

# MAJOR IN COMPUTER ENGINEERING

## Major Completion Map

### Distinctive Requirements for Degree Program:

**TO PREPARE FOR FIRST SEMESTER:** The curriculum for this major assumes students enter college prepared to take calculus.

In order to maintain professional standards required of practicing engineers, the Department of Electrical and Computer Engineering requires a cumulative grade point average of at least 2.000 in Electrical Engineering courses as a graduation requirement. It is the responsibility of any student who fails to maintain a 2.000 average to work with their advisor to correct grade point deficiencies. ECE courses required for the major at the 100, 200, and 300 level must be passed with a minimum grade of C (2.000); grades below a C will require the student to retake the course. ECE courses designated as an elective are exempt from the C or higher minimum grade requirement.

### Freshman

Semester 1		Critical	Recommended	AUCC	Credits
CO 150	College Composition (GT-CO2)		X	1A	3
ECE 102	Digital Circuit Logic	X			4
First course from Group A, B, or C (See options in Program Requirements Tab)		X		3B	3
MATH 160	Calculus for Physical Scientists I (GT-MA1)	X		1B	4
<b>Total Credits</b>					<b>14</b>

Semester 2		Critical	Recommended	AUCC	Credits
ECE 251	Introduction to Microcontrollers and IoT	X			4
Remaining course(s) from Group A, B, or C (See options in Program Requirements Tab)		X			4
MATH 161	Calculus for Physical Scientists II (GT-MA1)	X		1B	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
<b>Total Credits</b>					<b>15</b>

### Sophomore

Semester 3		Critical	Recommended	AUCC	Credits
CS 165	CS2-Data Structures	X			4
CT 301	C++ Fundamentals	X			2
ECE 103	DC Circuit Analysis	X			3
MATH 261	Calculus for Physical Scientists III	X			4
PH 141	Physics for Scientists and Engineers I (GT-SC1)	X		3A	5
<b>Total Credits</b>					<b>18</b>

Semester 4		Critical	Recommended	AUCC	Credits
ECE 202	Circuit Theory Applications	X			4
ECE 232	Introduction to Project Practices	X			1
ECE 303/ STAT 303	Introduction to Communications Principles	X			3
MATH 340	Intro to Ordinary Differential Equations	X			4
Department Approved Science (See List on Program Requirements Tab)			X	3A	3
<b>Total Credits</b>					<b>15</b>

### Junior

Semester 5		Critical	Recommended	AUCC	Credits
CS 214	Software Development	X			3
ECE 311	Linear System Analysis I	X			3
Select one course from the following:					3
CO 301B	Writing in the Disciplines: Sciences (GT-CO3)			2	
JTC 300	Strategic Writing and Communication (GT-CO3)			2	
Computer Engineering Electives - Group 1 (See List on Program Requirements Tab)		X			7
<b>Total Credits</b>					<b>16</b>

<b>Semester 6</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
CS 220	Discrete Structures and their Applications	X			4
ECON 202	Principles of Microeconomics (GT-SS1)		X	3C	3
Select one course from the following:					3
DSCI 369	Linear Algebra for Data Science	X			
MATH 369	Linear Algebra I	X			
Computer Engineering Electives - Group1 (See List on Program Requirements Tab)					7
<b>Total Credits</b>					<b>17</b>
<b>Senior</b>					
<b>Semester 7</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
ECE 401	Senior Design Project I	X		4A,4B	3
Computer Engineering Electives (Group 2/Group 3) and Technical Electives (See Lists on Program Requirements Tab)					10
Arts and Humanities ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities</a> )					3
<b>Total Credits</b>					<b>16</b>
<b>Semester 8</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
ECE 402	Senior Design Project II	X		4C	3
Computer Engineering Electives (Group 2/Group 3) and Technical Electives (See Lists on Program Requirements Tab)					9
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> )					3
The benchmark courses for the 8th semester are the remaining courses in the entire program of study.					
<b>Total Credits</b>					<b>15</b>
<b>Program Total Credits:</b>					<b>126</b>