B.S. in Mathematics and Data Science 2020-2021: Option 1- CWILT

FIRST YEAR					
Fall	Credits	Interim	Credits	Spring	Credits
COS 100 Introduction to Programming	3	GES 160 Inquiry Seminar	3	COS 105 Object-oriented Design and Programming	4
MAT 124M Calculus 1 *1	4			BIB 101 Introduction to the Bible	3
GES 140 Introduction to Wellbeing	3			GES 130 Christianity Western Culture	4
GES 125 Introduction to the Creative Arts	4			MAT 125 Calculus 2	4
	14		3		15
SECOND YEAR					
Fall	Credits	Interim	Credits	Spring	Credits
MAT 223 Multivariable Calculus	3	Contemporary Western Life and Thought (L) course	3	MAT 211 Linear Algebra	3
MAT 241 Discrete Mathematics	3			MAT 222 Differential Equations	3
COS 212 Data Structures	4			COS 216 Algorithms and Advanced Data Structures	3
Laboratory Science (D) course	4			THE 201 Christian Theology	3
				Second Language (S) course *2	4
	14		3		16
THIRD YEAR					
and the second					
Fall	Credits	Interim	Credits	Spring	Credits
		Interim Interim Off		Spring MAT 310 Abstract Algebra	Credits
Fall		Interim Off		MAT 310 Abstract Algebra MAT 344 Numerical Methods	4
Fall <u>COS 313 Database Systems</u> <u>MAT 330 Probability and Statistics</u> <u>MAT 422 Real Analysis</u>	3	Interim Off		MAT 310 Abstract Algebra	4
Fall <u>COS 313 Database Systems</u> MAT 330 Probability and Statistics	3	Interim Off		MAT 310 Abstract Algebra MAT 344 Numerical Methods	4 3 0-3
Fall <u>COS 313 Database Systems</u> <u>MAT 330 Probability and Statistics</u> <u>MAT 422 Real Analysis</u>	3 3 3	Interim Off		MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course	4 3 0-3
Fall <u>COS 313 Database Systems</u> <u>MAT 330 Probability and Statistics</u> <u>MAT 422 Real Analysis</u> World Cultures (U) course	3 3 3 3 3	Interim Off		MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course	Credits 4 3 0-3 6 13-16
Fall <u>COS 313 Database Systems</u> <u>MAT 330 Probability and Statistics</u> <u>MAT 422 Real Analysis</u> World Cultures (U) course	3 3 3 3 0-3	Interim Off		MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course	4 3 0-3 6
Fall COS 313 Database Systems MAT 330 Probability and Statistics MAT 422 Real Analysis World Cultures (U) course Cross-Cultural Experience (Z) course	3 3 3 3 0-3	Interim Off		MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course Electives	4 3 0-3 6
Fall COS 313 Database Systems MAT 330 Probability and Statistics MAT 422 Real Analysis World Cultures (U) course Cross-Cultural Experience (Z) course FOURTH YEAR	3 3 3 0-3 12-15 Credits	Interim Off	0 Credits	MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course Electives	4 3 0-3 6 13-16
Fall COS 313 Database Systems MAT 330 Probability and Statistics MAT 422 Real Analysis World Cultures (U) course Cross-Cultural Experience (Z) course FOURTH YEAR Fall	3 3 3 0-3 12-15 Credits	Interim Off Interim Interim MAT 499 Senior Seminar	0 Credits 3	MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course Electives Spring	4 3 0-3 6 13-16 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
Fall COS 313 Database Systems MAT 330 Probability and Statistics MAT 422 Real Analysis World Cultures (U) course Cross-Cultural Experience (Z) course FOURTH YEAR Fall MAT 376 Operations Research	3 3 3 0-3 12-15 Credits 4	Interim Off Interim Interim <u>MAT 499 Senior Seminar</u>	Credits 3	MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course Electives Spring BUS 317 Business Analytics	4 3 0-3 6 13-16 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
Fall COS 313 Database Systems MAT 330 Probability and Statistics MAT 422 Real Analysis World Cultures (U) course Cross-Cultural Experience (Z) course FOURTH YEAR Fall MAT 376 Operations Research Comparative Systems (G) course	3 3 3 0-3 12-15 Credits 4 3	Interim Off Interim MAT 499 Senior Seminar	0 Credits 3	MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course Electives Spring BUS 317 Business Analytics COS 334 Data Mining and Machine Learning	4 3 0-3 6 13-16 V Credits 4 3 3
Fall COS 313 Database Systems MAT 330 Probability and Statistics MAT 422 Real Analysis World Cultures (U) course Cross-Cultural Experience (Z) course FOURTH YEAR Fall MAT 376 Operations Research Comparative Systems (G) course Interpreting Biblical Themes (J) course	3 3 3 0-3 12-15 Credits 4 3 3	Interim Off Interim MAT 499 Senior Seminar	0 Credits 3	MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course Electives Spring BUS 317 Business Analytics COS 334 Data Mining and Machine Learning MAT 331 Applied Statistics	4 3 0-3 6 13-16
Fall COS 313 Database Systems MAT 330 Probability and Statistics MAT 422 Real Analysis World Cultures (U) course Cross-Cultural Experience (Z) course FOURTH YEAR Fall MAT 376 Operations Research Comparative Systems (G) course Interpreting Biblical Themes (J) course Science, Technology, and Society (K) course	3 3 3 0-3 12-15 Credits 4 3 3 3 3	Interim Off Interim MAT 499 Senior Seminar	0 Credits 3	MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course Electives Spring BUS 317 Business Analytics COS 334 Data Mining and Machine Learning MAT 331 Applied Statistics Contemporary Christian Issues (P) course	2 2 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4

