B.S. in Biochemistry/Molecular Biology 2020-2021: Option 1 - CWILT

FIRST YEAR					
Fall	Credits	Interim	Credits	Spring	Credits
<u>BIO 124</u>	4	GES 160 Inquiry Seminar	3	BIO 128	4
& BIO 124D				& BIO 128D	
Integrative Biology: Genes, Cells, Change and Integrative Biology: Genes, Cells, Change Lab				Integrative Biology: Metabolism, Energy, Biodiversity and Integrative Biology: Metabolism, Energy, Biodiversity Lab	
CHE 113	4			CHE 214	4
& CHE 113D				& CHE 215	
(or CHE208/208D Accelerated General Chemistry/Lab) General Chemistry I				(or elective if CHE208/208D was taken in fall) General Chemistry II General	
General Chemistry I Lab *1, 3				Chemistry II Lab *3	
GES 140 Introduction to Wellbeing	3			GES 130 Christianity Western Culture	4
MAT 124M1 Calculus 1	4			MAT 125 Calculus 2	4
	15		3		16
SECOND YEAR					
Fall	Credits	Interim	Credits	Spring	Credits
CHE 200 Laboratory Safety and Chemical Hygiene	1	BIB 101 Introduction to the Bible	3	CHE 226	4
				& CHE 227	
				Organic Chemistry II and Organic Chemistry II Lab	
CHE 224	4			CHE 312	4
& CHE 225				& CHE 313	
Organic Chemistry I and Organic Chemistry I Lab				Quantitative Analysis and Quantitative Analysis Lab	
GES 125 Introduction to the Creative Arts	4			PHY 296	4
				& PHY 297	
				General Physics II and General Physics II Lab	
PHY 292	4			Second Language (S) course *2	4
& PHY 292D					
General Physics I and General Physics I Lab					
	13		3		16
THIRD YEAR					
Fall		Interim	Credits		Credits
DIO 222			2	BIO 354	4
BIO 332	4	Science, Technology and Society (K) course	3		+
	4	Science, rechnology and Society (K) course			+
& BIO 333	4	Science, reclinicitogy and Suciety (n) course		& BIO 355	+
& BIO 333 Genetics and Genetics Lab				& BIO 355 Cell Biology and Cell Biology Lab	4
& BIO 333 Genetics and Genetics Lab BIO 388	4			8 BIO 355 Cell Biology and Cell Biology Lab CHE 396	4
& BIO 333 Genetics and Genetics Lab BIO 388 & BIO 389				& BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397	4
BIO 333 Genetics and Genetics Lab BIO 388 BIO 389 Biochemistry I and Biochemistry I Lab	4			& BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab	4
<u>8 BIO 333</u> Genetics and Genetics Lab BIO 388 <u>8 BIO 389</u> Biochemistry I and Biochemistry I Lab CHE 344				& BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397	4
& BIO 333 Genetics and Genetics Lab BIO 388 & BIO 389 Biochemistry I and Biochemistry I Lab CHE 344 & CHE 345 & CHE 345	4			& BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab	4
<u>8 BIO 333</u> Genetics and Genetics Lab BIO 388 <u>8 BIO 389</u> Biochemistry I and Biochemistry I Lab CHE 344	4			& BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab	4
BIO 333 Genetics and Genetics Lab BIO 388 BIO 389 Biochemistry I and Biochemistry I Lab CHE 344 & CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics,	4			& BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab	4
BIO 333 Genetics and Genetics Lab BIO 388 BIO 389 Bitchemistry I and Bitchemistry I Lab CHE 344 CHE 344 KCHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab THE 201 Christian Theology	4			BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4	1
BIO 333 Genetics and Genetics Lab BIO 388 BIO 389 Biochemistry I and Biochemistry I Lab CHE 344 <u>& CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab </u>	4			BIO 355 Cell Biology and Cell Biology Lab CHE 396 CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 Contemporary Western Life and Thought (L) course	1
