Electrical Engineering A.S. Degree

FULL TIME

This program roadmap represents one possible pathway to complete the program. **Please see a counselor** to create an education plan that is customized to meet your needs. This roadmap is not a guarantee of course availability or financial aid applicability.

Catalog: 2026-27

GE Pattern: Cal-GETC

Total Units: 73

First Year

Semester 1

14 Units

CAT.	COURSE	UNIT	PREREQUISITES	GE AREA
Req	MATH 400 Calculus I	5	through the placement process	2
Req	CHEM 400 General Chemistry I	5	(see below)	
RC	ENGR 300 Introduction to Engineering	1		
GE	ENGL C1000 College Composition **or** ENGL C1000H[H] Honors College Composition	3 3		1A

CHEM 400 prerequisite: CHEM 310 or another college chemistry course or a year of high school chemistry, AND a passing score on the Chemistry Assessment Test at American River College

Semester 2

14 Units

CAT.	COURSE	UNIT	PREREQUISITES	GE AREA
Req	MATH 401 Calculus II	5	MATH 400	
Req	PHYS 410 Mechanics of Solids and Fluids	5	MATH 400	5A, 5C
RC	ET 302[1] Principles of Electricity and Electronics	4		

Second Year

Semester 3

16 Units

CAT.	COURSE	UNIT	PREREQUISITES	GE AREA
Req	MATH 402 Calculus III	5	MATH 401	
Req	PHYS 421 Electricity and Magnetism	4	MATH 401 and PHYS 410	

3 YEARS

TRANSFER PATH

Potential Transfer Majors:

- Electrical Engineering B.S.

This map prepares students for the A.S. degree. Additional major requirements and general education courses are needed for transfer. See a counselor to create an educational plan that prepares you to transfer.

Potential Career/Options After Completing a Bachelor's Degree:

- electronics engineer
- computer engineer
- power engineer
- control systems engineer
- communications engineer

Advising Notes:

- Students working on this major are placed directly into MATH 400. See a counselor to determine if you would benefit from additional preparation or support courses.
- This degree can be completed using either the local AA/AS general education (GE) pattern or the Cal-GETC transfer GE pattern. See a counselor to determine which pattern is best for you based on your academic goals.

CAT.	COURSE	UNIT	PREREQUISITES	GE AREA
RC	ET 335[1] Integrated Circuits with Computer Applications	4	ET 302	
GE	any Area 1C (Oral Communication) course	3		1C

[1] ET 335 is not required for the degree but it better prepares students for transfer, and it has a prerequisite of ET 302.

Semester 4

14 Units

CAT.	COURSE	UNIT	PREREQUISITES	GE AREA
Req	ENGR 401 Introduction to Electrical Circuits and Devices	4	PHYS 421	
Req	MATH 420 Differential Equations	4	MATH 401	
GE	any Area 1B (Critical Thinking and Composition) course	3		1B
GE	any Area 4 (Social & Behavioral Sciences) course (from 2 academic disciplines)	3		4

Third Year

Semester 5

15 Units

CAT.	COURSE	UNIT	PREREQUISITES	GE AREA
GE	any Area 3A (Arts) course	3		3A
GE	any Area 3B (Humanities) course	3		3B
GE	any Area 4 (Social & Behavioral Sciences) course (from 2 academic disciplines)	3		4
GE	any Area 5B (Biological Sciences) course	3		5B
GE	any Area 6 (Ethnic Studies) course	3		6

EXPLANATION OF CATEGORIES		
Req	Required Core	A course that is required for this program
RC	Recommended Course	A course that is not part of this program but is included in its roadmap
GE	General Education	A course that fulfills a specific general education requirement for a degree, which can be replaced with another course that meets the same requirement

- This map is designed for students who are able to take 12 units or more each semester, which is considered a full-time load. It shows one possible way to finish the program as quickly as possible. See a counselor to adjust the coursework to meet your specific needs.
- Students can substitute ESLW 340 for ENGL C1000/C1000H (formerly known as ENGWR 300/480).
- Many universities require students to take their entire math series at the same institution. They may also require students to take their entire physics series at the same institution. See a counselor for more information about this requirement.

Other Notes to Students Preparing to Transfer:

- Additional coursework may be required. Work with a counselor and ASSIST.ORG to determine the courses needed for your goals.
- The CSU system requires every student receiving a bachelor's degree to be knowledgeable about the Constitution of the United States, American history, and state and local government. This requirement is generally known as the American Institutions requirement. Students can complete this requirement at ARC before transferring. See a counselor for a list of approved courses.

Honors Courses (H):

Students with a cumulative GPA of 3.2 or better who complete 15 or more units of Honors coursework earn an Honors Transfer Certificate and can take advantage of honors-to-honors transfer agreements

> with highly selective colleges and universities, both public and private.

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