

MAJOR IN ELECTRICAL ENGINEERING, LASERS AND OPTICAL ENGINEERING CONCENTRATION

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.

Major Completion Map

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
Course(s) 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
PH 141	Physics for Scientists and Engineers I (GT-SC1)	X		3A	5
Total Credits					15

Sophomore

Semester 3		Critical	Recommended	AUCC	Credits
ECE 205	Analog Circuits I	X			3
ECE 252	Introduction to Digital Circuits	X			3
MATH 261	Calculus for Physical Scientists III	X			4
Course(s) from Group A, B, or C (See options in Program Requirements Tab)		X			4
Total Credits					14

Semester 4		Critical	Recommended	AUCC	Credits
ECE 206	Analog Circuits II	X			3
ECE 232	Introduction to Project Practices	X			1
MATH 340	Intro to Ordinary Differential Equations	X			4
PH 142	Physics for Scientists and Engineers II (GT-SC1)	X		3A	5
1C (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#aucc)			X	1C	3
Total Credits					16

Junior

Semester 5		Critical	Recommended	AUCC	Credits
ECE 303/ STAT 303	Introduction to Communications Principles	X			3
ECE 311	Linear System Analysis I	X			3
ECE 331	Electronics Principles I	X			4
ECE 341	Electromagnetic Fields and Devices I	X			3
PH 353	Optics and Waves	X			4
Total Credits					17

Semester 6		Critical	Recommended	AUCC	Credits
ECE 332	Electronics Principles II	X		4A	4
ECE 342	Electromagnetic Fields and Devices II	X			3
JTC 300 or CO 301B	Strategic Writing and Communication (GT-CO3) Writing in the Disciplines: Sciences (GT-CO3)	X		2	3
PH 314	Introduction to Modern Physics	X			4
Arts and Humanities (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities)			X	3B	3
Total Credits					17
Senior					
Semester 7		Critical	Recommended	AUCC	Credits
ECE 401	Senior Design Project I	X		4A,4B	3
ECE 404	Experiments in Optical Electronics	X			2
ECE 441	Optical Electronics	X			3
PH 451	Introductory Quantum Mechanics I	X			3
Technical Electives (See List on Program Requirements Tab)			X		6
Total Credits					17
Semester 8		Critical	Recommended	AUCC	Credits
ECE 402	Senior Design Project II	X		4C	3
ECE 457	Fourier Optics	X			3
Technical Electives (See List on Program Requirements Tab)		X			3
Historical Perspectives (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives)		X		3D	3
Social and Behavioral Sciences (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences)		X		3C	3
The benchmark courses for the 8th semester are the remaining courses in the entire program of study.		X			
Total Credits					15
Program Total Credits:					126