S.H.</i>	<i>15-17</i>
<b>THIRD SEMESTER</b>				<b>FOURTH SEMESTER</b>			
BIOL	221	Concepts of Botany	4	BIOL	362	Cell & Devel Biology, W	4
or	211	Concepts of Zoology		BIOL	364	Genetics & Molecular	4
CHEM	112†	Intro Chemistry II	4	ESCI		Earth Science, ≥ 200 level	3-4
EDFN	211	Fdns of Modern Ed	3	G1		Literature Course, G1 #2	3
EDFN	241	Psyc Fdns Teaching	3	G3		Social Sciences #2	3
G3		Social Sciences #1, W	3			<i>TOTAL S.H.</i>	<i>17-18<sup>§</sup></i>
		<i>TOTAL S.H.</i>	<i>17</i>				
<b>FIFTH SEMESTER</b>				<b>SIXTH SEMESTER</b>			
CHEM	235 <sup>b</sup>	Short Course Organic Chem	4	BIOL	343	Ecology & Evolution	4
PHYS	131	Physcis with Algebra	4	PHYS	132	Physics with Algebra	4
G1		Humanities #3, W	3	G3		Social Sciences #3, D	3
BIOL	375	Biometry	3	CHEM	326	Biochemistry	4
BIOL		Biology Elective #1	3-4	ENGL	312	or alt Advd Writing (AW)	3
BIOL		Elect #2, total 32 BIOL s.h.	0-1			<i>TOTAL S.H.</i>	<i>18<sup>§</sup></i>
		<i>TOTAL S.H.</i>	<i>18<sup>§</sup></i>				
<b>SEVENTH SEMESTER (Last chance to take PRAXIS)</b>				<b>EIGHTH SEMESTER</b>			
BIOL	473 <sup>b</sup>	Methods Teach Biology	1	EDSC	461	Student Teaching	9
EDFN 001	321	EDFN:Issues in Teaching Sec Ed	3	EDSE	471	Differentiated Instruction	3
EDFN 001	330	EDFN:Instruc Technology Design	3			<i>TOTAL S.H.</i>	<i>12</i>
EDFN 001	340	EDSE:Content Area Literacy	3				
EDFN 001	346	SPEd:Sec Students w/Disabilities	3				
EDSE	435 <sup>b</sup>	Teaching of Science	3				
		<i>TOTAL S.H.</i>	<i>16</i>				

<sup>a</sup>Students should take the Pre-Professional Skills Tests (PPST) the 1st semester of freshman year.

<sup>b</sup>CHEM 235, BIOL 473, and EDSE 435 are only offered in the Fall semester.

† Can serve as a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

§ Note: Student will need to wait until the end of registration to enroll in >17 credits, or one of these courses could be completed during Winter or Summer.

NOTE: The perspectives course (P) is waived for BSE program.

**Bachelor of Science in Biology: Animal Behavior Option**  
**SAMPLE PROGRAM (120 s.h. minimum) (Well-Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
CHEM	111†	Intro Chemistry I	4
MATH	161*	Calculus I	4
ENGL	110	English Composition	3
		<i>TOTAL S.H.</i>	<u>15</u>

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
CHEM	112†	Intro Chemistry II	4
WELL	175	Wellness	3
COMM	100	Fundamentals of Speech	3
		<i>TOTAL S.H.</i>	<u>14</u>

**THIRD SEMESTER**

BIOL	221	Concepts of Botany	4
CHEM	235♦	Short Course Organic Chem	4
PSYC	100**	General Psychology, G3 #1	3
G1		Humanities #1	3
		<i>TOTAL S.H.</i>	<u>14</u>

**FOURTH SEMESTER**

BIOL	343	Ecology & Evolution	4
CHEM	326	Biochemistry 1	4
	or	375 Environ Chemistry	
BIOL	385	Princ of Animal Behavior	3
G3		Social Sciences #2, W	3
		<i>TOTAL S.H.</i>	<u>14</u>

**SUMMER SESSION**

BIOL	381	Applied Ethology	3
or	486	Behavioral Ecology	

**FIFTH SEMESTER**

BIOL	362	Cell & Devel Bio, W	4
BIOL		ANBE Elective #1	3
PHYS	131	Physics I	4
G1		Humanities #2, D	3
Statistics		BIOL 375, MATH 235 or PSYC 211	3
		<i>TOTAL S.H.</i>	<u>17</u>

**SIXTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
BIOL	435	Animal Physiology	3
	or	484 Mech of Animal Behavior	
PHYS	132	Physics II	4
ENGL		Advanced Writing (AW)	3
		<i>TOTAL S.H.</i>	<u>14</u>

**SEVENTH SEMESTER**

BIOL		ANBE Elective #2	3
P		Perspectives Course (P)	3
G1		Humanities #3, W	3
G3		Social Sciences #3	3
BIOL		Practical Experience	1-3
		<i>TOTAL S.H.</i>	<u>13-15</u>

**EIGHTH SEMESTER**

BIOL		ANBE Elective #3	3
BIOL	472	Seminar in Biol: ANBE	1-2
BIOL		For total of 46 BIOL s.h.	0-2
ELEC		General Elective**	3
ELEC		General Elective**	3
ELEC		General Elective**	2-4
		<i>TOTAL S.H.</i>	<u>14-16</u>

♦CHEM 235 is only offered in the Fall. Students aiming for vet school should take CHEM 231 and 232 in lieu of CHEM 235.

\*\*PSYC 100 is a required-related course and serves as a G3 course; it is also required for PSYC 211 (statistics elective).

† Can serve as a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

\*\*Credits needed to bring overall total to 120. Be sure you have taken three W courses, as well as a P & D course.

**Bachelor of Science in Biology: Animal Behavior Option**  
**SAMPLE PROGRAM (120 s.h. minimum) (Less Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
G1		Humanities #1	3
MATH	101	College Algebra	3
ENGL	110	English Composition	3
WELL	175	Wellness	3
		<i>TOTAL S.H.</i>	16

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
G3		Social Sciences #1, W	3
MATH	151*	Calculus for Mgmt & Life Sci.	4
COMM	100	Fundamentals of Speech	3
		<i>TOTAL S.H.</i>	14

**THIRD SEMESTER**

BIOL	221	Concepts of Botany	4
CHEM	111†	Intro Chemistry I	4
PSYC	100 <sup>Ⓜ</sup>	General Psychology, G3 #2	3
G1		Humanities #2, D	3
		<i>TOTAL S.H.</i>	14

**FOURTH SEMESTER**

BIOL	343	Ecology & Evolution	4
CHEM	112†	Intro Chemistry II	4
BIOL	385	Princ of Animal Behavior	3
G3		Social Sciences #3	3
		<i>TOTAL S.H.</i>	14

**SUMMER SESSION**

BIOL	381	Applied Ethology	3
or	486	Behavioral Ecology	

**FIFTH SEMESTER**

BIOL	362	Cell & Devel Bio, W	4
BIOL		ANBE Elective #1	3
CHEM	235 <sup>♦</sup>	Short Course Organic Chem	4
Statistics		BIOL 375, MATH 235 or PSYC 211	3
		<i>TOTAL S.H.</i>	14

**SIXTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
BIOL	435	Animal Physiology	3
or	484	Mech of Animal Behavior	
CHEM	326	Biochemistry I	4
or	375	Environmental Chemistry	
ENGL		Advanced Writing (AW)	3
		<i>TOTAL S.H.</i>	14

**SEVENTH SEMESTER**

BIOL		ANBE Elective #2	3
P		Perspectives Course (P)	3
PHYS	131	Physics I	4
G1		Humanities #3, W	3
BIOL		Practical Experience	1-3
		<i>TOTAL S.H.</i>	14-16

**EIGHTH SEMESTER**

BIOL		ANBE Elective #3	3
BIOL	472	Seminar in Biol: ANBE	1-2
BIOL		For total of 46 BIOL s.h.	0-2
PHYS	132	Physics II	4
ELEC		General Elective**	3
ELEC		General Elective**	0-4
		<i>TOTAL S.H.</i>	15-17

♦CHEM 235 is only offered in the Fall. Students aiming for vet school should take CHEM 231 and 232 in lieu of CHEM 235.