BIO 333 Genetics and Genetics Lab BIO 388 BIO 389 Biochemistry I and Biochemistry I Lab CHE 344 CHE 344 Kontics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab THE 201 Christian Theology	4		3	BIO 355 Cell Biology and Cell Biology Lab CHE 396 CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 Contemporary Western Life and Thought (L) course	1
BIO 333 Genetics and Genetics Lab BIO 388 BIO 389 Biochemistry I and Biochemistry I Lab CHE 344 & CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab THE 201 Christian Theology Biology or Chemistry Seminar/Research *4	4		3	BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 Contemporary Western Life and Thought (L) course	1
BIO 333 Genetics and Genetics Lab BIO 388 BIO 389 Biochemistry I and Biochemistry I Lab CHE 344 CHE 344 Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab THE 201 Christian Theology Biology or Chemistry Seminar/Research *4 FOURTH YEAR	4 4 3 1 16 Credits			BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 Contemporary Western Life and Thought (L) course	1
BIO 333 Genetics and Genetics Lab BIO 388 BiO 389 Biochemistry I and Biochemistry I Lab CHE 344 K-CHE 344 K-CHE 344 K-CHE 344 Biology or Chemistry Seminar/Research *4 FOURTH YEAR Fall Fall Fall Fall Fall Fall Fall Fal	4 4 3 1 16 Credits	Interim	3	BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 Contemporary Western Life and Thought (L) course Spring BIO 396 & BIO 396 & BIO 397	1
BIO 333 Genetics and Genetics Lab BIO 388 BIO 389 Bicchemistry I and Bicchemistry I Lab CHE 344 K-HE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab THE 201 Christian Theology Biclogy or Chemistry Seminar/Research *4 FOURTH YEAR Fall Biclogy or Chemistry Seminar/Research *4	4 4 3 1 1 6 Credits 1	Interim Off	3	BIO 355 Cell Biology and Cell Biology Lab CHE 396 CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 Contemporary Western Life and Thought (L) course Spring BIO 396 & BIO 397 Molecular Biology and Molecular Biology Lab	1
BIO 333 Genetics and Genetics Lab BIO 388 BIO 389 Biochemistry I and Biochemistry I Lab CHE 344 & CHE 344 & CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab THE 201 Christian Theology Biology or Chemistry Seminar/Research *4 FOURTH YEAR Fall Biology or Chemistry Seminar/Research *4 Elective (BIO224/225 recommended)	4 4 3 1 16 Credits 1	Interim Off	3	BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 Contemporary Western Life and Thought (L) course Spring BIO 396 & BIO 395 Molecular Biology and Molecular Biology Lab Biology or Chemistry Seminar/Research *4	12 Credits 4
BIO 333 Genetics and Genetics Lab BIO 388 BIO 389 Biochemistry I and Biochemistry I Lab CHE 344 CHE 344 CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab THE 201 Christian Theology Biology or Chemistry Seminar/Research *4 FOURTH YEAR Fall Biology or Chemistry Seminar/Research *4 Elective (BIO224/225 recommended) Interpreting Biblical Themes (J) course	4 4 3 3 1 1 6 Credits 1 4 3	Interim Interim Off	3	BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 Contemporary Western Life and Thought (L) course Spring BIO 396 & BIO 397 Molecular Biology and Molecular Biology Lab Biology or Chemistry Seminar/Research *4 Comparative Systems (G) course	1 12 Credits 4 1 3
BIO 333 Genetics and Genetics Lab BIO 388 & BIO 389 Bicchemistry I and Bicchemistry I Lab CHE 344 & CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab THE 201 Christian Theology Biclogy or Chemistry Seminar/Research *4 FOURTH YEAR Fail Biclogy or Chemistry Seminar/Research *4 Elective (BIO224/225 recommended) Interpreting Biblical Themas (J) course Leisure and Lifetime Sports (Q) course	4 4 3 1 16 Credits 1 4 4 3 1	Interim Interim Off	3	BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 Contemporary Western Life and Thought (L) course Spring BIO 396 & 810 397 Molecular Biology and Molecular Biology Lab Biology or Chemistry Seminar/Research *4 Comparative Systems (G) course Artistic Experience (A) course	1 3 12 Credits 4 1 3 0-3
