

MAJOR IN COMPUTER SCIENCE, COMPUTER SCIENCE CONCENTRATION

To prepare for first semester: The curriculum for the Computer Science major assumes students enter college prepared to take calculus. Entering students who are not prepared to take calculus will need to fulfill pre-calculus requirements in the first semester. All students must maintain a C (2.000) or better in CO 150 and in all CS, DSCI, MATH, STAT and departmental Technology Focus Elective courses which are required for graduation.

Major Completion Map

Distinctive Requirements for Degree Program:

Freshman

Semester 1	Critical	Recommended	AUCC	Credits
CO 150 College Composition (GT-CO2)			1A	3
First course from Group A, B, or C (See options in Concentration Requirements Tab)		X		2-4
Department Approved Science (See list on Concentration Requirements Tab)			3A	3
Diversity, Equity, and Inclusion (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion)	X		1C	3
Electives				3
MATH 124 and MATH 126 may be necessary for some students to fulfill pre-calculus requirements.	X			
Total Credits				15

Semester 2	Critical	Recommended	AUCC	Credits
CS 201/PHIL 201 Ethical Computing Systems (GT-AH3)			3B	3
MATH 156 or 160 Mathematics for Computational Science I (GT-MA1) Calculus for Physical Scientists I (GT-MA1)			1B	4
Remaining course(s) from Group A, B, or C (See options in Concentration Requirements Tab)	X			2-7
Department Approved Science with Lab (See list on Concentration Requirements Tab)			3A	4
Elective				0-2
CO 150 must be completed by the end of Semester 2 with a grade of C or better.	X			
Total Credits				15

Sophomore

Semester 3	Critical	Recommended	AUCC	Credits
CS 165 CS2--Data Structures		X		4
CS 220 Discrete Structures and their Applications		X		4
Select one course from the following:				1-3
STAT 301 Introduction to Applied Statistical Methods				
STAT 302A Statistics Supplement: General Applications				
STAT 307 Introduction to Biostatistics				
STAT 315 Intro to Theory and Practice of Statistics				
Historical Perspectives (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives)			3D	3
Electives				1-3
Total Credits				15

Semester 4	Critical	Recommended	AUCC	Credits
CS 270 Computer Organization				4
CS 253 Software Development with C++		X		4
Select one course from the following:				3-4
DSCI 369 Linear Algebra for Data Science	X			
MATH 369 Linear Algebra I	X			

Social and Behavioral Sciences (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences)			3C	3
Electives				0-1
CS 165 and CS 220 and CS 270 must be completed by the end of Semester 4.	X			
MATH 156 or MATH 160 and MATH 369 or DSCI 369 must be completed by the end of Semester 4.	X			
Total Credits				15
<i>Junior</i>				
Semester 5	Critical	Recommended	AUCC	Credits
CS 314 Software Engineering		X	4A,4B	3
CS 320 Algorithms–Theory and Practice		X		3
CS 370 Operating Systems		X		3
Advanced Writing (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#advanced-writing)			2	3
Electives				3
CS 253 must be completed by the end of Semester 5.	X			
Total Credits				15
Semester 6	Critical	Recommended	AUCC	Credits
Two CS courses numbered 300- or above, excluding 380-399 and 480-499		X		6-8
Electives				7-9
CS 314 and CS 320 and CS 370 must be completed by the end of Semester 6.	X			
Total Credits				15
<i>Senior</i>				
Semester 7	Critical	Recommended	AUCC	Credits
Capstone Course (See Capstone Course List on Concentration Requirements tab)	X		4C	4
CS course numbered 400- or above, excluding 480-499		X		4
Technology Focus or Minor/Second Major courses				6
At least 2 Upper-Division CS classes must be completed by the end of Semester 7.	X			
Total Credits				14
Semester 8	Critical	Recommended	AUCC	Credits
CS*** Course numbered 400- or above	X			4
Technology Focus or Minor/Second Major courses	X			4
Electives	X			8
The benchmark courses for the 8th semester are the remaining courses in the entire program of study.	X			
Total Credits				16
Program Total Credits:				120