M.S. / Ph.D. Degree Planner: Applied Physics—Electronic Devices & Materials (EC76) 2020-2021

- Minimum of 12 units (Plan 1) or 14 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.

Core Coursework (12 Units):

| ECE 230A-B-C | Solid State Electronics I, II, III |

Any two of the following 12 unit sequences (24 units):

| ECE 212AN-BN-CN* | Principles of NanoScience & NanoTechnology, NanoElectronics, NanoPhotonics |
| ECE 222A-B-C | Antennas & Their System Applications, Applied Electromagnetic Theory- Electromagnetics, Computational Methods for Electromagnetics |
| ECE 236A-B-C | III-IV Compound Semiconductor Materials, Optical Processes in Semiconductors, Heterojunction Field Effect Transistors |
| ECE 238A-B, MATS 201C | Thermodynamics of Solids, Solid State Diffusion & Reaction Kinetics, Phase Transformations |
| ECE 240A-B-C | Laser & Optics, Optical Information Processing, Optical Modulation & Detection |
| ECE 251A-B-C-D** | Digital Signal Processing I & II, Filter Banks & wavelets, Array Processing |
| MATH 210A-B-C | Mathematical Methods in Physics & Engineering |
| PHYS 211A, 212A-B | Solid-State Physics I, Quantum Mechanics I & II |

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

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

Technical Electives (12 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*) OR up to two 4-unit course of undergraduate ECE coursework (ECE 111+ only*) and one 4-unit course of CSE undergraduate coursework (CSE 100+ only**) may be counted.
- MS students (Plan II) are allowed no more than 4 units of any Jacobs School of Engineering Research units as technical electives. PhD and MS students (Plan I) are allowed no more than 8 units of research as technical electives.
  - ECE 299, CSE 298/299, MAE 299, BENG 299, NANO 299, SE 299
- All courses counted towards the degree must be taken for a letter grade.
  - Not including ECE 195, 197, 198, 199, 298
  - Not including CSE 123A, 140, 140L, or 143

Quarter/Core Course
- ECE 230A
- ECE 230B
- ECE 230C

Total: 12 Units

Quarter/Add. Units

Total: 24 Units

Quarter/Tech. Electives

Total: 12 Units

Curriculum Advisor: Shadi Dayeh  sdayeh@ucsd.edu  (858)-534-5171
Curriculum/Faculty Advisor: Advises M.S. students regarding course selection; Considers any exception requests requiring faculty approval (such as course substitutions); Sign forms; Technical engineering related questions & job advice- PLEASE CONTACT YOUR STAFF ADVISOR FOR ALL OTHER ISSUES.