

MAJOR IN COMPUTER ENGINEERING, NETWORKS AND DATA CONCENTRATION

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.

Freshman

Semester 1		Critical	Recommended	AUCC	Credits
CHEM 111	General Chemistry I (GT-SC2)		X	3A	4
CHEM 112	General Chemistry Lab I (GT-SC1)		X	3A	1
ENGR 111	Fundamentals of Engineering	X			3
MATH 160	Calculus for Physical Scientists I (GT-MA1)	X		1B	4
	First course from Group A, B, or C (See options in Program Requirements Tab)	X		3B	3
Total Credits					15

Semester 2		Critical	Recommended	AUCC	Credits
CO 150	College Composition (GT-CO2)		X	1A	3
ENGR 114	Engineering for Grand Challenges	X			3
MATH 161	Calculus for Physical Scientists II (GT-MA1)	X		1B	4
	Remaining course(s) from Group A, B, or C (See options in Program Requirements Tab)	X			4
Total Credits					14

Sophomore

Semester 3		Critical	Recommended	AUCC	Credits
CS 165	CS2–Data Structures	X			4
ECE 205	Analog Circuits I	X			2
ECE 252	Introduction to Digital Circuits	X			3
MATH 261	Calculus for Physical Scientists III	X			4
PH 141	Physics for Scientists and Engineers I (GT-SC1)	X		3A	5
Total Credits					18

Semester 4		Critical	Recommended	AUCC	Credits
ECE 206	Analog Circuits II	X			3
ECE 232	Introduction to Project Practices	X			1
ECE 253	Microcontrollers and C for Internet-of-Things	X			3
ECE 303/ STAT 303	Introduction to Communications Principles	X			3
MATH 340	Intro to Ordinary Differential Equations	X			4
Total Credits					14

Junior

Semester 5		Critical	Recommended	AUCC	Credits
CS 214	Software Development	X			3
CS 220	Discrete Structures and the Applications	X			4
ECE 311	Linear System Analysis I	X			3
ECE 450	Digital System Design Laboratory	X			1
ECE 451	Digital System Design	X			3

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.

JTC 300 or CO 301B	Strategic Writing and Communication (GT-C03) Writing in the Disciplines: Sciences (GT-C03)		X	2		3
Total Credits						17
Semester 6		Critical	Recommended	AUCC		Credits
CT 301	C++ Fundamentals		X			2
ECE 312	Linear System Analysis II	X				3
ECE 452	Computer Organization and Architecture	X				3
ECON 202	Principles of Microeconomics (GT-SS1)		X	3C		3
Select a minimum of three credits from the following:			X			3
DSCI 369	Linear Algebra for Data Science					
MATH 369	Linear Algebra I					
Total Credits						14
Senior						
Semester 7		Critical	Recommended	AUCC		Credits
CS 320	Algorithms--Theory and Practice		X			3
ECE 401	Senior Design Project I	X		4A,4B		3
ECE 421	Telecommunications I	X				3
Computer Engineering Electives and Technical Electives (See Lists on Program Requirements Tab)		X				6
1C (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#aucc)			X	1C		3
Total Credits						18
Semester 8		Critical	Recommended	AUCC		Credits
ECE 402	Senior Design Project II	X		4C		3
ECE 456	Computer Networks	X				4
Computer Engineering Electives and Technical Electives (See Lists on Program Requirements Tab)		X				3
Arts and Humanities (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities)		X		3B		3
Historical Perspectives (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives)		X		3D		3
The benchmark courses for the 8th semester are the remaining courses in the entire program of study.		X				
Total Credits						16
Program Total Credits:						126