

# MAJOR IN COMPUTER SCIENCE, COMPUTER SCIENCE EDUCATION 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, and STAT courses which are required for graduation.<sup>4</sup>

## 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 in Group A, B, or C (See options on Concentration Requirements Tab)				2-4
Diversity, Equity, and Inclusion ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion</a> )	X		1C	3
Department Approved Science (See list on Concentration Requirements Tab)			3A	3
Electives				2-4
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)		X	1B	4
Remaining course(s) from Group A, B, or C (See options on Concentration Requirements Tab)	X			2-7
Department Approved Science with Lab (See list on Concentration Requirements Tab)			3A	4
Electives				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
EDUC 275 Schooling in the United States (GT-SS3)		X	3C	3
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				

Electives

1-3

#### Total Credits

15

Semester 4	Critical	Recommended	AUCC	Credits
CS 253 Software Development with C++		X		4
CS 270 Computer Organization	X			4
EDUC 340 Literacy and the Learner				3
Select one course from the following:				3-4

DSCI 369	Linear Algebra for Data Science	X
MATH 369	Linear Algebra I	X
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

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<b>Total Credits</b>	<b>15</b>
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**Junior**

<b>Semester 5</b>	<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
CS 314		X	4A,4B	3
CS 320		X		3
CS 370		X		3
EDUC 331				2
Historical Perspectives ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives</a> )			3D	3
Advanced Writing ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#advanced-writing">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#advanced-writing</a> )			2	3
CS 253 must be completed by the end of Semester 5.	X			

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<b>Total Credits</b>	<b>17</b>
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<b>Semester 6</b>	<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
Two CS courses numbered 300- or above, excluding 380-399 and 480-499		X		6-8
One CS course numbered 400- or above, excluding 480-499		X		4
EDUC 350	Instruction I-Individualization/Management	X		3
EDUC 386	Practicum-Instruction I	X		1
CS 314 and CS 320 and CS 370 must be completed by the end of Semester 6.	X			

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<b>Total Credits</b>	<b>14-16</b>
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**Senior**

<b>Semester 7</b>	<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
Two CS Education Standards Courses (See CS Education Standards Course List on Concentration Requirements tab)	X			7-8
EDUC 450	Instruction II-Standards and Assessment	X		4
EDUC 486E	Practicum: Instruction II	X		1
EDCT 465	Methods and Materials in Technology Education	X		3

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<b>Total Credits</b>	<b>15-16</b>
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<b>Semester 8</b>	<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
EDCT 485	Student Teaching	X	4A,4B,4C	11
EDUC 493A	Seminar: Professional Relations	X		1
Electives		X		0-1
The benchmark courses for the 8th semester are the remaining courses in the entire program of study.	X			

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<b>Total Credits</b>	<b>12-13</b>
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<b>Program Total Credits:</b>	<b>120</b>
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