

B.S. IN ELECTRICAL & COMPUTER ENGINEERING

CATALOG YEAR 2016-2017

Below is the *advised sequence* of courses for this degree program and prerequisites as of 2/10/16. The official degree requirements and prerequisites can be 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 105A/106A	4	
ENGL 101 OR 107 OR 109H 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 OR PHYS 161H	4	MATH 122B or MATH 125; Concurrent enrollment or completion of MATH 129
ENGL 102 OR 108 OR 109H First-Year Composition	3	ENGL 101, 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	ECE 175
MATH 223 Vector Calculus	4	MATH 129 with C or better
PHYS 241 Introductory Electricity and Magnetism OR PHYS 261H	4	PHYS 141 or PHYS 161H; MATH 129
Tier I General Education (Computer Option take in 5 th semester)	3	
4TH SEMESTER		
ECE 220 Basic Circuits	5	MATH 129, PHYS 241, Concurrent enrollment or completion of MATH 254
PHYS 143 Introductory Optics and Thermodynamics OR PHYS 142 OR PHYS 162H	2	PHYS 141 or PHYS 161H, MATH 129
MATH 243 Discrete Mathematics in Computer Science OR CSC 245 Intro to Discrete Structures	3	MATH 243: Concurrent enrollment or completion of MATH 129; CSC 245: Grade of B or better in CSC 127B or CSC 227
MATH 254 Intro to Ordinary Differential Equations	3	MATH 129, or 223 with C or better
Tier I 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

Tier II General Education 3

6TH SEMESTER

ECE 340A Introduction to Communications 3

ECE 351C Electronic Circuits 4

ECE 372A Microprocessor Organization 4

ECE 330A Computational Techniques 4

Electrical Engineering Course – See major advisor for course approval 3

7TH SEMESTER

ENGR 498A Cross-disciplinary Design 3

ECE 352 Device Electronics 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 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

6TH SEMESTER

ECE 330A Computational Techniques	4
ECE 351C Electronic Circuits	4
ECE 340A Introduction to Communications	3
ECE 372A Microprocessor Organization	4
Tier II General Education	3

7TH SEMESTER

ENGR 498A Cross-disciplinary Design	3
Required Computer Course	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	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

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