

BA: Mathematics – Computer Science Option (122 S.H. required to complete the degree)

Name: _____ Adviser: _____



General Education Requirements (44 S.H.)

COMMUNICATION SKILLS (3 S.H.)

Choose one of the following: COM 160 Public Speaking, COM 161 Decision Making in Groups, COM 162 Interpersonal Communication **or** COM 163 Introduction to Communication Skills

COM:	3
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WRITING INTENSIVE (W)

All students must complete at least one writing intensive course. W courses can be found in several disciplines. The credits will be counted in the discipline associated with the course. *NOTE: WRT 101 does not satisfy the writing intensive requirement.*

Course:	Y/N
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FOREIGN LANGUAGE

All math majors must complete a foreign language requirement. This may be done by completing a language at an elementary II level or above. Students who have completed three years of language in high school with at least a C average have satisfied this requirement. (For more info, click the link above.)

Foreign Language Requirement Met?	Y / N
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HUMANITIES (15 S.H.)

Humanities courses can be found in Art, English, Foreign Languages, History, Humanistic Studies, Music, Philosophy, Theatre and Writing. Students may only use one studio course to satisfy this requirement. You must complete courses in at least 3 areas. *NOTE: You must complete the foreign language requirement (Elementary II or higher) before counting Elementary I foreign language courses as Humanities credit.*

Elective:	3
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Elective:	3
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Elective:	3
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Elective:	3
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Elective:	3
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SOCIAL AND BEHAVIORAL SCIENCES (12 S.H.)

Courses that satisfy this requirement can be found in Social Sciences (Anthropology, Economics, Political Science, Social Sciences, and Sociology), Non-Western Cultures, and Psychology. *You must select courses from at least 2 of the 3 main areas: Social Sciences, Psychology and Non-Western Cultures.*

Elective:	3
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Elective:	3
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Elective:	3
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Elective:	3
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NATURAL SCIENCES, MATHEMATICS & COMPUTER SCIENCE (12 S.H.)

Students must complete the courses specified for this category.

MAT 181 Calculus I or MAT 171 Calculus with Precalculus II (must take MAT 170 before MAT 171 counts as credit)*	4
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Choose first in 2 course sequence: PHY 110 or PHY 120 or CHE 110 or BIO 103	4
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Choose second in 2 course sequence based on course taken above: PHY 111 or PHY 121 or CHE 111 or BIO 104	4
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HEALTH PROMOTION AND EXERCISE SCIENCES (2 S.H.)

HPX 177 Fitness for Life — Lecture	1
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HPX 177 Fitness for Life — Activity	1
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Major Requirements (45 S.H.)

MAT 150 Mathematics Seminar I	.5	
MAT 151 Mathematics Seminar II	.5	
MAT 165 Introductory Discrete Mathematics*	4	
MAT 182 Calculus II *	4	
MAT 207 Proofs*	3	
MAT 272 Introduction to Linear Algebra*	3	
MAT 281 Calculus III*	4	
MAT 282 Differential Equations or MAT 222 Introductory Statistics	3	
MAT 332 Introduction to Applied Mathematics or MAT 359 Theory of Computation	3	
MAT 375 Algebraic Structures*	3	
MAT 450 Senior Seminar I	1.5	
MAT 451 Senior Seminar II	1.5	

COMPUTER SCIENCE OPTION COURSES:

CS 170 Computer Science I: Language	4	
CS 205 Data Modeling and Database Design	4	
CS 315 Design and Analysis of Algorithms	4	
Choose One: CS 305 Database Applications Engineering, CS 350 Object Oriented Software Engineering, CS 360 Distributed Applications Engineering	4	

FREE ELECTIVES (27 S.H.)

Elective: (CS 143 or CS 143)	3	
Elective:		
Elective:		
Elective:		
Elective:		
Elective:		
Elective:		
Elective:		
Elective:		
Elective:		

* Math Majors must earn a C or better.

Free electives offer an opportunity to complete a minor, study a second language, study abroad, or participate in an internship. Make a plan.