ⓂPSYC 100 is a required-related course and serves as a G3 course; it is also required for PSYC 211 (statistics elective).

† Can serve as a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

\*\*Credits needed to bring overall total to 120. Be sure you have taken three W courses, as well as a P & D course.

**Bachelor of Science in Biology: Botany Option**  
**SAMPLE PROGRAM (120 s.h. minimum) (Well-Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
CHEM	111†	Intro Chemistry I	4
MATH	160*	Precalculus or Calculus 1 or 161(163)	4-5
COMM	100	Fundamentals of Speech	3
<i>TOTAL S.H.</i>			<i>15-16</i>

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
	or 221	Concepts of Botany	
CHEM	112†	Intro Chemistry II	4
MATH	161†	Calculus I or or other (II, Stats or CSCI)	3-4
ENGL	110	English Composition	3
<i>TOTAL S.H.</i>			<i>14-15</i>

**THIRD SEMESTER**

BIOL	221	Concepts of Botany	4
	or 211	Concepts of Zoology	
CHEM	231	Organic Chem I	4
WELL	175	Wellness	3
G1		Humanities #1, W	3
<i>TOTAL S.H.</i>			<i>14</i>

**FOURTH SEMESTER**

BIOL	362	Cell & Devel Biology, W	4
CHEM	232	Organic Chem II	4
G3		Social Sciences #1	3
G1		Humanities #2	3
<i>TOTAL S.H.</i>			<i>14</i>

**FIFTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
CHEM	326	Biochemistry I	4
BIOL	325	Plant Systematics	3
PHYS	131	Physics I with Algebra	4
<i>TOTAL S.H.</i>			<i>15</i>

**SIXTH SEMESTER**

BIOL	343	Ecology & Evolution	4
PHYS	132	Physics II with Algebra	4
BIOL	436	Plant Physiology	3
G1		Humanities #3	3
ENGL	312	or alt Advd Writing (AW)	3
<i>TOTAL S.H.</i>			<i>17</i>

**SEVENTH SEMESTER**

BIOL	429	Plant Developmental Bio	3
BIOL		Biology Elective <sup>§</sup> #1	3-4
BIOL		Biology Elective <sup>§</sup> #2	3
G3		Social Sciences #2, W	3
P		Perspectives Course (P)	3
<i>TOTAL S.H.</i>			<i>15-16</i>

**EIGHTH SEMESTER**

BIOL		Biology Elective <sup>§</sup> #3	3-4
BIOL		Elec <sup>§</sup> #4 for total of 45 BIOL s.h.	3
BIOL	472	or 470 Seminar in Biology	1-2
G3		Social Sciences #3, D	3
ELEC		General Elective**	3
ELEC		General Elective**	2-4
<i>TOTAL S.H.</i>			<i>13-16</i>

† Can serve as a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

§ Must be 300-level or above.

\*\*Credits required if needed to bring overall total to 120 s.h.

**Bachelor of Science in Biology: Botany Option**  
**SAMPLE PROGRAM (120 s.h. minimum) (Less Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
MATH	101	College Algebra	3
ENGL	110	English Composition	3
G1		Humanities #1	3
WELL	175	Wellness	3
		<i>TOTAL S.H.</i>	<i>16</i>

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
	or 221	Concepts of Botany	
CHEM	111†	Intro Chemistry I	4
MATH	110*	Trigonometry/ or 160 Precalculus	4-6
COMM	100	Fundamentals of Speech	3
		<i>TOTAL S.H.</i>	<i>15-17</i>

**THIRD SEMESTER**

BIOL	221	Concepts of Botany	4
	or 211	Concepts of Zoology	
CHEM	112†	Intro Chemistry II	4
MATH	161†	Calculus I	4
G3		Social Sciences #1, W	3
		<i>TOTAL S.H.</i>	<i>15</i>

**FOURTH SEMESTER**

BIOL	362	Cell & Devel Biology, W	4
CHEM	231	Organic Chemistry I	4
G3		Social Sciences #2	3
G1		Humanities #2	3
G1		Humanities #3, W	3
		<i>TOTAL S.H.</i>	<i>17</i>

**FIFTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
CHEM	232	Organic Chem II	4
PHYS	131	Physics I with Algebra	4
BIOL	325	Plant Systematics	3
		<i>TOTAL S.H.</i>	<i>15</i>

**SIXTH SEMESTER**

BIOL	343	Ecology & Evolution	4
P		Perspectives Course (P)	3
PHYS	132	Physics II with Algebra	4
G3		Social Sciences #3, D	3
		<i>TOTAL S.H.</i>	<i>14</i>

**SEVENTH SEMESTER**

BIOL	429	Plant Developmental Bio	3
CHEM	326	Biochemistry	4
BIOL		Biology Elective <sup>§</sup> #1	3-4
BIOL		Biology Elective <sup>§</sup> #2	3-4
BIOL	472	or 470 Seminar in Biology	1-2
		<i>TOTAL S.H.</i>	<i>14-17</i>

**EIGHTH SEMESTER**

BIOL	436	Plant Physiology	3
BIOL		Biology Elective <sup>§</sup> #3	2-3
BIOL		Elec <sup>§</sup> #4 for total of 45 BIOL s.h.	0-2
ENGL	312	or alt Advd Writing (AW)	3
ELEC		General Elective**	1-2
		<i>TOTAL S.H.</i>	<i>9-14</i>

† Can serve a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

§ Must be 300-level or above.

\*\*Credits required if needed to bring overall total to 120 s.h.

**Bachelor of Science in Biology: Environmental Biology Option  
SAMPLE PROGRAM (120 s.h. minimum) (Well-Prepared at Admission)**