BIO 333 Genetics and Genetics Lab BIO 388 BiO 389 Biochemistry I and Biochemistry I Lab C/HE 344 K-CHE 344 K-CHE 344 K-CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab THE 201 Christian Theology Biology or Chemistry Seminar/Research *4 FOURTH YEAR Fall Biology or Chemistry Seminar/Research *4 Elective (BIO224/225 recommended) Interpreting Biblical Themes (J) course Liesure and Lifetime Sports (Q) course World Cultures (U) course	4 4 3 1 1 6 Credits 1 1 4 3 3 1 1 3	Interim Off	3	BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 Contemporary Western Life and Thought (L) course Spring BIO 396 & BIO 397 Molecular Biology and Molecular Biology Lab Biology or Chemistry Seminar/Research *4 Comparative Systems (G) course Artistic Experience (A) course Contemporary Christian Issues (P) course	1 12 Credits 4 1 3 0-3 3 3
BIO 333 Genetics and Genetics Lab BIO 388 & BIO 389 Bicchemistry I and Bicchemistry I Lab CHE 344 & CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab THE 201 Christian Theology Biclogy or Chemistry Seminar/Research *4 FOURTH YEAR Fail Biclogy or Chemistry Seminar/Research *4 Elective (BIO224/225 recommended) Interpreting Biblical Themas (J) course Leisure and Lifetime Sports (Q) course	4 4 3 3 1 1 6 Credits 1 4 4 3 3 0-3	Interim Off	3 Credits	BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 Contemporary Western Life and Thought (L) course Biology or Chemistry Seminar/Research *4 Comparative Systems (G) course Contemporary Chemistry Seminar/Research *4 Comparative Systems (G) course Contemporary Christian Issues (P) course Elective Elective Elective	1 12 Credits 4 1 3 0-3 3 3 3 3
BIO 333 Genetics and Genetics Lab BIO 388 BiO 389 Biochemistry I and Biochemistry I Lab CHE 344 K CHE 344 K CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab THE 201 Christian Theology Biology or Chemistry Seminar/Research *4 FOURTH YEAR Fal Biology or Chemistry Seminar/Research *4 Elective (BIO224/225 recommended) Interpreting Biblical Themes (J) course Leisure and Lifetime Sports (Q) course World Cultures (U) course World Cultures (U) course	4 4 3 1 1 6 Credits 1 1 4 3 3 1 1 3	Interim Off	3	BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 Contemporary Western Life and Thought (L) course Biology or Chemistry Seminar/Research *4 Comparative Systems (G) course Contemporary Chemistry Seminar/Research *4 Comparative Systems (G) course Contemporary Christian Issues (P) course Elective Elective Elective	1 12 Credits 4 1 3 0-3 3 3

*1. This program assumes a student will use CHE 113D and MAT 124M to meet the General Education Laboratory Science (D) and Mathematics (M) course requirements.

*2. Students must complete through the second semester of a first year language course or equivalent.

*3. CHE 208/CHE 208D is a one-semester course that meets the requirements for CHE 113/CHE 113D and CHE 214/CHE 215. Students taking CHE 208/CHE 208D may choose an elective in the Spring of their Freshmen year.

*4. Choose either the Biology Seminar/Research series (BIO 399, BIO 495, BIO 496, BIO 499) or Chemistry Seminar/Research series (CHE 395, CHE 490 and CHE 494). Students pursuing the ACS-accredited B.S. must complete the chemistry series.

Most financial aid packages stipulate 12 credits/semester; Minnesota state grants reduced when credit load falls below 15 credits/semester. (Interim credits may be split between fall and spring for state grant purposes only.)

