

M.S. / Ph.D. Degree Planner: Nanoscale Devices and Systems (EC86)

COURSE REQUIREMENTS

Core Coursework (twelve units)

ECE 212 AN	Principles of Nanoscience and Nanotechnology
ECE 212 BN	Nanoelectronics
ECE 212 CN	Nanophotonics

Core Courses	
	ECE 212AN
	ECE 212BN
	ECE 212CN
Total: 12 Units	

Any one of the following twelve unit sequences (twelve units)

ECE 222 A-B-C	Antennas and Their System Applications, Applied Electromagnetic Theory - Electromagnetics and Computational Methods for Electromagnetics
ECE 230 A-B-C	Solid State Electronics I, II and III
ECE 236 A-B-C / ECE 235 ¹	III-V Compound Semiconductor Materials, Optical Processes in Semiconductors, Heterojunction Field Effect Transistors, Heterojunction Bipolar Transistors, Nanometer-Scale VLSI Devices
ECE 240 A-B-C	Lasers and Optics, Optical Information Processing, Optical Modulation and Detection
ECE 247 A-B-C	Advanced BioPhotonics, BioElectronics, BioNanotechnology
MATH 210 A-B-C	Mathematical Methods in Physics and Engineering
PHYS 211 A, PHYS 212 A-B	Solid State Physics, Quantum Mechanics

Additional Courses	
Total: 12 Units	

¹ Students may choose any three of the four courses on this list.

Technical Electives (twenty-four units)

- Any 4 unit, 200+ course from ECE, CSE, MAE, BENG, CENG, NANO, SE, MATS MATH or 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) may be counted
- M.S. Students (Plan II) are allowed no more than 4 units of 299 as technical electives. Ph.D. and M.S. Students (Plan I) are allowed no more than 8 units of 299 as technical electives.

Technical Electives	
Total: 24 Units	

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Advisor's Signature	Date
Student Name	PID