<b>FIRST SEMESTER</b>				<b>SECOND SEMESTER</b>			
BIOL	101	Foundations of Biology	4	BIOL	211	Concepts of Zoology	4
CHEM	111†	Intro Chemistry I	4	or	221	Concepts of Botany	
MATH	151*	Calculus for Mgmt & Life Sci or 161* Calculus I	4	CHEM	112†	Intro Chemistry II	4
ENGL	110	English Composition	3	WELL	175	Wellness	3
		<b>TOTAL S.H.</b>	<b>15</b>	COMM	100	Fundamentals of Speech	3
						<b>TOTAL S.H.</b>	<b>14</b>
<b>THIRD SEMESTER</b>				<b>FOURTH SEMESTER</b>			
BIOL	221	Concepts of Botany	4	BIOL	375	Biometry or MATH 235	3
or	211	Concepts of Zoology		BIOL	343	Ecology & Evolution	4
CHEM	235 <sup>a</sup>	Short Course Organic Chem	4	BIOL	362	Cell & Devel Biology, W	4
PHYS	131†	Physics I with Algebra	4	PHYS	132	Physics II with Algebra	4
G1		Humanities #1, W	3				
		<b>TOTAL S.H.</b>	<b>15</b>			<b>TOTAL S.H.</b>	<b>15</b>
<b>FIFTH SEMESTER</b>				<b>SIXTH SEMESTER</b>			
BIOL	Elec <sup>b</sup>	346-461 Organismal Bio Crse	3	BIOL	364	Genetics & Molecular Bio	4
G3††		Non-BIOL Environ Science #1	3-4	G3††		Non-BIOL Environ Science #2	3-4
CHEM	375 <sup>a</sup>	Environmental Chem	4	BIOL	446	Ecosystems, W	3
G1		Humanities #2, D	3	G1		Humanities #3	3
BIOL	Elec <sup>c</sup>	325-486 Dir Elec in Adv Eco	3	BIOL	498	Practical Experience	1-3
		<b>TOTAL S.H.</b>	<b>16-17</b>	or	300	Co-op (research)	
						<b>TOTAL S.H.</b>	<b>14-17</b>
<b>SEVENTH SEMESTER</b>				<b>EIGHTH SEMESTER</b>			
BIOL	Elec <sup>c</sup>	325-486 Dir Elec in Adv Eco	3	BIOL	Elec <sup>§</sup>	#2 for total of 49 BIOL s.h.	0-2
BIOL	344 <sup>§§</sup>	Pop & Comm Ecology	3	ENGL	312	or alt Advd Writing (AW)	3
or P		Perspectives Course (P)		G3/ELEC		Soc Sciences #2/Gen Elec**	3
G3		Social Sciences #1 or #3, W	3	BIOL	344 <sup>§§</sup>	Pop & Comm Ecology	3
BIOL		Biology Elective #1 <sup>§</sup>	3	or P		Perspectives Course (P)	
BIOL	472	Environ Bio Seminar	1-2	G3/ELEC		Soc Sciences #3/Gen Elec**	3
		<b>TOTAL S.H.</b>	<b>13-14</b>	ELEC		General Elective**	2-4
						<b>TOTAL S.H.</b>	<b>14-18</b>

† Can serve as a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

†† Only GEOG 281/295 or ECON 102/207 serve as G3; ECON 207 is a W course.

<sup>a</sup> Offered in Fall only / <sup>§§</sup> Offered in Fall or Spring, but not both.

<sup>b</sup> Organismal biology courses are BIOL 346, 396, 415, 416, 417, 418, 424 and 461.

<sup>c</sup> Directed electives in advanced ecology are BIOL 325, 329, 442, 443, 445, and 486 (BIOL 325 is recommended).

<sup>§</sup> Must be 300-level or above. / \*\* Credits required if needed to bring overall total to 120 s.h.

**Bachelor of Science in Biology: Environmental Biology Option**  
**SAMPLE PROGRAM (120 s.h. minimum) (Less Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
WELL	175	Wellness	3
MATH	101	College Algebra	3
G1		Humanities #1	3
ENGL	110	English Composition	3
		<i>TOTAL S.H.</i>	<u>16</u>

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
	or	221 Concepts of Botany	
CHEM	111†	Intro Chemistry I	4
MATH	151*	Calculus for Mgmt & Life Sci	4
COMM	100	Fundamentals of Speech	3
		<i>TOTAL S.H.</i>	<u>15</u>

**THIRD SEMESTER**

BIOL	221	Concepts of Botany	4
	or	211 Concepts of Zoology	
CHEM	112†	Intro Chemistry II	4
G3††		Non-BIOL Environ Science #1	3-4
G3		Social Science #1, W	3
		<i>TOTAL S.H.</i>	<u>14-15</u>

**FOURTH SEMESTER**

BIOL	362	Cell & Devel Biology, W	4
BIOL	343	Ecology & Evolution	4
G3††		Non-BIOL Environ Science #2	3-4
G1		Humanities #2, D	3
		<i>TOTAL S.H.</i>	<u>14-15</u>

**FIFTH SEMESTER**

BIOL	Elec <sup>b</sup>	346-461 Organismal Bio Crse	3
PHYS	131†	Physics I with Algebra	4
CHEM	235 <sup>a</sup>	Short Course in Organic Chem	4
BIOL	375	Biometry or MATH 235	3
BIOL	Elec <sup>c</sup>	325-486 Dir Elec in Adv Eco	3
		<i>TOTAL S.H.</i>	<u>16-17</u>

**SIXTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
PHYS	132	Physics II with Algebra	4
BIOL	446	Ecosystems, W	3
G1		Humanities #3, W	3
BIOL	498	Practical Experience	1-3
	or	300 Co-op (research)	(1-3)
		<i>TOTAL S.H.</i>	<u>15-17</u>

**SEVENTH SEMESTER**

BIOL	Elec <sup>c</sup>	325-486 Dir Elec in Adv Eco	3
BIOL	344 <sup>55</sup>	Pop & Comm Ecology	3
	or	BIOL Elective #2 <sup>5</sup>	(1-3)
G3/ELEC		Soc Sciences #2/Gen Elec**	3
CHEM	375 <sup>a</sup>	Environmental Chem	4
BIOL	472	Environ Bio Seminar	1-2
		<i>TOTAL S.H.</i>	<u>12-16</u>

**EIGHTH SEMESTER**

BIOL		Biology Elective #2 <sup>5</sup>	1-3
	or	BIOL 344 <sup>55</sup> Pop & Comm Ecology	(3)
BIOL	Elec <sup>5</sup>	#3 for total of 49 BIOL s.h.	0-4
ENGL	312	or alt Advd Writing (AW)	3
P		Perspectives Course (P)	3
G3/ELEC		Soc Sciences #3/Gen Elec**	2-3
ELEC		General Elective**	0-1
		<i>TOTAL S.H.</i>	<u>9-17</u>

† Can serve a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

†† Only GEOG 281/295 or ECON 102/207 serve as G3; ECON 207 is a W course.

<sup>a</sup> Offered in Fall only / <sup>55</sup> Offered in Fall or Spring, but not both.

<sup>b</sup> Organismal biology courses are BIOL 346, 396, 415, 416, 417, 418, 424 and 461.

<sup>c</sup> Directed electives in advanced ecology are BIOL 325, 329, 442, 443, 445, and 486 (BIOL 325 is recommended).

<sup>5</sup> Must be 300-level or above./\*\*Credits required if needed to bring overall total to 120 s.h.

**Bachelor of Science in Biology: Marine Option**  
**SAMPLE PROGRAM (120 s.h. minimum) (Well-Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
CHEM	111†	Intro Chemistry I	4
MATH	160	Precalculus or Calculus 1	4
ENGL	110	English Composition	3
		<i>TOTAL S.H.</i>	<u>15</u>

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
CHEM	112†	Intro Chemistry II	4
MATH	161	Calculus I	4
COMM	100	Fundamentals of Speech	3
		<i>TOTAL S.H.</i>	<u>15</u>

**THIRD SEMESTER**

BIOL	221	Concepts of Botany	4
BIOL	291 <sup>d</sup>	Marine Biology	4
CHEM	235 <sup>a</sup>	Short Course in Organic Chem	4
WELL	175	Wellness	3
		<i>TOTAL S.H.</i>	<u>15</u>

**FOURTH SEMESTER**

BIOL	343	Ecology & Evolution	4
BIOL	375	Biometry	3
G3		Social Sciences #1	3
ESCI	261†	Intro. Oceanography	4
		<i>TOTAL S.H.</i>	<u>14</u>