B.S. in Biochemistry/Molecular Biology 2020-2021: Option 2 - Humanities

FIRST YEAR					
Fall	Credits	Interim	Credits	Spring	Credits
CHE 113	4	GES 147 Humanities II: Renaissance and Reformation	4	BIO 128	4
		GES 147 Humanities II. Renaissance and Reformation			
& CHE 113D				& BIO 128D	
(or CHE208/208D Accelerated General Chemistry/Lab) General Chemistry I General				Integrative Biology: Metabolism, Energy, Biodiversity and Integrative Biology:	
Chemistry I Lab *1, 3				Metabolism, Energy, Biodiversity Lab	
BIO 124	4			CHE 214	4
& BIO 124D				& CHE 215	
Integrative Biology: Genes, Cells, Change and Integrative Biology: Genes, Cells,				(or elective if CHE208/208D was taken in the fall) General Chemistry II General	
Change Lab				Chemistry II Lab *3	
GES 145 Humanities I: Greco-Roman through Middle Ages	4			GES 244 Humanities III: European Enlightenment and American Culture to	4
des sis numerals in directo nomen anough middle riges				1877	
	4				4
MAT 124M1 Calculus 1				MAT 125 Calculus 2	
	16		4		16
SECOND YEAR					
Fall	Credits	Interim	Credits	Spring	Credits
					4
CHE 200 Laboratory Safety and Chemical Hygiene	1	GES 140 Introduction to Wellbeing	3	<u>CHE 226</u>	4
				& CHE 227	
				Organic Chemistry II and Organic Chemistry II Lab	
CHE 224	4			CHE 312	4
				& CHE 313	
& CHE 225					
Organic Chemistry I and Organic Chemistry I Lab				Quantitative Analysis and Quantitative Analysis Lab	
GES 246 Humanities IV: Modern and Contemporary Western Culture	4			PHY 296	4
				& PHY 297	
				General Physics II and General Physics II Lab	
	-				
PHY 292	4			Second Language (S) course *2	4
& PHY 292D					
General Physics I and General Physics I Lab					
	13		3		16
			0		
THIRD YEAR					
Fall	Credits	Interim	Credits	Spring	Credits
	Credits		Credits		
Fall <u>BIO 332</u>	Credits	Interim	Credits	Spring	
Fall BIO 332 & BIO 333	Credits	Interim	Credits	Spring	
Fall BIO 332 & BIO 333 Genetics and Genetics Lab	Credits	Interim	Credits	Spring BIB 101 Introduction to the Bible	Credits 3
Fall BIO 332 & BIO 333 Genetics and Genetics Lab BIO 388	Credits	Interim	Credits	Spring BIB 101 Introduction to the Bible BIO 354	
Fall BIO 332 & BIO 333 Genetics and Genetics Lab BIO 388 & BIO 389	Credits	Interim	Credits	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355	Credits 3
Fall BIO 332 & BIO 333 Genetics and Genetics Lab BIO 388	Credits	Interim	Credits	Spring BIB 101 Introduction to the Bible BIO 354	Credits 3
Fall BIO 332 & BIO 333 Genetics and Genetics Lab BIO 388 & BIO 389	Credits	Interim Science, Technology and Society (K) course	Credits	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355	Credits 3
BIO 332 8.81O 333 Genetics and Genetics Lab 8.81O 389 BIO 382 8.81O 389 Biochemistry I and Biochemistry I Lab 8.81O 389	Credits 4	Interim Science, Technology and Society (K) course	Credits	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab Cell Biology and Cell Biology Lab	Credits 3
BIO 332 8.81O 333 Genetics and Genetics Lab 8.81O 389 BIO 382 8.81O 389 Biochemistry I and Biochemistry I Lab 8.81O 389	Credits 4	Interim Science, Technology and Society (K) course	Credits	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397	Credits 3
BIO 332 8 BIO 333 Genetics and Genetics Lab BIO 388 8 BIO 389 BIO 689 Biochemistry I and Biochemistry I Lab or	Credits 4	Interim Science, Technology and Society (K) course	Credits	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab	Credits 3
Fall BIO 332 & BIO 333 Genetics and Genetics Lab BIO 388 & BIO 389 Biochemistry I and Biochemistry I Lab or CHE 388	Credits 4	Interim Science, Technology and Society (K) course	Credits	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397	Credits 3
