

MAJOR IN DATA SCIENCE, GENERAL CONCENTRATION

Major Completion Map

Freshman

Semester 1		Critical	Recommended	AUCC	Credits
CS 150B	Culture and Coding: Python	X		3B	3
DSCI 100	First Year Seminar in Data Science	X			1
MATH 156	Mathematics for Computational Science I (GT-MA1)	X		1B	4
1C (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#aucc)			X	1C	3
Biological and Physical Sciences (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#biological-physical-sciences)			X	3A	4

Total Credits **15**

Semester 2		Critical	Recommended	AUCC	Credits
CO 150	College Composition (GT-CO2)	X		1A	3
CS 164	CS1–Computational Thinking with Java	X			4
DSCI 369	Linear Algebra for Data Science	X			4
STAT 158	Introduction to R Programming	X			1
STAT 315	Intro to Theory and Practice of Statistics	X			3

Total Credits **15**

Sophomore

Semester 3		Critical	Recommended	AUCC	Credits
CS 165	CS2–Data Structures	X			4
CS 201/PHIL 201	Ethical Computing Systems	X		3B	3
STAT 341	Statistical Data Analysis I	X			3
Biological and Physical Sciences (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#biological-physical-sciences)			X	3A	3
Social and Behavioral Sciences (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences)			X	3C	3

Total Credits **16**

Semester 4		Critical	Recommended	AUCC	Credits
CS 220	Discrete Structures	X			4
DSCI 235	Data Wrangling	X			2
MATH 151	Mathematical Algorithms in Matlab I	X			1
MATH 256	Mathematics for Computational Science II	X			4
STAT 342	Statistical Data Analysis II	X			3

Total Credits **14**

Junior

Semester 5		Critical	Recommended	AUCC	Credits
DSCI 320/ MATH 320	Optimization Methods in Data Science	X			3
Select one course from the following:		X			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	
Minor or Second Major		X			6

Historical Perspectives (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives)		X	3D	3	
Total Credits				15	
Semester 6		Critical	Recommended	AUCC	Credits
DSCI 335	Inferential Reasoning in Data Analysis	X			3
DSCI 336	Data Graphics and Visualization	X			1
Data Science Electives			X		6
Minor or Second Major		X			6
Total Credits				16	
Senior					
Semester 7		Critical	Recommended	AUCC	Credits
DSCI 445	Statistical Machine Learning	X		4B	3
Data Science Elective			X		3
Elective			X		3
Minor or Second Major					6
Total Credits				15	
Semester 8		Critical	Recommended	AUCC	Credits
DSCI 478	Capstone Group Project in Data Science	X		4A,4C	4
Data Science Elective		X			3
Electives		X			4
Minor or Second Major					3
The benchmark courses for the 8th semester are the remaining courses in the entire program of study.		X			
Total Credits				14	
Program Total Credits:				120	