

MAJOR IN DATA SCIENCE, MATHEMATICS CONCENTRATION

Major Completion Map

Freshman

Semester 1	Critical	Recommended	AUCC	Credits
CO 150 College Composition (GT-CO2)			1A	3
DSCI 100 First Year Seminar in Data Science				1
MATH 160 Calculus for Physical Scientists I (GT-MA1)			1B	4
Select one course from the following:	X			4
CS 163 CS1--No Prior Programming Experience				
CS 164 CS1--Computational Thinking with Java				
Arts and Humanities (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities)			3B	3

Total Credits

15

Semester 2	Critical	Recommended	AUCC	Credits
CS 165 CS2--Data Structures	X			4
MATH 161 Calculus for Physical Scientists II (GT-MA1)			1B	4
STAT 158 Introduction to R Programming				1
STAT 315 Intro to Theory and Practice of Statistics				3
Biological and Physical Sciences (http://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 220 Discrete Structures and their Applications	X			4
MATH 261 Calculus for Physical Scientists III				4
STAT 341 Statistical Data Analysis I				3
Social and Behavioral Sciences (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences)			3C	3

Total Credits

14

Semester 4	Critical	Recommended	AUCC	Credits
DSCI 235 Data Wrangling				2
DSCI 369 Linear Algebra for Data Science	X			4
MATH 151 Mathematical Algorithms in Matlab I				1
STAT 342 Statistical Data Analysis II				3
Biological and Physical Sciences (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#biological-physical-sciences)			3A	3
Historical Perspectives (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives)			3D	3

Total Credits

16

Junior

Semester 5	Critical	Recommended	AUCC	Credits
DSCI 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	

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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
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
Arts and Humanities (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities)					3B 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
Diversity, Equity, and Inclusion (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion)					1C 3
Elective					3
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)					3-5
Math Elective (See List on Concentration Requirements Tab)					3
Elective					3
The benchmark courses for the 8th semester are the remaining courses in the entire program of study.					X
Total Credits					13-15
Program Total Credits:					120