**SUMMER SESSION<sup>c</sup>**

BIOL	295	Marine Invertebrates	3
BIOL	396	Marine ichthyology	3
		<i>TOTAL S.H.</i>	<u>6</u>

**FIFTH SEMESTER**

BIOL	362	Cell & Devel Biol, W	4
PHYS	131	Physics I with Algebra	4
CHEM	375 <sup>a</sup>	Chem Elective	3-4
	or	G1 Humanities #1	
G3		Social Sciences #2, D	3
		<i>TOTAL S.H.</i>	<u>14-15</u>

**SIXTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
PHYS	132	Physics II with Algebra	4
ESCI	363	Chem Elective	3-4
	or	G1 Humanities #1	
G3		Social Sciences #3, W	3
		<i>TOTAL S.H.</i>	<u>14-15</u>

**SUMMER SESSION<sup>c</sup>**

BIOL		Biological Oceanography	3
		<i>TOTAL S.H.</i>	<u>3</u>

**SEVENTH SEMESTER**

BIOL	472	Marine Biology Seminar	1-2
BIOL		Biology Elective <sup>§</sup> #1	3-4
ENGL	312	or alt Advd Writing (AW)	3
G1		Humanities #2	3
ELEC		General Elective**	3
		<i>TOTAL S.H.</i>	<u>12-15</u>

**EIGHTH SEMESTER**

BIOL	Elec <sup>§</sup>	#2 for total of 47 BIOL s.h.	3-4
G1		Humanities #3, W	3
P		Perspectives Course (P)	3
ELEC		General Elective**	3
		<i>TOTAL S.H.</i>	<u>12-13</u>

<sup>a</sup>CHEM 235 and CHEM 375 are offered in Fall only/<sup>b</sup>ESCI 363 is offered in Spring of odd years.

<sup>c</sup>At a marine field station, such as the Chincoteague Bay Field Station, Wallops Island, VA.

<sup>d</sup>BIOL 291, taken at MU, may be replaced by BIOL 290 & BIOL 292, taken in combination, at a field station (not counting as field station courses - see footnote c).

† Can serve as a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

§ Must be 300-level or above/\*\*Credits required if needed to bring overall total to 120 s.h.

**Bachelor of Science in Biology: Marine Option**  
**SAMPLE PROGRAM (120 s.h. minimum) (Less Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
MATH	101	College Algebra	3
WELL	175	Wellness	3
ENGL	110	English Composition	3
G1		Humanities #1	3
		<b>TOTAL S.H.</b>	<b>16</b>

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
MATH	151*	Calculus for Mgmt & Life Sci	4
COMM	100	Fundamentals of Speech	3
G3		Social Sciences #1	3
		<b>TOTAL S.H.</b>	<b>14</b>

**THIRD SEMESTER**

BIOL	375	Biometry	3
BIOL	291 <sup>d</sup>	Marine Biology	4
CHEM	111†	Intro Chemistry I	4
G3		Social Sciences #2, D	3
		<b>TOTAL S.H.</b>	<b>14</b>

**FOURTH SEMESTER**

BIOL	221	Concepts of Botany	4
CHEM	112†	Intro Chemistry II	4
G1		Humanities #2, W	3
ESCI	261†	Intro. Oceanography	4
		<b>TOTAL S.H.</b>	<b>15</b>

**SUMMER SESSION<sup>c</sup>**

BIOL	295	Marine Invertebrates	3
BIOL	396	Marine Ichthyology	3
		<b>TOTAL S.H.</b>	<b>6</b>

**FIFTH SEMESTER**

BIOL	343	Ecology & Evolution	4
CHEM	235 <sup>a</sup>	Short Course in Organic Chem	4
ENGL	312	or alt Advd Writing (AW)	3
BIOL		Biology Elective <sup>§</sup> #1	2-4
		<b>TOTAL S.H.</b>	<b>13-15</b>

**SIXTH SEMESTER**

BIOL	362	Cell & Devel Biol, W	4
BIOL	Elec <sup>§</sup> #2	#2 for total of 47 BIOL s.h.	1-4
ESCI	363	Chem Elective	3-4
	or	G1 Humanities #3	
P		Perspectives Course (P)	3
		<b>TOTAL S.H.</b>	<b>13-14</b>

**SUMMER SESSION<sup>c</sup>**

BIOL		Biological Oceanography	3
		<b>TOTAL S.H.</b>	<b>3</b>

**SEVENTH SEMESTER**

BIOL	472	Marine Biology Seminar	1-2
BIOL	364	Genetics & Molecular	4
PHYS	131	Physics I with Algebra	4
CHEM	375 <sup>a</sup>	Chem Elective	3-4
	or	G1 Humanities #3	
		<b>TOTAL S.H.</b>	<b>12-14</b>

**EIGHTH SEMESTER**

ELEC		General Elective**	3
ELEC		General Elective**	3
PHYS	132	Physics II with Algebra	4
		<b>TOTAL S.H.</b>	<b>10</b>

<sup>a</sup>CHEM 235 and CHEM 375 are offered in Fall only/<sup>b</sup>ESCI 363 is offered in Spring of odd years.

<sup>c</sup>At a marine field station, such as the Chincoteague Bay Field Station, Wallops Island, VA.

<sup>d</sup>BIOL 291, taken at MU, may be replaced by BIOL 290 & BIOL 292, taken in combination, at a field station (not counting as field station courses - see footnote c).

† Can serve a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

§ Must be 300-level or above/\*\*Credits required if needed to bring overall total to 120 s.h.

**Bachelor of Science in Biology: Medical Technology**  
**SAMPLE PROGRAM (120 s.h. minimum) (Well-Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
CHEM	111†	Intro Chemistry I	4
COMM	100	Fundamentals of Speech	3
G1	_____	Humanities #1	3
		<i>TOTAL S.H.</i>	14

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
CHEM	112†	Intro Chemistry II	4
MATH	160*	Precalculus or Calculus 1 or 161(163)	4-5
ENGL	110	English Composition	3
		<i>TOTAL S.H.</i>	15-16

**THIRD SEMESTER**

BIOL	257 <sup>b</sup>	Intro to Allied Health	1
CHEM	235 <sup>b</sup>	Short Course in Organic Chem	4
BIOL	_____	Biology Elective #1 <sup>a</sup>	3-5
G3	_____	Social Sciences #1, W	3
WELL	175	Wellness	3
		<i>TOTAL S.H.</i>	14-16

**FOURTH SEMESTER**

BIOL	362	Cell & Devel Biology, W	4
BIOL	_____	Biology Elective #2 <sup>a</sup>	3-5
CHEM	326	Biochemistry I	4
G3	_____	Social Sciences #2, D	3
		<i>TOTAL S.H.</i>	14-16

**FIFTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
BIOL	461	General Micobiology	3
PHYS	131†	Physics I with Algebra	4
G1	_____	Humanities #2, W	3
G3	_____	Social Sciences #3	3
		<i>TOTAL S.H.</i>	17

**SIXTH SEMESTER**

BIOL	454 <sup>b</sup>	Immunology	2
BIOL	Elec #3 <sup>a</sup>	To a total of ≥8 BIOL s.h.	0-2
ENGL	312	or alt Advd Writing (AW)	3
P	_____	Perspectives Course (P)	3
G1	_____	Humanities #3	3
ELEC	_____	General Elective**	0-4
		<i>TOTAL S.H.</i>	11-17

**CLINICAL YEAR IS WORTH 30 TRANSFER CREDITS.**

† Can serve a a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

<sup>a</sup>Recommended Biology Electives: BIOL 356 (5 s.h.) or BIOL 254 (4 s.h.) & BIOL 255 (4 s.h.); and BIOL 375 (3 s.h.)

