

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

COURSE REQUIREMENTS

Core Coursework (twelve units)

ECE 230 A-B-C Solid State Electronics

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

Any two of the following twelve unit sequences (twenty-four units)

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

ECE 222 A-B-C Antennas and Their System Applications, Applied Electromagnetic Theory - Electromagnetics and Computational Methods for Electromagnetics

ECE 236 A-B-C III-V Compound Semiconductor Materials, Optical Processes in Semiconductors, Heterojunction Field Effect Transistors, Heterojunction Bipolar Transistors

ECE 238 A-B, MS 201C Thermodynamics of Solids, Solid State Diffusion and Reaction Kinetics, Phase Transformations

ECE 240 A-B-C Lasers and Optics, Optical Information Processing, Optical Modulation and Detection

ECE 251 A-B-C-D² Digital Signal Processing I and II, Filter Banks and Wavelets, Array Processing

ECE 260 A-B-C VLSI- Digital System Algorithms and Architectures, Integrated Circuits and Systems Design, Advanced Topics

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: 24 Units	

¹ Students cannot receive credit for both ECE 212A & 212AN, 212B & 212BN or 212C & 212CN.

² Students may choose any three of the four courses listed for ECE 251.

Technical Electives (twelve units)

- With the exception of research units, all courses counted towards the degree must be taken for a letter grade.
- 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 two 4-unit courses of undergraduate ECE coursework (ECE 111+ only) and one 4-unit course of undergraduate CSE coursework (CSE 100+ only).
- 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: 12 Units	

Curriculum Advisors: **Boubacar Kante**
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Advisor's Signature

Date

Student Name

PID