*1. This program assumes students will use MAT 124M to meet the General Education Mathematics (M) course requirement.

*2. Students must complete through the second semester of a first year language course or equivalent (check the catalog for details).

Most financial aid packages stipulate 12 credits/semester; Minnesota state grants are 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 Mathematics and Data Science 2020-2021: Option 2- Humanities

FIRST YEAR					
Fall	Credits	Interim	Credits	Spring	Credits
COS 100 Introduction to Programming	3	GES 147 Humanities II: Renaissance and Reformation	4	BIB 101 Introduction to the Bible	3
MAT 124M Calculus 1 *1	4			COS 105 Object-oriented Design and Programming	4
GES 140 Introduction to Wellbeing	3			MAT 125 Calculus 2	4
GES 145 Humanities I: Greco-Roman through Middle Ages	4			GES 244 Humanities III: European Enlightenment and American	4
				Culture to 1877	
	14		4		15
SECOND YEAR					
Fall	Credits	Interim	Credits	Spring	Credits
MAT 223 Multivariable Calculus	3	Laboratory Science (D) course	4	MAT 211 Linear Algebra	3
MAT 241 Discrete Mathematics	3			MAT 222 Differential Equations	3
COS 212 Data Structures	4			COS 216 Algorithms and Advanced Data Structures	3
GES 246 Humanities IV: Modern and Contemporary Western Culture	4			Second Language (S) course *2	4
Elective	3				
	17	·	4		13
THIRD YEAR					
Fall	Credite	Interim	Credits	Spring	Credits
	oreuna		orcuito		oreans
COS 313 Database Systems		Interim Off	oreans	MAT 310 Abstract Algebra	4
COS 313 Database Systems MAT 330 Probability and Statistics		Interim Off	orcuito	MAT 310 Abstract Algebra MAT 344 Numerical Methods	4
	3	Interim Off		MAT 310 Abstract Algebra	4
MAT 330 Probability and Statistics	3	Interim Off		MAT 310 Abstract Algebra MAT 344 Numerical Methods	4
MAT 330 Probability and Statistics MAT 422 Real Analysis	3	Interim Off		MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course	4 3 0-3
MAT 330 Probability and Statistics MAT 422 Real Analysis World Cultures (U) course Cross-Cultural Experience (Z) course	33	Interim Off	0	MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course Electives	4 3 0-3
MAT 330 Probability and Statistics MAT 422 Real Analysis World Cultures (U) course Cross-Cultural Experience (Z) course FOURTH YEAR	3 3 3 3 0-3 12-15	Interim Off	0	MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course Electives	4 3 0-3 6 13-16
MAT 330 Probability and Statistics MAT 422 Real Analysis World Cultures (U) course Cross-Cultural Experience (Z) course	3 3 3 3 0-3 12-15	Interim Off	0 Credits	MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course Electives Spring	4 3 0-3 6 13-16 Credits
MAT 330 Probability and Statistics MAT 422 Real Analysis World Cultures (U) course Cross-Cultural Experience (Z) course FOURTH YEAR Fall MAT 376 Operations Research	3 3 3 0-3 12-15 Credits	Interim Off	0 Credits	MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course Electives	4 3 0-3 6 13-16