<sup>b</sup>BIOL 257 and CHEM 235 offered only in Fall Semester; BIOL 454 offered only in Spring Semester.

\*\*Credits required if needed to bring overall total to 120 s.h.

**Bachelor of Science in Biology: Medical Technology**  
**SAMPLE PROGRAM (120 s.h. minimum) (Less Prepared at Admission)**

<b>FIRST SEMESTER</b>			
BIOL	101	Foundations of Biology	4
MATH	101	College Algebra	3
ENGL	110	English Composition	3
G1		Humanities #1	3
WELL	175	Wellness	3
		<i>TOTAL S.H.</i>	<i>16</i>

<b>SECOND SEMESTER</b>			
BIOL	211	Concepts of Zoology	4
CHEM	111†	Intro Chemistry I	4
MATH	110*	Trigonometry/ or 160 Precalculus	4-6
COMM	100	Fundamentals of Speech	3
		<i>TOTAL S.H.</i>	<i>15-17</i>

<b>THIRD SEMESTER</b>			
BIOL	257 <sup>b</sup>	Intro to Allied Health	1
CHEM	112†	Intro Chemistry II	4
BIOL		Biology Elective #1 <sup>a</sup>	3-5
G3		Social Sciences #1, D	3
G1		Humanities #2, W	3
		<i>TOTAL S.H.</i>	<i>14-16</i>

<b>FOURTH SEMESTER</b>			
BIOL	362	Cell & Devel Biology, W	4
BIOL		Biology Elective #2 <sup>a</sup>	3-5
BIOL	364	Genetics & Molecular	4
G1		Humanities #3	3
		<i>TOTAL S.H.</i>	<i>14-16</i>

<b>FIFTH SEMESTER</b>			
CHEM	235 <sup>b</sup>	Short Course in Organic Chem	4
BIOL	461	General Micobiology	3
PHYS	131†	Physics I with Algebra	4
G3		Social Sciences #2, W	3
G3		Social Sciences #3	3
		<i>TOTAL S.H.</i>	<i>17</i>

<b>SIXTH SEMESTER</b>			
BIOL	454 <sup>b</sup>	Immunology	2
CHEM	326	Biochemistry I	4
ENGL	312	or alt Advd Writing (AW)	3
P		Perspectives Course (P)	3
BIOL	Elec #3	<sup>a</sup> To a total of ≥8 BIOL s.h.	0-3
ELEC		General Elective**	0
		<i>TOTAL S.H.</i>	<i>12-15</i>

**CLINICAL YEAR IS WORTH 30 TRANSFER CREDITS.**

† Can serve a a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

<sup>a</sup>Recommended Biology Electives: BIOL 356 (5 s.h.) or BIOL 254 (4 s.h.) & BIOL 255 (4 s.h.); and BIOL 375 (3 s.h.)

<sup>b</sup>BIOL 257 and CHEM 235 offered only in Fall Semester; BIOL 454 offered only in Spring Semester.

\*\*Credits required if needed to bring overall total to 120 s.h.

**Bachelor of Science in Biology: Molecular Biology/Biotechnology Option**  
**SAMPLE PROGRAM (120 s.h. minimum) (Well-Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
CHEM	111†	Intro Chemistry I	4
MATH	160* or 161(163)	Precalculus or Calculus 1	4-5
COMM	100	Fundamentals of Speech	3
<i>TOTAL S.H.</i>			<u>15-16</u>

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
	or 221	Concepts of Botany	
CHEM	112†	Intro Chemistry II	4
MATH	161†	Calculus I or	3-4
	or other	(II, Stats or CSCI)	
ENGL	110	English Composition	3
<i>TOTAL S.H.</i>			<u>14-15</u>

**THIRD SEMESTER**

BIOL	221	Concepts of Botany	4
	or 211	Concepts of Zoology	
CHEM	231	Organic Chem I	4
PHYS	131†	Physics I with Algebra	4
WELL	175	Wellness	3
<i>TOTAL S.H.</i>			<u>15</u>

**FOURTH SEMESTER**

BIOL	362	Cell & Devel Biology, W	4
CHEM	232	Organic Chem II	4
PHYS	132	Physics II with Algebra	4
G1	_____	Humanities #1	3
<i>TOTAL S.H.</i>			<u>15</u>

**FIFTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
CHEM	326†	Biochemistry I	4
G1	_____	Humanities #2	3
G3	_____	Social Sciences #1, W	3
<i>TOTAL S.H.</i>			<u>14</u>

**SIXTH SEMESTER**

BIOL	343	Ecology & Evolution	4
CHEM	327†	Biochemistry II	4
G3	_____	Social Sciences #2	3
ENGL	312	or alt Advd Writing (AW)	3
<i>TOTAL S.H.</i>			<u>14</u>

**SEVENTH SEMESTER**

BIOL	462	Molecular Biology, W	4
BIOL	Elec <sup>§</sup>	463, 465 or 467 recommended	3-4
G3	_____	Social Sciences #3	3
D	_____	Diversity Course (D)	3
G1	_____	Humanities #3	3
<i>TOTAL S.H.</i>			<u>16-17</u>

**EIGHTH SEMESTER**

BIOL	472	Seminar in Biology (MOL)	1-2
BIOL	466	Molecular & Cell Techniques	3
BIOL	Elec <sup>§</sup>	463, 465 or 467 recommended	3-4
BIOL	Elec <sup>§</sup>	For total of 39 BIOL s.h.	0-1
P	_____	Perspectives Course (P)	3
ELEC	_____	General Elective**	3
ELEC	_____	General Elective**	1-3
<i>TOTAL S.H.</i>			<u>14-17</u>

† Can serve a a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

§ Must be 300-level or above.

\*\*Credits required if needed to bring overall total to 120 s.h.

**Bachelor of Science in Biology: Molecular Biology/Biotechnology Option**  
**SAMPLE PROGRAM (120 s.h. minimum) (Less Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
MATH	101	College Algebra	3
COMM	100	Fundamentals of Speech	3
WELL	175	Wellness	3
G1	_____	Humanities #1	3
		<b>TOTAL S.H.</b>	<u>16</u>

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
	or 221	Concepts of Botany	
CHEM	111†	Intro Chemistry I	4
MATH	110*	Trigonometry/	4-6
	or 160	Precalculus	
ENGL	110	English Composition	3
		<b>TOTAL S.H.</b>	<u>15-17</u>

**THIRD SEMESTER**

BIOL	221	Concepts of Botany	4
or	211	Concepts of Zoology	
CHEM	112†	Intro Chemistry II	4
MATH	161†	Calculus 1	4
G1	_____	Humanities #2	3
		<b>TOTAL S.H.</b>	<u>15</u>

**FOURTH SEMESTER**

BIOL	362	Cell & Devel Biology, W	4
CHEM	231	Organic Chem I	4
D	_____	Diversity Course (D)	3
G1	_____	Humanities #3	3
G3	_____	Social Sciences #1	3
		<b>TOTAL S.H.</b>	<u>17</u>

**FIFTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
CHEM	232	Organic Chem II	4
PHYS	131	Physics I with Algebra	4
G3	_____	Social Sciences #2	3
		<b>TOTAL S.H.</b>	<u>15</u>

**SIXTH SEMESTER**

BIOL	343	Ecology & Evolution	4
PHYS	132	Physics II with Algebra	4
G3	_____	Social Sciences #3, W	3
BIOL	Elec <sup>§</sup>	463, 465 or 467 recommended	3-4
		<b>TOTAL S.H.</b>	<u>14-15</u>

**SEVENTH SEMESTER**

BIOL	462	Molecular Biology, W	4
CHEM	326	Biochemistry I	4
BIOL	Elec <sup>§</sup>	463, 465 or 467 recommended	3-4
BIOL	Elec <sup>§</sup>	For total of 39 BIOL s.h.	0-1
ENGL	312	or alt Advd Writing (AW)	3
		<b>TOTAL S.H.</b>	<u>14-15</u>

**EIGHTH SEMESTER**

BIOL	472	Seminar in Biology (MOL)	1-2
BIOL	466	Molecular & Cell Techniques	3
CHEM	327†	Biochemistry II	4
or	324	Plant Biochemistry	
P	_____	Perspectives Course (P)	3
ELEC	_____	General Elective**	0-2
		<b>TOTAL S.H.</b>	<u>11-14</u>

† Can serve a a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

§ Must be 300-level or above.