BIO 332 & 8IO 333 Genetics and Genetics Lab BIO 382 & & BIO 389 Biochemistry I Lab or	Credits 4	Interim Science, Technology and Society (K) course	Credits	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab	Credits 3
Fall BIO 332 & BIO 333 Genetics and Genetics Lab BIO 388 & BIO 389 Biochemistry I and Biochemistry I Lab or CHE 388	Credits 4	Interim Science, Technology and Society (K) course	Credits	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CTHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4	Credits 3
BIO 332 & BIO 333 Genetics and Genetics Lab BIO 388 & & BIO 389 Biochemistry I Lab or CHE 388 & CHE 389 Biochemistry I Lab Biochemistry I and Biochemistry I Lab Biochemistry I Lab	Credits 4	Interim Science, Technology and Society (K) course	Credits	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab	Credits 3
BIO 332 & 8IO 333 Genetics and Genetics Lab BIO 382 & & BIO 389 Biochemistry I Lab or	Credits 4	Interim Science, Technology and Society (K) course	Credits	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CTHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4	Credits 3
BIO 332 & 8IO 333 Genetics and Genetics Lab 8IO 382 & 8 BIO 389 Biochemistry I Lab 0r	Credits 4	Interim Science, Technology and Society (K) course	Credits	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CTHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4	Credits 3
Fall BIO 332 BIO 333 Genetics and Genetics Lab BIO 388 & BIO 389 Biochemistry I and Biochemistry I Lab Or CHE 388 & CHE 389 Biochemistry I and Biochemistry I Lab CHE 344 & CHE 345	Credits 4	Interim Science, Technology and Society (K) course	Credits	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CTHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4	Credits 3
Fall BIO 332 BIO 333 Genetics and Genetics Lab BIO 333 Genetics and Genetics Lab BIO 389 Biochemistry I and Biochemistry I Lab Or CHE 388 <u>& CHE 389 Biochemistry I and Biochemistry I Lab CHE 344 & CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, Vinetics, Vinetics,</u>	Credits 4	Interim Science, Technology and Society (K) course	Credits	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CTHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4	Credits 3
Fall BIO 332 BIO 333 Genetics and Genetics Lab BIO 388 & BIO 389 Biochemistry I and Biochemistry I Lab or CHE 388 & CHE 389 Biochemistry I and Biochemistry I Lab CHE 344 & CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab	Credits 4	Interim Science, Technology and Society (K) course	Credits	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CTHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4	Credits 3
Fall BIO 332 BIO 333 Genetics and Genetics Lab BIO 333 Genetics and Genetics Lab BIO 389 Biochemistry I and Biochemistry I Lab Or CHE 388 <u>& CHE 389 Biochemistry I and Biochemistry I Lab CHE 344 & CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics,</u>	Credits 4	Interim Science, Technology and Society (K) course	Credits 3	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CellE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 World Cultures (U) course	Credits 3 4 4 1 3 3
Fall BIO 332 BIO 332 Genetics and Genetics Lab BIO 333 Genetics and Genetics Lab BIO 389 Biochemistry I and Biochemistry I Lab Or CHE 388 <u>& CHE 389 Biochemistry I and Biochemistry I Lab CHE 344 & CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab Biology or Chemistry Seminar/Research *4 </u>	Credits 4	Interim Science, Technology and Society (K) course	Credits	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CellE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 World Cultures (U) course	Credits 3
