B.S. in Biochemistry/Molecular Biology 2018-2019: Option 1 - CWILT

First Year			0 "	la :	0 111
Fall		Interim	Credits		Credit
BIO 124 & BIO 124D Integrative Biology: Genes, Cells,	4	GES 160 Inquiry Seminar	3	BIO 128 & BIO 128D Integrative Biology: Metabolism,	
Change and Integrative Biology: Genes, Cells, Change				Energy, Biodiversity and Integrative Biology:	
Lab				Metabolism, Energy, Biodiversity Lab	
CHE 113 & CHE 113D (or CHE208/208D Accelerated	4			CHE 214 & CHE 215 (or elective if CHE208/208D was	4
General Chemistry/Lab)1, 3 General Chemistry				taken in fall)3 General Chemistry IIGeneral Chemistry	
IGeneral Chemistry I Lab				II Lab	
MAT 124M1 Calculus 1	4			MAT 125 Calculus 2	
GES 140 Introduction to Wellbeing	3			GES 130 Christianity Western Culture	
	15		3		16
Second Year					
Fall	Credits	Interim	Credits	Spring	Credits
CHE 224 & CHE 225 Organic Chemistry I and Organic		BIB 101 Introduction to the Bible		CHE 226 & CHE 227 Organic Chemistry II and	2
Chemistry I Lab		BID 101 marododion to the Bible		Organic Chemistry II Lab	'
PHY 292 & PHY 292D General Physics I and General	1		I	PHY 296 & PHY 297 General Physics II and General	
Physics I Lab	-			Physics II Lab	٦
GES 125 Introduction to the Creative Arts	4			CHE 312 & CHE 313 Quantitative Analysis and	4
GES 125 Introduction to the Creative Arts	4				4
				Quantitative Analysis Lab	
				Second Language (S) course*2	4
	12		3		16
Third Year		I			
Fall	Credits		Credits		Credits
BIO 332 & BIO 333 Genetics and Genetics Lab	4	Science, Technology and Society (K) course	3	BIO 354 & BIO 355 Cell Biology and Cell Biology Lab	4
BIO 388 & BIO 389 Biochemistry I and Biochemistry I	4		•	CHE 396 & CHE 397 Biochemistry II and Biochemistry	4
Lab				II Lab	
CHE 344 & CHE 345 Thermodynamics, Kinetics, and	4			Biology or Chemistry Seminar/Research*4	1
Statistical Mechanics and Thermodynamics, Kinetics,				,	
and Statistical Mechanics Lab					
THE 201 Christian Theology	3			Contemporary Western Life and Thought (L) course	3
Biology or Chemistry Seminar/Research*4	1			ormomporary in cotom zine and impagin (2) course	
Elology of Ottomical y Community Community	16		3		12
Fourth Year	.,		<u> </u>		
Fall	Credits	Interim	Credits	Spring	Credits
Biology or Chemistry Seminar/Research*4		Interim Off		BIO 396 & BIO 397 Molecular Biology and Molecular	4
blology of offermoley definitely/resocion 4				Biology Lab	
Elective (BIO224/225 recommended)	4			Biology or Chemistry Seminar/Research*4	1
World Cultures (U) course	3			Comparative Systems (G) course	3
Interpreting Biblical Themes (J) course	3			Contemporary Christian Issues (P) course	3
Leisure and Lifetime Sports (Q) course	1			Elective	
	0-3			Artistic Experience (A) course	0-3
Cross Cultural Experience (Z) course					
	12-15		0		14-17

- 1. This program assumes a student will use CHE 113D and MAT 124M to meet the general education laboratory science and Mathematics 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 339, 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 2018-2019: Option 2 - Humanities