\*\*Credits required if needed to bring overall total to 120 s.h.

**Bachelor of Science in Biology: Nuclear Medicine Option**  
**SAMPLE PROGRAM (120 s.h. minimum) (Well-Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
CHEM	111†	Intro Chemistry I	4
COMM	100	Fundamentals of Speech	3
G1	_____	Humanities #1	3
		<i>TOTAL S.H.</i>	<i>14</i>

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
CHEM	112†	Intro Chemistry II	4
MATH	160*	Precalculus or Calculus 1 or 161(163)	4-5
ENGL	110	English Composition	3
		<i>TOTAL S.H.</i>	<i>15-16</i>

**THIRD SEMESTER**

BIOL	257 <sup>a</sup>	Intro to Allied Health	1
CHEM	235 <sup>a</sup>	Short Course in Organic Chem	4
BIOL	362	Cell & Devel Biol, W	4
G3	_____	Social Sciences #1	3
WELL	175	Wellness	3
		<i>TOTAL S.H.</i>	<i>15</i>

**FOURTH SEMESTER**

BIOL	356 <sup>a</sup>	Functional Human Anatomy	5
CHEM	326	Biochemistry I	4
BIOL	375	Biometry	3
G3	_____	Social Sciences #2, W	3
		<i>TOTAL S.H.</i>	<i>15</i>

**FIFTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
PHYS	131†	Physics with Algebra I	4
G1	_____	Humanities #2, W	3
P	_____	Perspectives Course (P)	3
G3	_____	Social Sciences #3, D	3
		<i>TOTAL S.H.</i>	<i>17</i>

**SIXTH SEMESTER**

PHYS	132	Physics with Algebra II	4
ENGL	312	or alt Advd Writing (AW)	3
G1	_____	Humanities #3	3
ELEC	_____	General Elective**	3
ELEC	_____	General Elective**	2-3
		<i>TOTAL S.H.</i>	<i>15-16</i>

**CLINICAL YEAR IS WORTH 28 CREDITS.**

† Can serve as a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

<sup>a</sup>BIOL 257 and CHEM 235 offered only in Fall Semester; BIOL 356 offered only in Spring Semester.

\*\*Credits required if needed to bring overall total to 120 s.h.

**Bachelor of Science in Biology: Nuclear Medicine Option**  
**SAMPLE PROGRAM (120 s.h. minimum) (Less Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
MATH	101	College Algebra	3
ENLG	110	English Composition	3
G1		Humanities #1	3
WELL	175	Wellness	3
		<i>TOTAL S.H.</i>	<u>16</u>

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
CHEM	111†	Intro Chemistry I	4
MATH	110*	Trigonometry/ or 160 Precalculus	4-6
COMM	100	Fundamentals of Speech	3
		<i>TOTAL S.H.</i>	<u>15-17</u>

**THIRD SEMESTER**

BIOL	257 <sup>a</sup>	Intro to Allied Health	1
CHEM	112†	Intro Chemistry II	4
BIOL	362	Cell & Devel Biol, W	4
G3		Social Sciences #1	3
G1		Humanities #2, D	3
		<i>TOTAL S.H.</i>	<u>15</u>

**FOURTH SEMESTER**

BIOL	356 <sup>a</sup>	Functional Human Anatomy	5
BIOL	364	Genetics & Molecular	4
G1		Humanities #3, W	3
G3		Social Sciences #2	3
		<i>TOTAL S.H.</i>	<u>15</u>

**FIFTH SEMESTER**

BIOL	375	Biometry	3
PHYS	131†	Physics with Algebra I	4
CHEM	235 <sup>a</sup>	Short Course in Organic Chem	4
G3		Social Sciences #3, W	3
		<i>TOTAL S.H.</i>	<u>17</u>

**SIXTH SEMESTER**

PHYS	132	Physics with Algebra II	4
ENGL	312	or alt Advd Writing (AW)	3
CHEM	326	Biochemistry I	4
P		Perspectives Course (P)	3
ELEC		General Elective**	1-3
		<i>TOTAL S.H.</i>	<u>15-16</u>

**CLINICAL YEAR IS WORTH 28 CREDITS.**

† Can serve a a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

<sup>a</sup>BIOL 257 and CHEM 235 offered only in Fall Semester; BIOL 356 offered only in Spring Semester.

\*\*Credits required if needed to bring overall total to 120 s.h.

**Bachelor of Science in Biology: Pre-Optometry Option**  
**SAMPLE PROGRAM (120 s.h. minimum) (Well-Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
CHEM	111†	Intro Chemistry I	4
MATH	160*	Precalculus or Calculus 1 or 161(163)	4-5
COMM	100	Fundamentals of Speech	3
		<b>TOTAL S.H.</b>	<u>15-16</u>

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
CHEM	112†	Intro Chemistry II	4
MATH	161†	Calculus I or or other (II, Stats or CSCI)	3-4
ENGL	110	English Composition	3
G1		Humanities #1	3
		<b>TOTAL S.H.</b>	<u>17-18<sup>§</sup></u>

**THIRD SEMESTER**

BIOL	375	Biometry	3
PSYC	100	General Psychology (G3 #1)	3
CHEM	231	Organic Chem I	4
PHYS	131	Physics I with Algebra	4
G1		Humanities #2, W	3
		<b>TOTAL S.H.</b>	<u>17</u>

**FOURTH SEMESTER**

BIOL	362	Cell & Devel Biology, W	4
CHEM	232	Organic Chem II	4
PHYS	132	Physics II with Algebra	4
WELL	175	Wellness	3
		<b>TOTAL S.H.</b>	<u>15</u>

**FIFTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
BIOL	461	General Microbiology	3
P		Perspectives Course (P)	3
G1		Humanities #3	3
G3		Social Sciences #2, W	3
		<b>TOTAL S.H.</b>	<u>16</u>

**SIXTH SEMESTER**

BIOL	472	Senior Seminar	1-2
CHEM	326	Biochemistry I	4
ENGL	312	or alt Advd Writing (AW)	3
G3		Social Sciences #3, D	3
ELEC		General Elective** <sup>a</sup>	3-6
		<b>TOTAL S.H.</b>	<u>15-17</u>

**CLINICAL YEAR IS WORTH 23 CREDITS.**

† Can serve a a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

§ NOTE: Student will need to wait until the end of registration to enroll in >17 credits, or one of these courses could be completed during Winter or Summer.

<sup>a</sup>BIOL 356 Functional Human Anatomy (5 s.h.) and/or BIOL 438 Neurobiology (3 s.h.) are recommended.

