MAJOR IN DATA SCIENCE, MATHEMATICS CONCENTRATION

Major Completion Map

Freshman

Semester 1		Critical	Recommended	AUCC	Credits
CO 150	College Composition (GT-CO2)			1A	3
CS 150B	Culture and Coding: Python (GT-AH3)	X		3B	3
DSCI 100	First Year Seminar in Data Science				1
MATH 156	Mathematics for Computational Science I (GT-MA1)			1B	4
1C (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#aucc)			X	1C	3
	Total Credits				**14**

Semester 2		Critical	Recommended	AUCC	Credits
CS 164	CS1--Computational Thinking with Java	X			4
DSCI 369	Linear Algebra for Data Science				4
STAT 158	Introduction to R Programming	X			1
STAT 315	Intro to Theory and Practice of Statistics	X			3
Biological and Physical Sciences (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#biological-physical-sciences)				3A	4
	Total Credits				**16**

Sophomore

Semester 3		Critical	Recommended	AUCC	Credits
CS 165	CS2--Data Structures	X			4
STAT 341	Statistical Data Analysis I	X			3
Historical Perspectives (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives)				3D	3
Social and Behavioral Sciences (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences)				3C	3
	Total Credits				**13**

Semester 4		Critical	Recommended	AUCC	Credits
CS 220	Discrete Structures and the Applications	X			4
DSCI 235	Data Wrangling				2
MATH 151	Mathematical Algorithms in Matlab I				1
MATH 256	Mathematics for Computational Science II				4
STAT 342	Statistical Data Analysis II				3
Biological and Physical Sciences (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#biological-physical-sciences)				3A	3
	Total Credits				**17**

Junior

Semester 5		Critical	Recommended	AUCC	Credits
DSCI 320/ MATH 320	Optimization Methods in Data Science				3
Data Science Elective (See List on Concentration Requirements Tab)					3-4
Math Elective (See List on Concentration Requirements Tab)					3
Select one course from the following:				2	3
CO 300	Writing Arguments (GT-CO3)			2	
CO 301B	Writing in the Disciplines: Sciences (GT-CO3)			2	

CO 302	Writing in Digital Environments (GT-CO3)			2	
JTC 300	Strategic Writing and Communication (GT-CO3)			2	
Elective					3
	Total Credits				**15-16**
Semester 6		**Critical**	**Recommended**	**AUCC**	**Credits**
CS 201/PHIL 201	Ethical Computing Systems (GT-AH3)			3B	3
DSCI 335	Inferential Reasoning in Data Analysis				3
DSCI 336	Data Graphics and Visualization				1
Data Science Elective (See List on Concentration Requirements Tab)					3-5
Math Elective (See List on Concentration Requirements Tab)					3
	Total Credits				**13-15**
Senior					
Semester 7		**Critical**	**Recommended**	**AUCC**	**Credits**
DSCI 445	Statistical Machine Learning			4B	3
Data Science Elective (See List on Concentration Requirements Tab)					3-4
Math Elective (See List on Concentration Requirements Tab)					3
Electives					6
	Total Credits				**15-16**
Semester 8		**Critical**	**Recommended**	**AUCC**	**Credits**
DSCI 478	Capstone Group Project in Data Science	X		4A,4C	4
Data Science Elective (See List on Concentration Requirements Tab)		X			3-5
Math Elective (See List on Concentration Requirements Tab)		X			3
Electives		X			4
The benchmark courses for the 8th semester are the remaining courses in the entire program of study.		X			
	Total Credits				**14-16**
	Program Total Credits:				**120**