

MAJOR IN COMPUTER SCIENCE, COMPUTING SYSTEMS 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 Technical 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)	X		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)	X		3A	4
1C (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#aucc)	X		1C	3
Elective		X		1
MATH 124 and MATH 126 may be necessary for some students to fulfill pre-calculus requirements.	X			
Total Credits				14

Semester 2	Critical	Recommended	AUCC	Credits
CS 201/PHIL 201 Ethical Computing Systems (GT-AH3)	X		3B	3
MATH 156 or 160 Mathematics for Computational Science I (GT-MA1) Calculus for Physical Scientists I (GT-MA1)	X		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)	X		3A	3
Electives		X		0-4
CO 150 must be completed by the end of Semester 2 with a grade of C or better.	X			
Total Credits				16

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:	X			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)		X	3D	3
Electives		X		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				
CS 270	Computer Organization				
Select one course from the following:		X			3-4
DSCI 369	Linear Algebra for Data Science				
MATH 369	Linear Algebra I				
Social and Behavioral Sciences (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences)			X	3C	3
CS 165 and CS 220 and (CS 250 or 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					14-16
Junior					
Semester 5		Critical	Recommended	AUCC	Credits
CS 320	Algorithms--Theory and Practice	X			3
CS 370	Operating Systems	X			3
Technical Elective (See list on Concentration Requirements Tab)		X			3-4
Advanced Writing (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#advanced-writing)				2	3
Elective			X		2-3
CS 253 must be completed by the end of Semester 5.		X			
Total Credits					15
Semester 6		Critical	Recommended	AUCC	Credits
CS 314	Software Engineering	X			3
Two CS courses numbered 300- or above, excluding 380-399 and 480-499		X			6-8
Technical Elective (See list on Concentration Requirements Tab)		X			3-4
Elective			X		0-3
CS 314 and CS 320 and CS 370 must be completed by the end of Semester 6.		X			
Total Credits					15
Senior					
Semester 7		Critical	Recommended	AUCC	Credits
Systems Course (See list on the Concentration Requirements Tab)		X		4C	4
Systems Elective (See list on the Concentration Requirements Tab)		X			4
Electives			X		7
At least four Upper-Division CS classes must be completed by the end of Semester 7.		X			
Total Credits					15
Semester 8		Critical	Recommended	AUCC	Credits
Systems Courses (See list on the Concentration Requirements Tab)		X		4C	8
Electives			X		7
The benchmark courses for the 8th semester are the remaining courses in the entire program of study.		X			
Total Credits					15
Program Total Credits:					120