NOTES

BA: Mathematics – Computer Science Option (122 S.H. required to complete the degree)**Four-Year Plan** This is a sample sequence of courses. Other combinations are possible.

Pre-requisites are in parentheses; see catalog for details.

Class standing by credit: Freshman: 0-29 credits; Sophomore: 30-59 credits; Junior: 60-89 credits; Senior: 90+ credits

FIRST YEAR (32-33 S.H.)	SEMESTER 1 (17.5 S.H.)			SEMESTER 2 (15.5-16.5 S.H.)		
	WRT 101 Composition I or Writing Intensive	3		CS 140 Introduction to Programming (MAT 100 or appropriate placement) or CS 143 Visual BASIC (MAT 100 or appropriate placement)	3 – 4	
	MAT 181 Calculus I (MAT 133 or equivalent placement exam) or MAT 170 Calculus with Pre-calculus I (placement into general education math and must be taken with MAT 171 to receive credit)	4		MAT 182 Calculus II (MAT 181 or appropriate placement) or MAT 171 Calculus with Precalculus II (MAT 170)	3	
	Gen Ed: Communication Skills	3		Gen Ed Social and Behavioral Sciences	3	
	Gen Ed: Humanities (Language recommended)	3		Gen Ed: Humanities (Language recommended)	3	
	MAT 150 Mathematics Seminar I (declared major in Math)	.5		MAT 151 Mathematics Seminar II (MAT 150)	.5	
	MAT 165 Introductory Discrete Mathematics	4		MAT 207 Proofs (MAT 141 with a grade $\geq$ C, CS Option students may substitute MAT 165 for MAT 141)	3	

SECOND YEAR (32 S.H.)	SEMESTER 3 (16 S.H.)			SEMESTER 4 (16 S.H.)		
	CS 170 Computer Science I: Language (CS 140 or 143)	3		CS 171 Computer Science II: Data Structures (CS 170)	4	
	MAT 272 Introduction to Linear Algebra (MAT 182)	3		MAT 282 Differential Equations or MAT 222 Introductory Statistics	3	
	MAT 281 Calculus III (MAT 182 with a grade $\geq$ C or MAT 181/171 with a grade $\geq$ B)	3 – 4		MAT 375 Algebraic Structures (MAT 272 with a grade $\geq$ C)	3	
	Gen Ed: Social & Behavioral Sciences	3		Gen Ed: Humanities	3	
	Gen Ed: Humanities or Free Elective	3		Gen Ed Social & Behavioral Sciences	3	

THIRD YEAR (33 S.H.)	SEMESTER 5 (17 S.H.)			SEMESTER 6 (16 S.H.)		
	MAT 332 Introduction to Applied Mathematics (MAT 222 with a grade $\geq$ C and MAT 272 with a grade $\geq$ C) or MAT 359 Theory of Computation (CS/MAT 165 and MAT 171 or 181)	3		MAT 383 Introduction to Analysis (MAT 207 and MAT 182)	3	
	Science Sequence I	4		Science Sequence II	4	
	CS 205 Data Modeling and Database Design (CS 140 or CS 143 or CS 170)	4		CS Elective (choose one of three listed)	4	
	Gen Ed: Social & Behavioral Sciences	3		Free Elective	3	
	Free Elective	3		HPX 177 Fitness for Life (Lecture & Activity)	2	
	Complete a degree audit and plan for application for graduation					

FOURTH YEAR (28 S.H.)	SEMESTER 7 (16 S.H.)			SEMESTER 8 (15 S.H.)		
	MAT 450 Senior Seminar I (Senior standing in BA Mathematics program)	3		MAT 451 Senior Seminar II (Senior standing in BA Mathematics program)	3	
	CS 315 Design and Analysis of Algorithms (CS 171 or CS 221 and either MAT 171 or MAT 181)	4		Free Elective	3	
	Free Elective	3		Free Elective	3	
	Free Elective	3		Free Elective	3	
	Free Elective	3		Free Elective	3	

The number of Free Electives available will vary based on your initial math & writing placement tests. MAT 100 and WRT 101 if required, count as elective credit