

B.S. IN ELECTRICAL & COMPUTER ENGINEERING

CATALOG YEAR 2020-2021

Below is the *advised sequence* of courses for this degree program and prerequisites as of 12/18/19.

The official degree requirements and prerequisites found in the University General Catalog and the prerequisites are subject to change.

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 or CHEM 161/163	4	Appropriate Math Placement
ENGL 101 or 107 or 109H First-Year Composition	3	
ENGR 102A/102B Introduction to Engineering or ENGR 102	3	ENGR102A: MATH 112 or 120R & CHEM 151; ENGR102B: Concurrent enrollment or completion of MATH 122B or 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	MATH 122B or 125, concurrent enrollment or completion
PHYS 141 Introductory Mechanics or PHYS 161H	4	MATH 122B or 125 or appropriate Math Placement Level
ENGL 102 or 108 First Year Composition	3	ENGL 101 or ENGL 107
Tier I General Education	3	
3RD SEMESTER		
ECE 274A Digital Logic	4	ECE 175, Concurrent enrollment or completion of MATH 129
ECE 275 Computer Programming for Engineering Applications II	3	Major ECE; ECE 175
MATH 223 Vector Calculus	4	MATH 129 with C or better
PHYS 241 Introductory Electricity and Magnetism or PHYS 261H	4	For PHYS 241 or 261H: PHYS 141 or 161H; MATH 129
Tier I General Education	3	
4TH SEMESTER		
ECE 220 Basic Circuits	5	MATH 129, PHYS 241
PHYS 143 Introductory Optics and Thermodynamics or PHYS 142 or PHYS 162H	2	PHYS 141 or 161H, MATH 129
MATH 243 Discrete Mathematics in Computer Science or CSC 245 Intro to Discrete Structures	3	MATH 243: MATH 122B or 125 or 129; CSC 245: Grade of C or better in CSC 120 or 127B or 227
MATH 254 Intro to Ordinary Differential Equations	3	MATH 129 or 223 with C or better
Tier II General Education	3	

ELECTRICAL OPTION

COURSE NUMBER AND TITLE

UNITS

CURRENT PREREQUISITES FOR UPPER DIVISION COURSES CAN BE FOUND IN THE UA GENERAL CATALOG

ADVANCED STANDING IS REQUIRED FOR 3XX AND 4XX COURSES (SEE ADVISOR FOR REQUIREMENTS)

5TH SEMESTER

ECE 310 Applications of Engineering Mathematics 4

ECE 320A Circuit Theory 3

ECE 381A Introductory Electromagnetics 4

Technical Elective – See major advisor for course approval 3

ECE 311 Engineering Ethics 1

6TH SEMESTER

ECE 340A Introduction to Communications 3

ECE 351C Electronic Circuits 4

ECE 372A Microprocessor Organization 4

ECE 352 Device Electronics 3

Tier I General Education 3

7TH SEMESTER

ENGR 498A Cross-disciplinary Design (Fall Only) – Senior Status 3

Engineering Electrical Course II – See major advisor for course approval 3

Technical Elective – See major advisor for course approval 3

Technical Elective – See major advisor for course approval 3

Technical Elective – See major advisor for course approval 3

8TH SEMESTER

ENGR 498B Cross-disciplinary Design (Spring Only) – Senior Status 3

Technical Elective – See major advisor for course approval 3

Technical Elective – See major advisor for course approval 3

Technical Elective – See major advisor for course approval 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
CURRENT PREREQUISITES FOR UPPER DIVISION COURSES CAN BE FOUND IN THE UA GENERAL CATALOG	
ADVANCED STANDING IS REQUIRED FOR 3XX AND 4XX COURSES (SEE ADVISOR FOR REQUIREMENTS)	
5TH SEMESTER	
ECE 310 Applications of Engineering Mathematics	4
ECE 369A Fundamentals of Computer Organization	4
ECE 320A Circuit Theory	3
ECE 373 Object-Oriented Software Design	3
ECE 311 Engineering Ethics	1
6TH SEMESTER	
Technical Elective – See major advisor for course approval	3
ECE 351C Electronic Circuits	4
ECE 340A Introduction to Communications	3
ECE 372A Microprocessor Organization	4
Tier I General Education	3
7TH SEMESTER	
ENGR 498A Cross-disciplinary Design (Fall Only) – Senior Status	3
Required Computer Course - See major advisor for course approval	3
Technical Elective – See major advisor for course approval	3
Technical Elective – See major advisor for course approval	3
Technical Elective – See major advisor for course approval	3
8TH SEMESTER	
ENGR 498B Cross-disciplinary Design (Spring Only) – Senior Status	3
Technical Elective – See major advisor for course approval	3
Technical Elective – See major advisor for course approval	3
Technical Elective – See major advisor for course approval	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.