MAJOR IN MATHEMATICS, GENERAL MATHEMATICS CONCENTRATION

Requirements
Effective Fall 2022

A minimum grade of C (2.000) is required in all mathematics, statistics, and computer science courses that are required for graduation.

Freshman

		AUCC	Credits
CO 150	College Composition (GT-CO2)	1A	3
MATH 160	Calculus for Physical Scientists I (GT-MA1)	1B	4
MATH 161	Calculus for Physical Scientists II (GT-MA1)	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	6
Diversity, Equity, and Inclusion (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion)		1C	3
Historical Perspectives (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives)		3D	3
Social and Behavioral Sciences (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences)		3C	3
Elective			3
	Total Credits		**30**

Sophomore

		AUCC	Credits
MATH 261	Calculus for Physical Scientists III		4
PH 141	Physics for Scientists and Engineers I (GT-SC1)	3A	5
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:			3-4
DSCI 369	Linear Algebra for Data Science		
MATH 369	Linear Algebra I		
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		
Select one course from the following:			3
STAT 303/ECE 303	Introduction to Communications Principles		
STAT 315	Intro to Theory and Practice of Statistics		

Advanced Writing (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#advanced-writing)		2	3
Biological and Physical Sciences (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#biological-physical-sciences)[1]		3A	5
Total Credits			**29-32**
Junior			
MATH 317	Advanced Calculus of One Variable	4B	3
Select two courses from the following:			6-7
MATH 340 or 345	Intro to Ordinary Differential Equations Differential Equations		
MATH 360	Mathematics of Information Security	4A	
MATH 366	Introduction to Abstract Algebra	4A	
Biological and Physical Sciences (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#biological-physical-sciences)[1]		3A	3
Mathematical Sciences Electives[2]			6
Electives			12
Total Credits			**30-31**
Senior			
Select one course from the following:[2]			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[2]			12
Electives[3]			12-16
Total Credits			**27-31**
Program Total Credits:			**120**

[1] At least 2 of the 8 credits must be from category 3A in the AUCC. Remaining 6 credits can be from AUCC 3A, CS 165, CS 220, CS 253, CS 270 or any 300+ Math, CS, DSCI, ECE, MECH, PH, or STAT course; except for courses ending in -80 to -99 or DSCI 369.

[2] Select 18 credits from upper division (300-400 level) MATH, CS, DSCI, STAT courses, or ECE 311 or ECE 312 except those courses ending in -80 to -99 or DSCI 369. At least 9 of the 18 credits must be from upper division MATH courses. At least 12 credits of ALL upper division MATH courses must be at the 400-level or above.

[3] Select enough elective credits to bring the program total to a minimum of 120 credits, of which at least 42 must be upper-division (300- to 400-level).