ECN 102	Analysis of Economic Data	4
ECN 103	Economics of Uncertainty & Information	4
ECN 122	Theory of Games & Strategic Behavior	4
ECN 140	Econometrics	4
Management		
MGT 011A	Elementary Accounting	4
or MGT 011AV	Elementary Accounting	
or MGT 011AY	Elementary Accounting	
MGT 011B	Elementary Accounting	4
MGT 100	(Discontinued for summer 2025) **	
MGT 120	Managing & Using Information Technology	4
MGT 140	Marketing for the Technology-Based Enterprise	4
MGT 150	Technology Management	4
MGT 160	Financing New Business Ventures	4
MGT 170	Management Accounting & Control	4
MGT 180	Supply Chain Planning & Management	4

1

Transfer and change of major students will need 2 additional units of upper division electives instead of EEC 001.

2

Transfer and change of major students who do not take EEC 010 will substitute 4 additional units of upper-division electives.

3

CHE 002C and any upper division course; except CHE 195, CHE 197.

4

ENG 045, and any upper division engineering course not used in satisfaction of core degree requirements, excluding ENG 100, ENG 160 (restricted to 1 unit of technical elective; same as PHY 160), PHY 190 (restricted to 1 unit of technical elective), PHY 198, ECS 111, ECS 113, ECS 115, ECS 116, ECS 117, ECS 132, ECS 154A, ECS 154B, ECS 171, ECS 188 (ECS 154A & ECS 154B courses may be used by EEEL majors who did not take EEC 170).

5

Except MAT 135A & MAT 197TC.

6

Except PHY 116A, PHY 116B, PHY 116C, PHY 160 (restricted to 1 unit of technical elective), PHY 195, PHY 197T.

7

Except STA 100, STA 101, STA 103, STA 104, STA 106, STA 108, STA 130A.

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Course(s) discontinued; see your advisor for course options.

Areas of Specialization

Students are encouraged to focus on one of the following five specialty areas: Physical Electronics; Electromagnets, RF, Microwave, Wireless; Analog Electronics; Digital Electronics: and Communication Controls & Signal Processing. For updated recommended courses, see Electrical & Computer Engineering (https://www.ece.ucdavis.edu/undergraduate/majors-and-minor/).

Physical Electronics

Solid-state devices, circuits and fabrication and the theory courses supporting those subjects.

Code	Title	Units
Recommended Elective Courses		
Core Electives		
EEC 130B	Introductory Electromagnetics II	
EEC 140B	Principles of Device Physics II	
Design Electives with Laboratory (select two or more courses)		
EEC 110B	Electronic Circuits II	
EEC 112	Communication Electronics	
EEC 118	Digital Integrated Circuits	
EEC 132A	RF & Microwaves in Wireless Communication	
EEC 132B	RF & Microwaves in Wireless Communication	
EEC 132C	RF & Microwaves in Wireless Communications	
EEC 146A	Integrated Circuits Fabrication	
Additional Technical Electives		
EEC 135	Optoelectronics for High-Speed Data Networking & Computing Systems	
EEC 145	Electronic Materials	

Electromagnetics, RF, Microwave, Wireless

Microwave circuits and systems, and fiber optical systems.

Code	Title	Units
Recommended Elective Courses		
Core Electives		
EEC 130B	Introductory Electromagnetics II	
EEC 140B	Principles of Device Physics II	
Design Electives with Laboratory (select two or more courses)		
EEC 110B	Electronic Circuits II	
EEC 112	Communication Electronics	
EEC 132A	RF & Microwaves in Wireless Communication	
EEC 132B	RF & Microwaves in Wireless Communication	
EEC 132C	RF & Microwaves in Wireless Communications	
EEC 133	Electromagnetic Radiation & Antenna Analysis	
EEC 146A	Integrated Circuits Fabrication	
EEC 165	Statistical & Digital Communication	
Additional Technical Electives		
EEC 135	Optoelectronics for High-Speed Data Networking & Computing Systems	
EEC 160	Signal Analysis & Communications	

Analog Electronics

Transistor- and system-level analog circuit design.

Code	Title	Units
Recommended Elective Courses		
Core Electives		
EEC 110B	Electronic Circuits II	
EEC 157A	Control Systems	
or EEC 157AV	Control Systems	
Design Electives with Laboratory (select two or more courses)		
EEC 112	Communication Electronics	
EEC 113	Power Electronic Circuits	
EEC 116	VLSI Design	
EEC 118	Digital Integrated Circuits	
EEC 146A	Integrated Circuits Fabrication	
EEC 157B	Control Systems II	
or EEC 157BY	Control Systems II	
Additional Technical Electives		
EEC 140B	Principles of Device Physics II	
EEC 160	Signal Analysis & Communications	

Digital Electronics

Transistor- and system-level digital circuit design.

Code	Title	Units
Recommended Elective Courses		
Core Electives		
EEC 151	Digital Signals & Systems	
EEC 180	Digital Systems II	
Design Electives with Laboratory (select two or more courses)		
EEC 110B	Electronic Circuits II	
EEC 116	VLSI Design	
EEC 118	Digital Integrated Circuits	
EEC 146A	Integrated Circuits Fabrication	
EEC 157B	Control Systems II	
or EEC 157BY	Control Systems II	
EEC 165	Statistical & Digital Communication	
EEC 172	Embedded Systems	
Additional Technical Electives		
EEC 140B	Principles of Device Physics II	
EEC 157A	Control Systems	
or EEC 157AV	Control Systems	
EEC 160	Signal Analysis & Communications	
EEC 170	Introduction to Computer Architecture	

Communication Controls & Signal Processing

Digital communications, signals and systems, digital signal processing, control systems, robotics, and machine learning.

Code	Title	Units
Recommended Elective Courses		
Core Electives		*5*
EEC 151	Digital Signals & Systems	
EEC 180	Digital Systems II	
Design Electives with Laboratory (select two or more courses)		*8*
EEC 110B	Electronic Circuits II	
EEC 112	Communication Electronics	
EEC 157B	Control Systems II	
or EEC 157BY	Control Systems II	
EEC 165	Statistical & Digital Communication	
Additional Technical Electives		
EEC 135	Optoelectronics for High-Speed Data Networking & Computing Systems	
EEC 157A	Control Systems	4
or EEC 157AV	Control Systems	
EEC 160	Signal Analysis & Communications	
EEC 179	Applied Machine Learning for Electrical & Computer Engineers	