MAT 330 Probability and Statistics MAT 422 Real Analysis World Cultures (U) course Cross-Cultural Experience (Z) course FOURTH YEAR Fall MAT 376 Operations Research Interpreting Biblical Themes (J) course	3 3 3 0-3 12-15 Credits	Interim Off Interim Interim MAT 499 Senior Seminar	0 Credits	MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course Electives Spring	4 3 0-3 6 13-16 Credits 3 3
MAT 330 Probability and Statistics MAT 422 Real Analysis World Cultures (U) course Cross-Cultural Experience (Z) course FOURTH YEAR Fall MAT 376 Operations Research Interpreting Biblical Themes (J) course Comparative Systems (G) course	3 3 3 0-3 12-15 Credits	Interim Off Interim MAT 499 Senior Seminar	0 Credits 3	MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course Electives Spring BUS 417 Business Analysis and Analytics Seminar COS 334 Data Mining and Machine Learning MAT 331 Applied Statistics	4 3 0-3 6 13-16 Credits 3 3
MAT 330 Probability and Statistics MAT 422 Real Analysis World Cultures (U) course Cross-Cultural Experience (Z) course FOURTH YEAR Fall MAT 376 Operations Research Interpreting Biblical Themes (J) course Comparative Systems (G) course Science, Technology, and Society (K) course	3 3 3 0-3 12-15 Credits 4 3	Interim Off Interim MAT 499 Senior Seminar	0 Credits 3	MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course Electives Spring BUS 417 Business Analysis and Analytics Seminar COS 334 Data Mining and Machine Learning MAT 331 Applied Statistics Contemporary Christian Issues (P) course	4 3 0-3 6 13-16 Credits
MAT 330 Probability and Statistics MAT 422 Real Analysis World Cultures (U) course Cross-Cultural Experience (Z) course FOURTH YEAR Fall MAT 376 Operations Research Interpreting Biblical Themes (J) course Comparative Systems (G) course	3 3 0-3 0-3 12-15 Credits 4 3 3	Interim Off Interim MAT 499 Senior Seminar	0 Credits 3	MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course Electives Spring BUS 417 Business Analysis and Analytics Seminar COS 334 Data Mining and Machine Learning MAT 331 Applied Statistics	4 3 0-3 6 13-16 Credits 3 3 3
MAT 330 Probability and Statistics MAT 422 Real Analysis World Cultures (U) course Cross-Cultural Experience (Z) course FOURTH YEAR Fall MAT 376 Operations Research Interpreting Biblical Themes (J) course Comparative Systems (G) course Science, Technology, and Society (K) course	3 3 0-3 12-15 Credits 4 3 3 3	Interim Off Interim Interim MAT 499 Senior Seminar	0 Credits 3	MAT 310 Abstract Algebra MAT 344 Numerical Methods Artistic Experience (A) course Electives Spring BUS 417 Business Analysis and Analytics Seminar COS 334 Data Mining and Machine Learning MAT 331 Applied Statistics Contemporary Christian Issues (P) course Leisure and Lifetime Sports (Q) course	4 3 0-3 6 13-16 Credits 3 3 3

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