

**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
<b>Total: 12 Units</b>	

**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	
<b>Total: 12 Units</b>	

**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	
<b>Total: 24 Units</b>	

<b>Curriculum Advisor:</b>	<b>Yuan Taur</b>
Phone no.:	858-534-3816
E-mail:	<a href="mailto:ytaur@ucsd.edu">ytaur@ucsd.edu</a>
Office no.:	Jacobs Hall/EBU1 3801

**Advisor's Signature** **Date**

**Student Name** **PID**