UC San Diego
Electrical and Computer Engineering

2026 - 2027 ECE M.S. / Ph.D. Degree Planner: Nanoscale Devices & Systems

- All ECE M.S. degree requirements must be successfully completed within the 6 quarter ECE M.S. program time limit.
- 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 212AN	Principles of Nanoscience & Nanotechnology
ECE 212BN	Nanoelectronics
ECE 212CN	Nanophotonics

Quarter (List FA##, WI##, SP## below)	Core Courses
	ECE 212AN
	ECE 212BN
	ECE 212CN
Total: 12 Units	

Additional Coursework (12 units) 3 courses from the same group

ECE 222A-B-C	Antennas & Their System Applications, Applied Electromagnetic Theory - Electromagnetics & Computational Methods for Electromagnetics
ECE 230A-B-C	Solid State Electronics I, II, III
ECE 236A-B-C ECE 235	Fundamentals of Heterostructure Materials and Devices, Optical Processes in Semiconductors, Heterojunction Field-Effect Transistors Nanometer-Scale VLSI Devices
ECE 240A-B-C	Lasers and Optics, Optical Information Processing, Optical Modulation & Detection
ECE 247A*-B-C, ECE 201, 202, 203	Advanced BioPhotonics, BioElectronics, BioNanotechnology Intro to Biophysics, Implantable Medical Devices & Interfaces, Biomedical Integrated Circuits & Systems
MATH 210A-B-C, ECE 250, ECE 269	Mathematical Methods in Physics and Engineering Random Processes, Linear Algebra and Application
PHYS 211A, PHYS 212A-B	Solid State Physics, Quantum Mechanics I, II

*Students may take BENG 247A/NANO 247A in place of ECE 247A. May only receive credit for one of these courses towards their degree.

Quarter (List FA##, WI##, SP## below)	Additional Units
Total: 12 Units	

Technical Electives (24 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

Quarter (List FA##, WI##, SP## below)	Technical Electives
Total: 24 Units	

* Seminar courses cannot count towards the degree

** Not including ECE courses numbered: 195, 197, 198, 199, 210 or 298

*** Not including CSE courses numbered: 123, 140, 140L, 143 or 294

Curriculum Advisor

Contact Information

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.