

B.S. in Electrical and Computer Engineering

Four-Year Plan

Catalog Year 2014-2015

Below is the *advised sequence* of courses for this degree program.
The official degree requirements can be found in the University General Catalog.

Course Number and Title	Units	Prerequisites
1ST SEMESTER		
MATH 122A/B or MATH 125 Calculus I with Applications	5/3	Appropriate Math Placement
CHEM 151 General Chemistry I	4	
ENGL 101 First-Year Composition	3	
ENGR 102 Introduction to Engineering or ENGR 102A and ENGR 102B	3	Concurrent enrollment or completion of MATH 122B or MATH 125
Tier I General Education	3	
2ND SEMESTER		
MATH 129 Calculus II	3	MATH 122B or 125 with C or better
ECE 175 Computer Programming for Engineering Applications	3	Concurrent enrollment or completion of MATH 122B or MATH 125
PHYS 141 Introductory Mechanics	4	MATH 122B or MATH 125; Concurrent enrollment in MATH 129
ENGL 102 First-Year Composition	3	ENGL 101
Tier I General Education	3	
3RD SEMESTER		
ECE 274A Digital Logic	4	Completion of ECE 175
ECE 275 Computer Programming for Engineering Applications II	3	ECE 175
MATH 223 Vector Calculus	4	MATH 129 with C or better
PHYS 241 Introductory Electricity and Magnetism	4	PHYS 141
Tier I General Education*	3	
4TH SEMESTER		
ECE 220 Basic Circuits	5	MATH 129, PHYS 241, Concurrent enrollment in MATH 254
PHYS 143 Introductory Optics and Thermodynamics	2	PHYS 141, MATH 129
MATH 243 Discrete Mathematics in Computer Science	3	Concurrent enrollment in MATH 129
MATH 254 Intro to Ordinary Differential Equations	3	MATH 129 with C or better
Tier I General Education	3	

*Only for students doing Electrical Option

Electrical Option

Course Number and Title	Units	Prerequisites
Advanced Standing is required for 3xx and 4xx courses (See advisor for requirements)		
5TH SEMESTER		
ECE 310 Applications of Engineering Mathematics	4	MATH 254, ECE 220, ECE 275
ECE 320A Circuit Theory	3	ECE 220, MATH 254
ECE 381A Introductory Electromagnetics	4	MATH 223
Tier II General Education	3	
6TH SEMESTER		
ECE 340A Introduction to Communications	3	ECE 320A
ECE 351C Electronic Circuits	4	ECE 320A
ECE 372A Microprocessor Organization	4	ECE 175; ECE 274A; and ECE 207 or ECE 220
ECE 330A Computational Techniques	4	ECE 175, Math 223, Math 254, PHYS 143, PHYS 241
Technical Elective	3	
7TH SEMESTER		
ENGR 498A Cross-disciplinary Design	3	Senior status
ECE 352 Device Electronics	3	ECE 351C
Technical Elective	3	
Technical Elective	3	
Technical Elective	3	
8TH SEMESTER		
ENGR 498B Cross-disciplinary Design	3	Senior status
Technical Elective	3	
Technical Elective	3	
Technical Elective	3	
Tier II General Education	3	

*Tier I and II General Education Courses must meet University general education requirements. One course must be recognized by the university as meeting the Diversity Requirement.

Computer Option

Course Number and Title	Units	Prerequisites
Advanced Standing is required for 3xx and 4xx courses (See advisor for requirements)		
5TH SEMESTER		
ECE 310 Applications of Engineering Mathematics	4	MATH 254, ECE 220, ECE 275
ECE 369A Fundamentals of Computer Organization	4	ECE 175, ECE 274A
ECE 320A Circuit Theory	3	ECE 220
ECE 373 Object-Oriented Software Design	3	ECE 275
Tier I General Education	3	
6TH SEMESTER		
ECE 330A Computational Techniques	4	ECE 175, Math 223, Math 254, PHYS 143, PHYS 241
ECE 351C Electronic Circuits	4	ECE 320A
ECE 340A Introduction to Communications	3	ECE 320A
ECE 372A Microprocessor Organization	4	ECE 175; ECE 274A; ECE 207 or ECE 220
Tier II General Education	3	
7TH SEMESTER		
ENGR 498A Cross-disciplinary Design	3	Senior status
Required Computer Course	3	
Technical Elective	3	
Technical Elective	3	
Technical Elective	3	
8TH SEMESTER		
ENGR 498B Cross-disciplinary Design	3	Senior status
Technical Elective	3	
Technical Elective	3	
Technical Elective	3	
Tier II General Education	3	

*Tier I and II General Education Courses must meet University general education requirements. One course must be recognized by the university as meeting the Diversity Requirement.