UC San Diego
Electrical and Computer Engineering

2024 - 2025 ECE M.S. / Ph.D. Degree Planner: Applied Physics—Electronic Devices & Materials (EC76)

- Minimum of 12 units (Plan I) or 16 units (Plan II) must be 201+ ECE courses that must count towards your degree.
- All courses counted towards the degree must be taken for a letter grade and for **4 units**, with the exception of research units.
- Students **CANNOT** repeat a course unless they earned a D, F, or U grade. If you'd like to repeat a course, please submit the online form. More information about how to repeat a course can be found here.
- Must meet the Academic Residency requirement. More detailed info can be found here.

Core Courses (12 Units)

ECE 230A-B-C	Solid State electronics I, II, III

Any two of the following 12 unit sequences (24 units)

ECE 212AN-BN-CN	Principles of NanoScience & NanoTechnology, NanoElectronics, NanoPhotonics
ECE 222A-B-C	Antennas & Their System Applications, Applied Electromagnetic Theory- Electromagnetics, Computational Methods for Electromagnetics
ECE 236A-B-C	Fundamentals of Heterostructure Materials and Devices, Optical Processes in Semiconductors, Heterojunction Field Effect Transistors
ECE 238A-B, MATS 201C	Thermodynamics of Solids, Solid State Diffusion & Reaction Kinetics, Phase Transformations
ECE 240A-B-C	Laser & Optics, Optical Information Processing, Optical Modulation & Detection
ECE 251A-B-C-D*	Digital Signal Processing I & II, Filter Banks & Wavelets, Array Processing
ECE 260A-B-C	VLSI Digital System Algorithms & Architectures, Integrated Circuits & Systems Design, Advanced Topics
MATH 210A-B-C	Mathematical Methods in Physics & Engineering
PHYS 211A, 212A-B	Solid-State Physics I, Quantum Mechanics I & II

* Students may choose any of three courses from the ECE 251 series

Quarter/Core Courses	
	ECE 230A
	ECE 230B
	ECE 230C
Total: 12 Units	

Quarter/Add. Courses	
Total: 24 Units	

Quarter/Tech. Electives	
Total: 12 Units	

Technical Electives (12 Units)

- Any 4 unit, 200+ course from ECE, CSE, MAE, BENG, CENG, NANO, SE, MATS, MATH, PHYS taken for a letter grade may be counted.* Exceptions to this list require departmental approval.
- Up to 12 units of undergraduate ECE coursework (ECE 111+ only**) OR up to two 4-unit courses of undergraduate ECE coursework (ECE 111+ only**) and one 4-unit course of CSE undergraduate coursework (CSE 100+ only***) may be counted.
- M.S. students (Plan II) are allowed no more than 4 units of research as technical electives. Ph.D. and M.S. students (Plan I) are allowed no more than 8 units of research as technical electives.
  - The following research course(s) could be used toward the degree:
    - ECE 299, CSE 293/298/299, MAE 299, BENG 299, NANO 299, SE 299, DSC 299

* Seminar courses cannot count towards the degree
** Not including ECE 195, 197, 198, 199, 210 or 298
*** Not including CSE 123, 140, 140L, or 143

Curriculum Advisor

EC76 Advisor: Shadi Dayeh
Email: sdayeh@ucsd.edu
Phone: (858) 534-5171

Role: Advises graduate students regarding course selection; Considers any exception requests requiring faculty approval; Signs forms; Technical engineering related questions & job advice.
PLEASE CONTACT YOUR STAFF ADVISOR FOR ALL OTHER ISSUES.