UC San Diego

JACOBS SCHOOL OF ENGINEERING
Electrical and Computer Engineering

ECE Graduate Student Affairs
Engineering Building I, 2nd Floor
ece-gradoffice@ece.ucsd.edu

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	

Additional Coursework; Students are to take three courses from the same group (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	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 Advanced
● ECE 247 A,B,C, ECE 201, ECE 202, ECE 203	BioPhotonics, BioElectronics, BioNanotechnology Introduction to Biophysics, Medical Devices and Interfaces, Biomedical Curcuits and Systems
● MATH 210 A,B,C, ECE 250, ECE269	Mathematical Methods in Physics and Engineering, Random Processes, Linear Algebra
● PHYS 211 A, PHYS 212 A-B	Solid State Physics, Quantum Mechanics

Additional Courses	
Total: 12 Units	

Technical Electives (twenty-four 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: 24 Units	

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

Student Name **PID**