MAJOR IN ELECTRICAL ENGINEERING, LASERS AND OPTICAL ENGINEERING CONCENTRATION

Major Completion Map

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**
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)				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			2
ECE 252	Introduction to Digital Circuits	X			3
MATH 261	Calculus for Physical Scientists III	X			4
PH 142	Physics for Scientists and Engineers II (GT-SC1)	X		3A	5
Course(s) from Group A, B, or C (See options in Program Requirements Tab)		X			4
	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 303/ STAT 303	Introduction to Communications Principles	X			3
MATH 340	Intro to Ordinary Differential Equations	X			4
PH 314	Introduction to Modern Physics	X			4
	Total Credits				**15**

Junior

Semester 5		**Critical**	**Recommended**	**AUCC**	**Credits**
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
1C (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#aucc)			X	1C	3
	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
ECON 202	Principles of Microeconomics (GT-SS1)		X	3C	3
JTC 300 or CO 301B	Strategic Writing and Communication (GT-CO3) Writing in the Disciplines: Sciences (GT-CO3)		X	2	3
Science/Math/Engineering Electives (See List on Program Requirements Tab)			X		2
	Total Credits				**15**

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			2
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				**14**
	Program Total Credits:				**126**