First Year					
Fall		Interim	Credits		Credits
CHE 113 & CHE 113D (or CHE208/208D Accelerated	4	GES 147 Humanities II: Renaissance and Reformation		BIO 128 & BIO 128D Integrative Biology: Metabolism,	4
General Chemistry/Lab)1, 3 General Chemistry				Energy, Biodiversity and Integrative Biology:	
IGeneral Chemistry I Lab				Metabolism, Energy, Biodiversity Lab	
BIO 124 & BIO 124D Integrative Biology: Genes, Cells,	4			CHE 214 & CHE 215 (or elective if CHE208/208D	4
Change and Integrative Biology: Genes, Cells, Change				was taken in the fall)3General Chemistry IIGeneral	
Lab				Chemistry II Lab	
MAT 124M1 Calculus 1	4			MAT 125 Calculus 2	
GES 145 Humanities I: Greco-Roman through Middle				GES 244 Humanities III: European Enlightenment	,
Ages	7			and American Culture to 1877	
Ages				and American Culture to 1011	
	16		4		16
Second Year					
Fall	Credits	Interim	Credits	Spring	Credits
CHE 224 & CHE 225 Organic Chemistry I and Organic		GES 140 Introduction to Wellbeing	3	CHE 226 & CHE 227 Organic Chemistry II and	2.54.14
Chemistry I Lab		220 . To manadonom to Wondowing	J	Organic Chemistry II Lab	
PHY 292 & PHY 292D General Physics I and General	1			PHY 296 & PHY 297 General Physics II and General	,
	4				
Physics I Lab				Physics II Lab	
GES 246 Humanities IV: Modern and Contemporary	4			CHE 312 & CHE 313 Quantitative Analysis and	4
Western Culture				Quantitative Analysis Lab	
				Second Language (S) course*2	4
	12		3		16
Third Year					
Fall		Interim	Credits		Credits
BIO 332 & BIO 333 Genetics and Genetics Lab	4	Science, Technology and Society (K) course		BIB 101 Introduction to the Bible	3
BIO 388 & BIO 389 Biochemistry I and Biochemistry I				BIO 354 & BIO 355 Cell Biology and Cell Biology Lab	4
Lab					
or	4			CHE 396 & CHE 397 Biochemistry II and	4
				Biochemistry II Lab	
CHE 388 & CHE 389 Biochemistry I and Biochemistry I				Biology or Chemistry Seminar/Research*4	1
Lab					
CHE 344 & CHE 345 Thermodynamics, Kinetics, and	4			World Cultures (U) course	.3
				Trona Ganardo (G) doareo	`
Statistical Mechanics and Thermodynamics Kinetics					
Statistical Mechanics and Thermodynamics, Kinetics,					
and Statistical Mechanics Lab	1				
	1		2		4.5
and Statistical Mechanics Lab Biology or Chemistry Seminar/Research*3	1 13		3		15
and Statistical Mechanics Lab Biology or Chemistry Seminar/Research*3 Fourth Year				Ouring.	
and Statistical Mechanics Lab Biology or Chemistry Seminar/Research*3 Fourth Year Fall	Credits	Interim	Credits		15
and Statistical Mechanics Lab Biology or Chemistry Seminar/Research*3 Fourth Year Fall	Credits	Interim Interim Off	Credits	BIO 396 & BIO 397 Molecular Biology and Molecular	
and Statistical Mechanics Lab Biology or Chemistry Seminar/Research*3 Fourth Year Fall Biology or Chemistry Seminar/Research*4	Credits		Credits	BIO 396 & BIO 397 Molecular Biology and Molecular Biology Lab	
and Statistical Mechanics Lab Biology or Chemistry Seminar/Research*3 Fourth Year Fall Biology or Chemistry Seminar/Research*4 Elective (BIO224/225 recommended)	Credits 1		Credits	BIO 396 & BIO 397 Molecular Biology and Molecular Biology Lab Biology or Chemistry Seminar/Research*4	Credits
and Statistical Mechanics Lab Biology or Chemistry Seminar/Research*3 Fourth Year Fall Biology or Chemistry Seminar/Research*4 Elective (BIO224/225 recommended) Comparative Systems (G) course	Credits 1 4		Credits	BIO 396 & BIO 397 Molecular Biology and Molecular Biology Lab Biology or Chemistry Seminar/Research*4 Contemporary Christian Issues (P) course	Credits
and Statistical Mechanics Lab Biology or Chemistry Seminar/Research*3 Fourth Year Fall Biology or Chemistry Seminar/Research*4 Elective (BIO224/225 recommended) Comparative Systems (G) course Interpreting Biblical Themes (J) course	Credits 1		Credits	BIO 396 & BIO 397 Molecular Biology and Molecular Biology Lab Biology or Chemistry Seminar/Research*4 Contemporary Christian Issues (P) course Artistic Experience (A) course	Credits
and Statistical Mechanics Lab Biology or Chemistry Seminar/Research*3 Fourth Year Fall Biology or Chemistry Seminar/Research*4 Elective (BIO224/225 recommended) Comparative Systems (G) course Interpreting Biblical Themes (J) course Leisure and Lifetime Sports (Q) course	Credits 1 4 3 3 1 1		Credits	BIO 396 & BIO 397 Molecular Biology and Molecular Biology Lab Biology or Chemistry Seminar/Research*4 Contemporary Christian Issues (P) course	Credits
and Statistical Mechanics Lab Biology or Chemistry Seminar/Research*3 Fourth Year Fall Biology or Chemistry Seminar/Research*4 Elective (BIO224/225 recommended) Comparative Systems (G) course Interpreting Biblical Themes (J) course	Credits 1 4		Credits	BIO 396 & BIO 397 Molecular Biology and Molecular Biology Lab Biology or Chemistry Seminar/Research*4 Contemporary Christian Issues (P) course Artistic Experience (A) course	Credits

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