Fall BIO 332 BIO 333 Genetics and Genetics Lab BIO 338 & BIO 389 Biochemistry I and Biochemistry I Lab or CHE 388 & CHE 389 Biochemistry I and Biochemistry I Lab CHE 344 & CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab Biology or Chemistry Seminar/Research *4 FOURTH YEAR	Credits 4 4 4 4 4 4 1 1 3	Interim Science, Technology and Society (K) course	Credits 3	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CFLE 396 & CHE 395 Biology or Chemistry Seminar/Research *4 World Cultures (U) course	Credits 3 4 4 1 3 3 3
Fall BIO 332 BIO 332 Genetics and Genetics Lab BIO 333 Genetics and Genetics Lab BIO 389 BIochemistry I and Biochemistry I Lab Or CHE 388 <u>& CHE 389 Biochemistry I and Biochemistry I Lab CHE 344 & CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab Biology or Chemistry Seminar/Research *4 </u>	Credits 4 4 4 4 4 4 1 1 3	Interim Science, Technology and Society (K) course	Credits 3	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CFLE 396 & CHE 395 Biology or Chemistry Seminar/Research *4 World Cultures (U) course	Credits 3 4 4 1 3 3
Fall BIO 332 BIO 333 Genetics and Genetics Lab BIO 338 & BIO 339 Biochemistry I and Biochemistry I Lab Or CHE 388 & CHE 389 Biochemistry I and Biochemistry I Lab CHE 344 & CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab Biology or Chemistry Seminar/Research *4 FOURTH YEAR	Credits	Interim Science, Technology and Society (K) course	Credits 3	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CellE 396 & CHE 396 Biology or Chemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 World Cultures (U) course Spring	Credits 3 4 4 1 3 3 3
Fall BIO 332 BIO 333 Genetics and Genetics Lab BIO 338 & BIO 339 Biochemistry I and Biochemistry I Lab Or CHE 388 & CHE 349 Biochemistry I and Biochemistry I Lab CHE 344 & CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab Biology or Chemistry Seminar/Research *4 FOURTH YEAR Fall	Credits	Interim Science, Technology and Society (K) course	Credits 3	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Coll Biology and Coll Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 World Cultures (U) course Spring BIO 396	Credits 3 4 4 1 3 3 3
Fall BIO 332 BIO 333 Genetics and Genetics Lab BIO 338 & BIO 339 Biochemistry I and Biochemistry I Lab Or CHE 388 & CHE 349 Biochemistry I and Biochemistry I Lab CHE 344 & CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab Biology or Chemistry Seminar/Research *4 FOURTH YEAR Fall	Credits	Interim Science, Technology and Society (K) course	Credits 3	Spring BIB 101 Introduction to the Bible BID 354 & BID 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 395 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 World Cultures (U) course Spring BID 396 & BID 397	Credits 3 4 4 1 3 3 3
Fail BIO 332 BIO 333 Genetics and Genetics Lab BIO 333 Genetics and Genetics Lab BIO 383 Biochemistry I and Biochemistry I Lab Or CHE 388 CHE 389 Biochemistry I and Biochemistry I Lab CHE 344 CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab Biology or Chemistry Seminar/Research *4 FOURTH YEAR Fail Biology or Chemistry Seminar/Research *4	Credits 4 4 4 4 4 4 4 4 1 1 3 1 3 Credits	Interim Science, Technology and Society (K) course	Credits 3	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CHE 395 Bochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 World Cultures (U) course Spring BiO 396 & Biology and Molecular Biology Lab	Credits 3 4 4 1 1 3 3 5 Credits 4
