ELECTRICAL ENGINEERING B.S.

CALIFORNIA STATE UNIVERSITY, FRESNO

2026-2027 CATALOG: RECOMMENDED 4-YEAR ROADMAP

The suggested program of study on this page is for general information and academic planning purposes and is not a substitute for the University Catalog. Consult the 2026-2027 University Catalog for more detailed information.

FIRST SEMESTER		Units
ENGR 1	Introduction to Engineering	1
Area 1A	**ENGL 10** Composition or **5A&B**	3
Area 1C	**COMM 3, 7,** or **8**	3
Area 2	**MATH 75** Calculus I	4
Area 5B	**BIO 10** Life Science	3
	Total First Semester Units:	**14**

SECOND SEMESTER		Units
ECE 1	Intro to EE and CompE	1
ECE 70	Intro to Elec/Comp Engr Tools	2
MATH 76	Calculus II	4
PHYS 4A	Mechanics and Wave Motion	3
Area 3B	**PHIL 1, 2, 10, or 20**	3
Area 5A	**CHEM 1A** or **3A** Chemistry[1]	4
	Total Second Semester Units:	**17**

THIRD SEMESTER		Units
ECE 71	Intro to Computational Prog	4
ECE 85	Digital Logic Design	3
ECE 85L	Digital Logic Design Lab	1
MATH 77	Calculus III	4
PHYS 4B	Electricity, Magnetism, and Heat	3
PHYS 4BL	Electricity, Magnetism, Heat Lab	1
	Total Third Semester Units:	**16**

FOURTH SEMESTER		Units
ECE 90	Principles of Electrical Circuits	3
ECE 90L	Principles of Elect Circuits Lab	1
ECE 111	Fund Principals of Optical Engr	3
ECE 118	Microprocessor Arch and Prog	3
ECE 118L	Microcontroller Lab	1
MATH 81 / **ENGR 101**		3
PLSI 2	(Graduation Requirement)	3
	Total Fourth Semester Units:	**17**

FIFTH SEMESTER		Units
ECE 102	Advanced Circuit Analysis	3
ECE 103E	Professional Develop Skills	1
ECE 125	Probabilistic Engr Sys Analysis	3
ECE 126	Electromagnetics I	3
ECE 128	Electronics I	3
ECE 128L	Electronics I Lab	1
UDWR	Any Upper-Division W Course	3
	Total Fifth Semester Units:	**17**

SIXTH SEMESTER		Units
ECE 121	Energy Conversion	3
ECE 123	Discrete Time Signals and Sys	3
ECE 123L	Signal and Systems Lab	1
ECE 138	Electronics II	3
ECE 138L	Electronics II Lab	1
ECE 155	Control Systems	3
ME 29 Statics or **ME 136** Thermodynamics[1]		3
	Total Sixth Semester Units:	**17**

SEVENTH SEMESTER		Units
ECE 134	Communication Engineering	3
ECE 186A	Senior Design I	1
_____	Technical Area Course[2]	3
_____	Senior Lab[3]	1
Area 4A	**HIST 11, 12**	3
Area 4B	**ECON 40** Micro/**ECON 50** Macro	3
	Total Seventh Semester Units:	**14**

EIGHTH SEMESTER		Units
ECE 186B	Senior Design II	3
_____	Technical Area Course[2]	3
_____	Technical Area Course[2]	3
_____	Math Elective Course[4]	3
Area 6	Ethnic Studies	3
	Total Eighth Semester Units:	**15**

Total units for the program: 127

[1] ME 136 requires CHEM 1A, otherwise CHEM 3A is recommended
[2] Select from the list of Technical Area Courses, including labs
[3] Select from: ECE 155L, ECE 119L, ECE 121L; ECE 134L, ECE 136L, ECE 178 (fulfills [2] and [3])
[4] Select from: MATH 121, MATH 123, MATH 128, MATH 152, MATH 171, MATH 181, MATH 182

General Education

Area 1A: ENGL 10 or ENGL 5A & 5B
Area 1B: Exempt
Area 1C: COMM 3, 7, or 8

Area 2: MATH 75

Area 3A: Exempt
Area 3B: PHIL 1, 2, 10, or 20

Area 4A: HIST 11 or 12
Area 4B: ECON 40 or 50

Area 5A: CHEM 3A
Area 5B: BIO 10 or 1A
Area 5C: PHYS 4BL

Area 6: Any upper or lower division GE area F

Area UD 3: Exempt
Area UD 4: ECE 118
Area UD 5: ECE 186B

Additional Fresno State Graduation Requirements

US & CA Gov: PLSI 2
A/H: Exempt
L/S: Exempt
M/I: Exempt

ECE 186A – Senior Design I

Prerequisites:

- ECE 102;
- ECE 118;
- ECE 118L;
- ECE 128;
- ECE 128L;
- (ECE 121 or ECE 141); (ECE 123 or ECE 176); and
- an additional 6 units of Upper-Division ECE coursework.

Prerequisites or Corequisites:

- UDWR and
- (ECE 155 or ECE 178)