

GENERAL BIO 3+1						
Year 1	Fall			Spring		
	CLU 195	College Life at Union	2	CHE 211	Analytical Chem I	3
	ENG 111	Written Composition I*	3	CHE 221	Analytical Chem Lab I	2
	CHE 111	General Chemistry I*	4	ENG 112	Written Composition II*	3
	BIO 112	Principles of Biology*	4	BIO 214	Vertebrate Zoology*	4
	CHR 111	Old Testament	3	BIO 211	Microbiology*	4
			16			16
	Winter			Summer		
CHE 112	Chemical Equilibrium*	4	HIS101	World Civilization I	3	
PEWS 100	Fitness for Health	1	CHR 112	New Testament	3	
		5			6	
Year 2	Fall			Spring		
	BIO 395	Adv. Human A&P*	4	MAT 212	Calculus w/ Anal. Geo. II*	4
	ENG 201	World Literature I*	3	CHE 315	Organic Chemistry II*	3
	CHE 314	Organic Chemistry I*	3	CHE 326	Organic Chem II Lab*	2
	CHE 324	Organic Chemistry I Lab*	2	BIO 396	Adv. Human A&P II*	4
	MAT 211	Calculus w/ Anal. Geo. *	4	SOC 211	Principles of Sociology*	3
	BIO 302	Seminar Attendance	0	PEWS 1xx	PEWS activity	1
			16			17
	Winter			Summer		
	ENG 202	World Literature II*	3	COM 112	Public Communication*	3
		3	HIS 102	World Civilization II	3	
					6	
Year 3	Fall			Spring		
	BIO 320	Immunology*	4	MAT 208	Statistics*	3
	CHE 319	Biochemistry*	4	CHE 329	Biochemistry II*	3
	PHY 231	Physics w/ Calc I*	5	BIO 315	Genetics	4
	PSY 213	Intro to Psychology*	3	PHY 232	Physics w/ Calc II*	5
			16	BIO 397	Collab. Res. Exp.	2
						17
	Winter					
ART 210	The Arts in Western Civ	3				
		3				
Year 4	Fall					
	BIO 213	Invertebrate Biology	4			
	BIO 215	Botany	4			
	BIO 3XX	Biology Elective	4			
	BIO 3XX	Biology Elective	4			
	BIO 498	Biology Seminar	1			
			17			
[December Graduation]						

Asterisks (*) indicate those courses required or strongly recommended for Union University and other pharmacy schools.

CELL BIO 3+1						
Year 1	Fall			Spring		
	CLU 195	College Life at Union	2	CHE 211	Analytical Chem I	3
	ENG 111	Written Composition I*	3	CHE 221	Analytical Chem Lab I	2
	CHE 111	General Chemistry I*	4	ENG 112	Written Composition II*	3
	BIO 112	Principles of Biology*	4	BIO 214	Vertebrate Zoology*	4
	CHR 111	Old Testament	3	BIO 211	Microbiology*	4
	16			16		
Year 2	Winter			Summer		
	CHE 112	Chemical Equilibrium*	4	HIS101	World Civilization I	3
	PEWS 100	Fitness for Health	1	CHR 112	New Testament	3
5			6			
Year 2	Fall			Spring		
	BIO 395	Adv. Human A&P*	4	MAT 212	Calculus w/ Anal. Geo. II*	4
	ENG 201	World Literature I*	3	CHE 315	Organic Chemistry II*	3
	CHE 314	Organic Chemistry I*	3	CHE 326	Organic Chem II Lab*	2
	CHE 324	Organic Chemistry I Lab*	2	BIO 396	Adv. Human A&P II*	4
	MAT 211	Calculus w/ Anal. Geo. *	4	MAT 208	Statistics*	3
	BIO 302	Seminar Attendance	0	PEWS 1xx	PEWS activity	1
	16			17		
	Winter			Summer		
	PSY 213	Intro to Psychology*	3	ENG 202	World Literature II*	3
3			3			
			6			
Year 3	Fall			Spring		
	BIO 320	Immunology*	4	BIO 325	Molecular Biology	4
	CHE 319	Biochemistry*	4	CHE 329	Biochemistry II*	3
	PHY 231	Physics w/ Calc I*	5	BIO 315	Genetics	4
	BIO 323	Cell Biology	3	PHY 232	Physics w/ Calc II*	5
	16			2		
				18		
	Winter			Summer		
SOC 211	Principles of Sociology*	3	COM 112	Public Communication*	3	
3			3			
			6			
Year 4	Fall					
	BIO 317	Developmental Biology	4			
	BIO 3XX	Biology Elective	4			
	Elective	General Elective	4			
	BIO 498	Biology Seminar	1			
13						
[December Graduation]						

4YR GENERAL BIO OPTION A

Year 1	Fall			Spring		
	CLU 195	College Life at Union	2	CHE 211	Analytical Chem I	3
	ENG 111	Written Composition I*	3	CHE 221	Analytical Chem Lab I	2
	CHE 111	General Chemistry I*	4	ENG 112	Written Composition II*	3
	BIO 112	Principles of Biology*	4	BIO 214	Vertebrate Zoology*	4
	CHR 111	Old Testament*	3	CHR 112	New Testament	3
			16			15
	Winter					
	CHE 112	Chemical Equilibrium*	4			
	PEWS 100	Fitness for Health	1			
		5				