Fall BIO 332 BIO 333 Genetics and Genetics Lab BIO 333 Genetics and Genetics Lab BIO 348 & BIO 389 BIO-chemistry I and BIO-chemistry I Lab Or CHE 348 & CHE 349 BIO-chemistry I and BIO-chemistry I Lab CHE 344 & CHE 344 & CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab Biology or Chemistry Seminar/Research *4 FOURTH YEAR Fall Elective (BIO224/225 recommended)	Credits	Interim Science, Technology and Society (K) course	Credits 3	Spring BIB 101 Introduction to the Bible BID 354 8 BID 355 Cell Biology and Cell Biology Lab Crift 396 8 Crift 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 World Cultures (U) course Spring BID 396 8 BID 396 8 BID 397 Molecular Biology and Molecular Biology Lab Biology or Biology and Molecular Biology Lab Biology and Biology Seminar/Research *4	Credits 3 4 4 4 1 1 3 3 5 Credits 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Fail BIO 332 BIO 333 Genetics and Genetics Lab BIO 333 Genetics and Genetics Lab BIO 383 Biochemistry I and Biochemistry I Lab Or CHE 388 CHE 389 Biochemistry I and Biochemistry I Lab CHE 344 CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab Biology or Chemistry Seminar/Research *4 FOURTH YEAR Fail Biology or Chemistry Seminar/Research *4	Credits 4 4 4 4 4 4 4 4 1 1 3 1 3 Credits	Interim Science, Technology and Society (K) course	Credits 3	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CHE 395 Bochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 World Cultures (U) course Spring BiO 396 & Biology and Molecular Biology Lab	Credits 3 4 4 1 1 3 3 5 Credits 4
Fall BIO 332 BIO 333 Genetics and Genetics Lab BIO 333 Genetics and Genetics Lab BIO 388 & BIO 389 Biochemistry I and Biochemistry I Lab or CHE 388 & CHE 389 Biochemistry I and Biochemistry I Lab CHE 344 & CHE 344 & CHE 345 Biology or Chemistry Seminar/Research *4 FOURTH YEAR Fall Biology or Chemistry Seminar/Research *4 Elective (BIO224/225 recommended) Comparative Systems (G) course	Credits	Interim Science, Technology and Society (K) course	Credits 3	Spring BIB 101 Introduction to the Bible BID 354 & BID 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 395 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 World Cultures (U) course Spring BID 396 & BID 395 & BID 396 B	Credits 3 4 4 4 1 1 3 3 5 Credits 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Fail BIO 332 BIO 333 Genetics and Genetics Lab BIO 333 Genetics and Genetics Lab BIO 383 Biochemistry I and Biochemistry I Lab Or CHE 388 CHE 389 Biochemistry I and Biochemistry I Lab CHE 344 CHE 345 CHE 345 Fortmodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab Biology or Chemistry Seminar/Research *4 FOURTH YEAR Fail Biology or Chemistry Seminar/Research *4 Elective (BIO224/225 recommended) Comparative Systems (G) course Therpreting Biblical Themes (J) course	Credits 4 4 4 4 4 1 1 1 1 1 1 1 4 4 3 3 3 3 1 1 1 1	Interim Science, Technology and Society (K) course	Credits 3	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CHE 395 Bochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 World Cultures (U) course Spring Biol 396 & Biology or Chemistry Biology Lab Chemistry Seminar/Research *4 And Cultures (U) course Spring Biology or Chemistry Biology and Molecular Biology Lab Biology or Chemistry Seminar/Research *4 Artistic Experience (A) course Contemporary Christian Issues (P) course	Credits 3 4 4 4 1 1 3 3 5 Credits 4 1 1 0-3 3 3 3