\*\*Credits required if needed to bring overall total to 120 s.h.

**Bachelor of Science in Biology: Pre-Optometry Option**  
**SAMPLE PROGRAM (120 s.h. minimum) (Less Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
MATH	101	College Algebra	3
ENGL	110	English Composition	3
G1		Humanities #1	3
WELL	175	Wellness	3
		<i>TOTAL S.H.</i>	16

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
CHEM	111†	Intro Chemistry I	4
MATH	110*	Trigonometry/ or 160 Precalculus	4-6
COMM	100	Fundamentals of Speech	3
		<i>TOTAL S.H.</i>	15-17

**THIRD SEMESTER**

BIOL	375	Biometry	3
PSYC	100	General Psychology (G3 #1)	3
CHEM	112†	Intro Chemistry II	4
PHYS	131†	Physics I with Algebra	4
MATH	161	Calculus I	4
		<i>TOTAL S.H.</i>	18 <sup>§</sup>

**FOURTH SEMESTER**

BIOL	362	Cell & Devel Biology, W	4
CHEM	231	Organic Chem I	4
PHYS	132	Physics II with Algebra	4
G1		Humanities #2, D	3
		<i>TOTAL S.H.</i>	15

**FIFTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
BIOL	461	General Microbiology	3
CHEM	232	Organic Chem II	4
G1		Humanities #3	3
G3		Social Sciences #2, W	3
		<i>TOTAL S.H.</i>	17

**SIXTH SEMESTER**

BIOL	472	Senior Seminar	1-2
CHEM	326	Biochemistry I	4
ENGL	312	or alt Advd Writing (AW)	3
G3		Social Sciences #3, W	3
P		Perspectives Course (P)	3
ELEC		General Elective** <sup>a</sup>	0-2
		<i>TOTAL S.H.</i>	14-17

**CLINICAL YEAR IS WORTH 23 CREDITS.**

† Can serve as a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

§ NOTE: Student will need to wait until the end of registration to enroll in >17 credits, or one of these courses could be completed during Winter or Summer.

<sup>a</sup>BIOL 356 Functional Human Anatomy (5 s.h.) and/or BIOL 438 Neurobiology (3 s.h.) are recommended.

\*\*Credits required if needed to bring overall total to 120 s.h.

**Bachelor of Science in Biology: Pre-Podiatry Option**  
**SAMPLE PROGRAM (120 s.h. minimum) (Well-Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
CHEM	111†	Intro Chemistry I	4
MATH	160*	Precalculus or Calculus 1 or 161(163)	4-5
COMM	100	Fundamentals of Speech	3
		<b>TOTAL S.H.</b>	<u>15-16</u>

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
CHEM	112†	Intro Chemistry II	4
MATH <sup>§</sup>	161†	Calculus I	4
ENGL	110	English Composition	3
		<b>TOTAL S.H.</b>	<u>15</u>

**THIRD SEMESTER**

BIOL	275 <sup>a</sup>	Intro to Allied Health	1
CHEM	231	Organic Chem I	4
PHYS	131	Physics I with Algebra	4
BIOL	362	Cell & Devel Biol, W	4
G3		Social Sciences #1	3
		<b>TOTAL S.H.</b>	<u>16</u>

**FOURTH SEMESTER**

BIOL	356 <sup>a</sup>	Functional Human Anatomy	5
CHEM	232	Organic Chem II	4
PHYS	132	Physics II with Algebra	4
WELL	175	Wellness	3
		<b>TOTAL S.H.</b>	<u>16</u>

**FIFTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
BIOL	435 <sup>a</sup>	Animal Physiology	3
CHEM	326	Biochemistry	4
G1		Humanities #1	3
G3		Social Sciences #2, W	3
		<b>TOTAL S.H.</b>	<u>17</u>

**SIXTH SEMESTER**

ENGL	312	or alt Advd Writing (AW)	3
P		Perspectives Course (P)	3
G1		Humanities #2, W	3
G1		Humanities #3	3
G3		Social Sciences #3, D	3
ELEC		General Elective <sup>**a</sup>	1-2
		<b>TOTAL S.H.</b>	<u>16-17</u>

**CLINICAL YEAR IS WORTH 24 CREDITS.**

† Can serve a a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

§ Take a General Elective for ≥3 s.h. if Calculus I requirement has already been completed.

<sup>a</sup>BIOL 257 and BIOL 435 offered only in Fall Semester; BIOL 356 offered only in Spring semester.

<sup>\*\*</sup>Credits required if needed to bring overall total to 120 s.h.

**Bachelor of Science in Biology: Pre-Podiatry Option**  
**SAMPLE PROGRAM (120 s.h. minimum) (Less Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
MATH	101	College Algebra	3
ENGL	110	English Composition	3
G1		Humanities #1	3
WELL	175	Wellness	3
		<i>TOTAL S.H.</i>	<u>16</u>

**SECOND SEMESTER**

BIOL	211	Concepts of Zoology	4
CHEM	111†	Intro Chemistry I	4
MATH	110*	Trigonometry/ or 160 Precalculus	4-6
COMM	100	Fundamentals of Speech	3
		<i>TOTAL S.H.</i>	<u>15-17</u>

**THIRD SEMESTER**

BIOL	257 <sup>a</sup>	Intro to Allied Health	1
BIOL	362	Cell & Devel Biol, W	4
CHEM	112†	Intro Chemistry II	4
PHYS	131†	Physics I with Algebra	4
MATH	161	Calculus I	4
		<i>TOTAL S.H.</i>	<u>17</u>

**FOURTH SEMESTER**

BIOL	356 <sup>a</sup>	Functional Human Anatomy	5
CHEM	231	Organic Chem I	4
PHYS	132	Physics II with Algebra	4
G3		Social Sciences #1, W	3
		<i>TOTAL S.H.</i>	<u>16</u>

**FIFTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
BIOL	435 <sup>a</sup>	Animal Physiology	3
CHEM	232	Organic Chem II	4
G1		Humanities #2	3
G3		Social Sciences #2, D	3
		<i>TOTAL S.H.</i>	<u>17</u>

**SIXTH SEMESTER**

CHEM	326	Biochemistry I	4
ENGL	312	or alt Advd Writing (AW)	3
G1		Humanities #3	3
G3		Social Sciences #3, W	3
P		Perspectives Course (P)	3
		<i>TOTAL S.H.</i>	<u>16</u>

**CLINICAL YEAR IS WORTH 24 CREDITS.**

† Can serve a a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

§ Take a General Elective for ≥3 s.h. if Calculus I requirement has already been completed.

<sup>a</sup>BIOL 257 and BIOL 435 offered only in Fall Semester; BIOL 356 offered only in Spring semester.

\*\*Credits required if needed to bring overall total to 120 s.h.

