MAJOR IN DATA SCIENCE, COMPUTER SCIENCE 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)	X		1B	4
Biological and Physical Sciences (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#biological-physical-sciences)				3A	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
Diversity, Equity, and Inclusion (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion)				1C	3
	Total Credits				**15**

Sophomore

Semester 3		Critical	Recommended	AUCC	Credits
CS 165	CS2--Data Structures	X			4
CS 220	Discrete Structures and their Applications				4
STAT 341	Statistical Data Analysis I	X			3
Biological and Physical Sciences (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#biological-physical-sciences)				3A	4
	Total Credits				**15**
Semester 4		Critical	Recommended	AUCC	Credits
CS 250 or 270	Computer Systems Foundations Computer Organization				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
	Total Credits				**14**

Junior

Semester 5		Critical	Recommended	AUCC	Credits
DSCI 320	Optimization Methods in Data Science				3
Select one course from the following:		X			3
CS 320	Algorithms--Theory and Practice				
CS 370	Operating Systems				
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	

		Critical	Recommended	AUCC	Credits
Computer Science Elective (Select course not previously taken from List on Concentration Requirements Tab)					6-8
Total Credits					**15-17**
Semester 6		**Critical**	**Recommended**	**AUCC**	**Credits**
CS 201/PHIL 201	Ethical Computing Systems (GT-AH3)			3B	3
CS 214	Software Development				3
DSCI 335	Inferential Reasoning in Data Analysis				3
DSCI 336	Data Graphics and Visualization				1
Social and Behavioral Sciences (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences)				3C	3
Total Credits					**13**
Senior					
Semester 7		**Critical**	**Recommended**	**AUCC**	**Credits**
DSCI 445	Statistical Machine Learning			4B	3
Data Science Electives (Select courses not previously taken from list on Concentration Requirements Tab)					9
Historical Perspectives (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives)				3D	3
Elective					2
Total Credits					**17**
Semester 8		**Critical**	**Recommended**	**AUCC**	**Credits**
DSCI 478	Capstone Group Project in Data Science	X		4A,4C	4
Electives		X			11-13
The benchmark courses for the 8th semester are the remaining courses in the entire program of study.		X			
Total Credits					**15-17**
Program Total Credits:					**120**