Fall BIO 332 BIO 332 BIO 333 Genetics and Genetics Lab BIO 333 Genetics and Genetics Lab BIO 388 & BIO 389 BIO-chemistry I and BIO-chemistry I Lab or CHE 388 <u>& CHE 389 BIO-chemistry I and BIO-chemistry I Lab CHE 344 & CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, Biology or Chemistry Seminar/Research *4 FOURTH YEAR Fall Biology or Chemistry Seminar/Research *4 Elective (BIO224/225 recommended) Comparative Systems (G) course Interpreting Biblical Themes (J) course Liesiver and Lifetime Sports (O) course </u>	Credits 4 4 4 4 4 4 4 1 1 1 1 1 4 4 4 4 1	Interim Science, Technology and Society (K) course	Credits 3	Spring BIB 101 Introduction to the Bible BID 354 & BID 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 395 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 World Cultures (U) course Spring BID 396 & BID 395 & BID 396 B	Credits 3 4 4 1 1 3 3 5 5 6 7 6 7 6 7 6 7 8 1 5 7 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8
Fall BIO 332 BIO 333 Genetics and Genetics Lab BIO 333 Genetics and Genetics Lab CIE 338 Cenetics and Genetics Lab BIO 389 BIOChemistry I and BIOChemistry I Lab CIE 348 CIE 349 BIOChemistry I and BIOChemistry I Lab CIE 344 CIE 345 CIE 345 Fourth YEAR Fall BIOlogy or Chemistry Seminar/Research *4 Elective (BIO224/225 recommended) Comparative Systems (G) course Interpreting Biblical Themes (J) course Inte	Credits 4 4 4 4 4 4 1 1 1 1 1 1 1 1 1 1 0 4 2 1 1 0 - 3 1 0 - 3 1 1 0 - 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Interim Science, Technology and Society (K) course Interim Int	Credits 3 3 3 3 Credits	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 World Cultures (U) course Spring BiO 396 & BIO 396 & BIO 396 & Biology or Chemistry Seminar/Research *4 Artistic Experience (A) course Contemporary Christian Issues (P) course Elective	Credits 3 4 4 1 1 3 3 3 5 Credits 4 1 0-3 3 3 4
Fall BIO 332 BIO 332 BIO 333 Genetics and Genetics Lab BIO 333 Genetics and Genetics Lab BIO 388 & BIO 389 BIO-chemistry I and BIO-chemistry I Lab or CHE 388 <u>& CHE 389 BIO-chemistry I and BIO-chemistry I Lab CHE 344 & CHE 345 Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, Biology or Chemistry Seminar/Research *4 FOURTH YEAR Fall Biology or Chemistry Seminar/Research *4 Elective (BIO224/225 recommended) Comparative Systems (G) course Interpreting Biblical Themes (J) course Liesiver and Lifetime Sports (O) course </u>	Credits 4 4 4 4 4 4 4 1 1 1 1 1 4 4 4 4 1	Interim Science, Technology and Society (K) course Interim Int	Credits 3	Spring BIB 101 Introduction to the Bible BIO 354 & BIO 355 Cell Biology and Cell Biology Lab CHE 396 & CHE 397 Biochemistry II and Biochemistry II Lab Biology or Chemistry Seminar/Research *4 World Cultures (U) course Spring BiO 396 & BIO 396 & BIO 396 & Biology or Chemistry Seminar/Research *4 Artistic Experience (A) course Contemporary Christian Issues (P) course Elective	Credits 3 4 4 4 1 1 3 3 5 Credits 4 1 1 0-3 3 3 3

*1. This program assumes a student will use CHE 113D and MAT 124M to meet the General Education Laboratory Science (D) and Mathematics (M) course requirements.

*2. Students must complete through the second semester of a first year language course or equivalent.

*3. CHE 208/CHE 208D is a one-semester course that meets the requirements for CHE 113/CHE 113D and CHE 214/CHE 215. Students taking CHE 208/CHE 208D may choose an elective in the Spring of their Freshmen year.

*4. Choose either the Biology Seminar/Research series (BIO 399, BIO 495, BIO 496, BIO 499) or Chemistry Seminar/Research series (CHE 395, CHE 490 and CHE 494). Students pursuing the ACS-accredited B.S. must complete the chemistry series.

Most financial aid packages stipulate 12 credits/semester; Minnesota state grants reduced when credit load falls below 15 credits/semester. (Interim credits may be split between fall and spring for state grant purposes only.)