**Bachelor of Science in Biology: Respiratory Therapy**  
**SAMPLE PROGRAM (120 s.h. minimum) (Well-Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
CHEM	111†	Intro Chemistry I	4
MATH	160*	Precalculus or Calculus 1 or 161(163)	4-5
COMM	100	Fundamentals of Speech	3
<i>TOTAL S.H.</i>			15-16

**SECOND SEMESTER**

CHEM	112†	Intro Chemistry II	4
MATH	161†	Calculus I	4
ENGL	110	English Composition	3
G1	_____	Humanities #1	3
<i>TOTAL S.H.</i>			14

**THIRD SEMESTER**

BIOL	275 <sup>5</sup>	Intro to Allied Health	1
CHEM	235 <sup>5</sup>	Short Course in Organic Chem	4
PHYS	131	Physics I with Algebra	4
G1	_____	Humanities #2, D	3
G3	_____	Social Sciences #1, W	3
<i>TOTAL S.H.</i>			16

**FOURTH SEMESTER**

BIOL	362	Cell & Devel Biol, W	4
G3	_____	Social Sciences #2 <sup>a</sup>	3
G1	_____	Humanities #3	3
WELL	175	Wellness	3
<i>TOTAL S.H.</i>			13

**FIFTH SEMESTER**

BIOL	364	Genetics & Molecular Bio	4
BIOL	461	General Microbiology	3
P	_____	Perspectives Course (P)	3
G3	_____	Social Sciences #3, W <sup>b</sup>	3
ELEC	_____	General Elective <sup>b</sup>	3
<i>TOTAL S.H.</i>			16

**SIXTH SEMESTER**

ENGL	312	or alt Advd Writing (AW)	3
CHEM	326	Biochemistry I	4
BIOL	356 <sup>5</sup>	Functional Human Anatomy	5
ELEC	_____	General Elective <sup>c</sup>	2-3
ELEC	_____	General Elective <sup>c</sup>	0-1
<i>TOTAL S.H.</i>			16-17

**SUMMER SESSION**

RESP	410	Acute Cardipulmonary Care	2
RESP	411	Resp Care Techniques I	2
RESP	412	Princ of Aerosol & Gas Ther	3
RESP	422	Pharmacology	2
RESP	420	Arterial Blood Gas Analysis	3
<i>TOTAL S.H.</i>			12

**SEVENTH SEMESTER**

RESP	413	Resp Assessment & Therapy	4
RESP	421	Phys Mechanical Ventilation	2
RESP	414	Resp Care Techniques II	3
RESP	460	Clinical Practice I	2
RESP	425	Neonatology	2
RESP	419	Resp Care in Alt Sites	2
<i>TOTAL S.H.</i>			15

**WINTER SESSION**

RESP	461	Clinical Practicum I	1
<i>TOTAL S.H.</i>			1

**EIGHTH SEMESTER\*\***

BIOL	352	Nutritional Science	3
RESP	417	Resp Care Techniques III (W)	3
RESP	415	Tech Aspects Mech Vent	3
RESP	423	Infectious Diseases	2
RESP	424	Non-Infectious Diseases	2
RESP	462	Clinical Practice II	2
<i>TOTAL S.H.</i>			15

**SUMMER SESSION**

RESP	463	Clinical Practicum II	2
<i>TOTAL S.H.</i>			2

**NINTH SEMESTER**

RESP	464	Clinical Practicum III	10
RESP	495	Resp Care Research	2
<i>TOTAL S.H.</i>			12

† Can serve a a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

<sup>a</sup>Psychology 100 is a recommended G3 course.

<sup>5</sup>BIOL 257 and CHEM 235 offered only in Fall Semester; BIOL 356 offered only in the Spring Semester.

<sup>b</sup>It is recommended that students take their 3rd writing course on campus; however, RESP 417 offered in the clinical phase can be counted as a 3rd writing course at the completion of the program.

<sup>c</sup>Credits required if needed to bring overall total to 120 s.h.

\*\*Students will have earned enough credits to graduate after completion of this spring term.

**Bachelor of Science in Biology: Respiratory Therapy**  
**SAMPLE PROGRAM (120 s.h. minimum) (Less Prepared at Admission)**

**FIRST SEMESTER**

BIOL	101	Foundations of Biology	4
MATH	101	College Algebra	3
G1		Humanities #1	3
WELL	175	Wellness	3
COMM	100	Fundamentals of Speech	3
		<b>TOTAL S.H.</b>	<b>16</b>

**SECOND SEMESTER**

CHEM	111†	Intro Chemistry I	4
MATH	110*	Trigonometry/ or 160 Precalculus	4-6
G3		Social Sciences #1 <sup>a</sup>	3
ENGL	110	English Composition	3
		<b>TOTAL S.H.</b>	<b>14-16</b>

**THIRD SEMESTER**

BIOL	275 <sup>§</sup>	Intro to Allied Health	1
CHEM	112†	Intro Chemistry II	4
BIOL	362	Cell & Devel Biol., W	4
MATH	161†	Calculus I	4
G1		Humanities #2, D	3
		<b>TOTAL S.H.</b>	<b>16</b>

**FOURTH SEMESTER**

BIOL	364	Genetics & Molecular	4
BIOL	356 <sup>§</sup>	Functional Human Anatomy	5
G3		Social Sciences #2, W	3
G1		Humanities #3	3
		<b>TOTAL S.H.</b>	<b>15</b>

**FIFTH SEMESTER**

CHEM	235 <sup>§</sup>	Short Course in Organic Chem	4
BIOL	461	General Microbiology	3
PHYS	131	Physics I with Algebra	4
G3		Social Sciences #3, W <sup>b</sup>	3
		<b>TOTAL S.H.</b>	<b>14</b>

**SIXTH SEMESTER**

ENGL	312	or alt Advd Writing (AW)	3
CHEM	326	Biochemistry I	4
P		Perspectives Course (P)	3
ELEC		General Elective <sup>c</sup>	1-3
		<b>TOTAL S.H.</b>	<b>11-13</b>

**SUMMER SESSION**

RESP	410	Acute Cardipulmonary Care	2
RESP	411	Resp Care Techniques I	2
RESP	412	Princ of Aerosol & Gas Ther	3
RESP	422	Pharmacology	2
RESP	420	Arterial Blood Gas Analysis	3
		<b>TOTAL S.H.</b>	<b>12</b>

**SEVENTH SEMESTER**

RESP	413	Resp Assessment & Therapy	4
RESP	421	Phys Mechanical Ventilation	2
RESP	414	Resp Care Techniques II	3
RESP	460	Clinical Practice I	2
RESP	425	Neonatology	2
RESP	419	Resp Care in Alt Sites	2
		<b>TOTAL S.H.</b>	<b>15</b>

**WINTER SESSION**

RESP	461	Clinical Practicum I	1
		<b>TOTAL S.H.</b>	<b>1</b>

**EIGHTH SEMESTER\*\***

BIOL	352	Nutritional Science	3
RESP	417	Resp Care Techniques III (W)	3
RESP	415	Tech Aspects Mech Vent	3
RESP	423	Infectious Diseases	2
RESP	424	Non-Infectious Diseases	2
RESP	462	Clinical Practice II	2
		<b>TOTAL S.H.</b>	<b>15</b>

**SUMMER SESSION**

RESP	463	Clinical Practicum II	2
		<b>TOTAL S.H.</b>	<b>2</b>

**NINTH SEMESTER**

RESP	464	Clinical Practicum III	10
RESP	495	Resp Care Research	2
		<b>TOTAL S.H.</b>	<b>12</b>

† Can serve a a non-BIOL G2 course / \* Can serve as a G2 required MATH course.

<sup>a</sup>Psychology 100 is a recommended G3 course.

<sup>§</sup>BIOL 257 and CHEM 235 offered only in Fall Semester; BIOL 356 offered only in the Spring Semester.

<sup>b</sup>It is recommended that students take their 3rd writing course on campus; however, RESP 417 offered in the clinical phase can be counted as a 3rd writing course at the completion of the program.

<sup>c</sup>Credits required if needed to bring overall total to 120 s.h.

\*\*Students will have earned enough credits to graduate after completion of this spring term.