MAJOR IN MATHEMATICS, GENERAL MATHEMATICS CONCENTRATION

TO PREPARE FOR FIRST SEMESTER: The curriculum for the Major in Mathematics, General Mathematics Concentration assumes students enter college prepared to take calculus. Entering students who are not prepared to take calculus will need to fulfill pre-calculus requirements in the first semester: MATH 117, MATH 118, MATH 124, MATH 125, MATH 126. A minimum grade of C (2.000) is required in all mathematics, statistics, and computer science courses that are required by the major.

Major Completion Map

Distinctive Requirements for Degree Program:

Freshman

Semester 1		Critical	Recommended	AUCC	Credits
CO 150	College Composition (GT-CO2)		X	1A	3
MATH 160	Calculus for Physical Scientists I (GT-MA1)		X	1B	4
MATH 192	First Year Seminar in Mathematical Sciences				1
Arts and Humanities (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities)				3B	3
Historical Perspectives (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives)				3D	3
Pre-Calculus Requirements must be completed by the end of Semester 1, if needed (MATH 117, MATH 118, MATH 124, MATH 125, MATH 126).		X			
	Total Credits				**14**

Semester 2		Critical	Recommended	AUCC	Credits
MATH 161	Calculus for Physical Scientists II (GT-MA1)		X	1B	4
Arts and Humanities (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities)				3B	3
Diversity, Equity, and Inclusion (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion)				1C	3
Social and Behavioral Sciences (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences)				3C	3
Elective					3
CO 150 and MATH 160 must be completed by the end of Semester 2.		X			
	Total Credits				**16**

Sophomore

Semester 3		Critical	Recommended	AUCC	Credits
MATH 261	Calculus for Physical Scientists III		X		4
PH 141	Physics for Scientists and Engineers I (GT-SC1)			3A	5
Select one course from the following:					3-4
DSCI 369	Linear Algebra for Data Science				
MATH 369	Linear Algebra I				
Advanced Writing (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#advanced-writing)				2	3
MATH 161 must be completed by the end of Semester 3.		X			
	Total Credits				**15-16**

Semester 4		Critical	Recommended	AUCC	Credits
Select one course from the following:					2-4
CS 220	Discrete Structures and their Applications				
MATH 235	Introduction to Mathematical Reasoning				
Select one course from the following:					3
STAT 303/ ECE 303	Introduction to Communications Principles				
STAT 315	Intro to Theory and Practice of Statistics				
Select four credits from the following:					4

CS 150A	Culture and Coding: Java (GT-AH3)			3B	
CS 150B	Culture and Coding: Python (GT-AH3)			3B	
CS 152	Python for STEM				
CS 158/ MATH 158	Mathematical Algorithms in C				
CS 163	CS1---No Prior Programming Experience				
CS 164	CS1--Computational Thinking with Java				
MATH 151	Mathematical Algorithms in Matlab I				
MATH 152	Mathematical Algorithms in Maple				
STAT 158	Introduction to R Programming				
Biological and Physical Sciences (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#biological-physical-sciences)				3A	5
MATH 261 and MATH 369 must be completed by the end of Semester 4.		X			
	Total Credits				**14-16**

Junior

Semester 5		**Critical**	**Recommended**	**AUCC**	**Credits**
MATH 317	Advanced Calculus of One Variable			4B	3
Select two courses from the following:				4A	6-7
MATH 345 or 340	Differential Equations Intro to Ordinary Differential Equations				
MATH 360	Mathematics of Information Security			4A	
MATH 366	Introduction to Abstract Algebra			4A	
Electives			X		6
	Total Credits				**15-16**

Semester 6		**Critical**	**Recommended**	**AUCC**	**Credits**
Biological and Physical Sciences (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#biological-physical-sciences)				3A	3
Mathematical Sciences Electives (See Concentration Requirements Tab)					6
Elective			X		6
MATH 317 and MATH 360 or MATH 366 or MATH 466 must be completed by the end of Semester 6.		X			
	Total Credits				**15**

Senior

Semester 7		**Critical**	**Recommended**	**AUCC**	**Credits**
Select one course from the following:					3
MATH 417	Advanced Calculus I			4B,4C	
MATH 435	Projects in Applied Mathematics			4C	
MATH 466	Abstract Algebra I			4A,4C	
Mathematical Sciences Electives (See Concentration Requirements Tab)					6
Electives					6
	Total Credits				**15**

Semester 8		**Critical**	**Recommended**	**AUCC**	**Credits**
Mathematical Sciences Electives (See Concentration Requirements Tab)		X			6
Electives					6-10
The benchmark courses for the 8th semester are the remaining courses in the entire program of study.		X			
	Total Credits				**12-16**
	Program Total Credits:				**120**