Year 2	Fall				Spring		
	BIO 211	Microbiology*	4	MAT 212	Calculus w/ Anal. Geo. II*	4	
	ENG 201	World Literature I*	3	CHE 315	Organic Chemistry II*	3	
	CHE 314	Organic Chemistry I*	3	CHE 326	Organic Chem II Lab*	2	
	CHE 324	Organic Chemistry I Lab*	2	ENG 202	World Literature II*	3	
	MAT 211	Calculus w/ Anal. Geo.*	4	MAT 208	Statistics*	3	
			<u>16</u>	PEWS 1xx	PEWS activity	<u>1</u>	
					<u>16</u>		

Year 3	Fall			Spring		
	BIO 213	Invertebrate Biology	4	BIO 396	Adv. Human A&P II*	4
	CHE 319	Biochemistry*	4	CHE 329	Biochemistry II*	3
	PHY 231	Physics w/ Calc I*	5	BIO 315	Genetics*	4
	BIO 395	Adv. Human A&P I*	4	PHY 232	Physics w/ Calc II*	5
	BIO 302	Seminar Attendance	0	BIO 425	Intro to Research	1
			17			17

Year 4	Fall			Spring		
	BIO 320	Immunology*	4	BIO 3XX	Biology Elective	4
	BIO 215	Botany	4	HIS 102	World Civilization II	3
	HIS 101	World Civilization I	3	SOC 211	Principles of Sociology*	3
	ART 210	The Arts in Western Civ	3	PSY 213	Intro to Psychology*	3
	BIO 426	Research Experience	1	BIO 427	Research Presentation	1
	BIO 498	Biology Seminar	1	COM 112	Public Communication*	3
		<u>16</u>			<u>17</u>	

4YR GENERAL BIO OPTION B

For option B, use the same schedule as above, making the following changes by year and semester.

Year 2	Summer	
	BIO 3XX	Biology Elective (ADD) $\frac{4}{4}$

		Spring
Year 3	BIO 425	Intro to Resear. (OMIT) $\frac{-1}{16}$

Year 4	Fall		Spring	
	BIO 426	Research Exper. (OMIT) -1	BIO 427	Research Pres. (OMIT) -1
	BIO 498	Biology Seminar (OMIT) -1	BIO 498	Biology Seminar (ADD) <u>1</u>
	BIO 397	Collab. Res. Exp. (ADD) <u>2</u>		<u>17</u>
		16		

4YR CELL BIO OPTION A

Year 1	Fall				Spring		
	CLU 195	College Life at Union	2		CHE 211	Analytical Chem I	3
	ENG 111	Written Composition I*	3		CHE 221	Analytical Chem Lab I	2
	CHE 111	General Chemistry I*	4		ENG 112	Written Composition II*	3
	BIO 112	Principles of Biology*	4		BIO 214	Vertebrate Zoology*	4
	MAT 211	Calculus w/ Anal. Geo.*	4		MAT 212	Calculus w/ Anal. Geo. II*	4
			<u>17</u>				<u>16</u>
Year 2	Winter						
	CHE 112	Chemical Equilibrium*	4				
	PEWS 100	Fitness for Health	<u>1</u>				
			5				
	Fall				Spring		
	BIO 211	Microbiology*	4		BIO 315	Genetics*	4
	ENG 201	World Literature I*	3		CHE 315	Organic Chemistry II*	3
Year 3	CHE 314	Organic Chemistry I*	3		CHE 326	Organic Chem II Lab*	2
	CHE 324	Organic Chemistry I Lab*	2		ENG 202	World Literature II*	3
	HIS 101	World Civilization I	3		HIS 102	World Civilization II	<u>3</u>
	PEWS 1xx	PEWS activity	<u>1</u>				<u>15</u>
			16				
	Fall				Spring		
	BIO 320	Immunology*	4		BIO 396	Adv. Human A&P II*	4
Year 4	CHE 319	Biochemistry*	4		CHE 329	Biochemistry II*	3
	PHY 231	Physics w/ Calc I*	5		PSY 213	Intro to Psychology*	3
	BIO 395	Adv. Human A&P I*	4		PHY 232	Physics w/ Calc II*	5
	BIO 302	Seminar Attendance	<u>0</u>		BIO 425	Intro to Research	<u>1</u>
			17				<u>16</u>
	Fall				Spring		
	CHR 111	Old Testament	3		ART 210	The Arts in Western Civ.	3
Year 5	SOC 211	Principles of Sociology	3		CHR 112	New Testament	3
	BIO 323	Cell Biology	4		BIO 325	Molecular Biology	4
	BIO 317	Developmental Biology	4		COM 112	Public Communication*	3
	BIO 426	Research Experience	<u>1</u>		BIO 427	Research Presentation	1
			15		BIO 498	Biology Seminar	<u>1</u>
							<u>15</u>

4YR CELL BIO OPTION B

For option B, use the same schedule as above, making the following changes by year and semester.

Year 3					Spring		
					BIO 425	Intro to Resear. (OMIT)	<u>-1</u>
							15
Year 4	Fall				Spring		
	BIO 426	Research Exper. (OMIT)	-1		BIO 427	Research Pres. (OMIT)	-1
	BIO 498	Biology Seminar (ADD)	1		BIO 498	Biology Seminar (OMIT)	-1
	BIO 397	Collab. Res. Exp. (ADD)	<u>2</u>		BIO 3XX	Biology Elective (ADD)	<u>4</u>
			17				17