

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	3B	3
Department Approved Science (See list on Concentration Requirements Tab)			3A	3
1C (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#aucc)	X		1C	3
Elective				1
MATH 124 and MATH 126 may be necessary for some students to fulfill pre-calculus requirements.	X			
Total Credits				13

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			2-6
Department Approved Science with Lab (See list on Concentration Requirements Tab)			3A	4
Electives				0-4
CO 150 must be completed by the end of Semester 2 with a grade of C or better.	X			
Total Credits				17

Sophomore

Semester 3	Critical	Recommended	AUCC	Credits
CS 165 CS2--Data Structures		X		4
CS 220 Discrete Structures and the 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 (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives)			3D	3
Electives				0-4
Total Credits				14-16

Semester 4	Critical	Recommended	AUCC	Credits
Select one group from the following:	X			4-5
Group A				
CS 214 Software Development				
CT 301 C++ Fundamentals				
Group B				

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CS 253	Software Development with C++				
Select one course from the following:		X			4
CS 250	Computer Systems Foundations			X	
CS 270	Computer Organization			X	
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 (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences)				3C	3
CS 165 and CS 220 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					14-16
Junior					
Semester 5		Critical	Recommended	AUCC	Credits
CS 314	Software Engineering			X 4A,4B	3
CS 320	Algorithms--Theory and Practice			X	3
Advanced Writing (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#advanced-writing)				2	3
Electives					5-6
CS 253 and (CS 250 or CS 270) must be completed by the end of Semester 5.		X			
Total Credits					14-15
Semester 6		Critical	Recommended	AUCC	Credits
CS 370	Operating Systems				3
Two CS courses numbered 300- or above, excluding 380-399 and 480-499				X	6-8
Electives					5-6
CS 314 and CS 320 and CS 370 must be completed by the end of Semester 6.		X			
Total Credits					15-16
Senior					
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, excluding 480-499		X			4
Technology Focus or Minor/Second Major courses		X			4
Electives					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