

# 2024 - 2025 <u>ECE</u> M.S. / Ph.D. Degree Planner: Medical Devices & Systems (EC90)

- Minimum of 12 units (Plan I) or 16 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 and for 4 units, with the exception of research units.
- Students CANNOT repeat a course unless they earned a D, F, or U grade. If you'd like to repeat a course, please submit the online form. More information about how to repeat a course can be found here.
- Must meet the Academic Residency requirement. More detailed info can be found here.

#### **Core Courses (12 Units Including ECE 201) - Choose 2 Courses**

ECE 201	Intro to Biophysics
ECE 187*	Intro to Biomedical Imaging & Sensing
ECE 202	Medical Devices & Interfaces
ECE 203	Biomedical Integrated Circuits & Systems
ECE 208	Computational Evolutionary Biology
ECE 209	Statistical Learning for Biosignal Processing
ECE 247 A-B-C	Advanced BioPhotonics, BioElectronics, BioNanotechnology
ECE 207A/BENG 280A*	Principles of Medical Imaging

<sup>\*</sup>Students can take BENG 280A OR ECE 187 OR ECE 207A. May only receive credits for one of these courses towards the degree.

### 12 Additional Units Selected from the following

*	Two CORE graduate (200+) courses from the same major area of ECE
	Please list the major area of your choice
	(AEM. AOS. AP-EDM. CTS. CE. ECS. ISRC. MI. MLDS. NDS. PHO. or SIP)

One graduate or senior-level course in Bioengineering, Biology, Biochemistry, or Medicine. Some examples of courses that satisfy this requirement are: MED 264, MED 267, BENG 230A-B, BENG 232, BENG233, BENG234, BGGN 211, BGGN 223, BGGN 225, BGGN 248, BGGN 249A-C, BGGN 254. This is by no means a comprehensive list of courses. Ph.D. students should discuss with their faculty advisor and M.S. students with their curriculum advisor to choose course(s) in biomedicine relevant to their graduate study.

## **Technical Electives (24 Units)**

- Any 4 unit, 200+ course from ECE, CSE, MAE, BENG, CENG, NANO, SE, MATS, MATH, PHYS or COGS 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 courses of undergraduate ECE coursework (ECE 111+ only\*\*) and one 4-unit course of CSE undergraduate coursework (CSE 100+ only\*\*\*) may be counted.
- M.S. students (Plan II) are allowed no more than 4 units of research as technical electives. Ph.D. and M.S. students (Plan I) are allowed no more than 8 units of research as technical electives.
  - > ECE 299, CSE 293/298/299, MAE 299, BENG 299, NANO 299, SE 299
- Students are strongly encouraged to take at least 2 seminar courses about translational research and FDA regulatory procedures and requirements from ECE, Center for Medical Device and Instrumentation, School of Medicine, or other departments. (Will NOT be counted toward the degree).
- \* Seminar courses cannot count towards the degree
- \*\* Not including ECE 195, 197, 198, 199, 210 or 298
- \*\*\* Not including CSE 123, 140, 140L, or 143

#### **Curriculum Advisor**

EC90 Advisor: Drew Hall Email: dahall@ucsd.edu
Phone: (858)-534-3855

Role: Advises graduate students regarding course selection; Considers any exception requests requiring faculty approval; Signs forms; Technical engineering related questions & job advice.

PLEASE CONTACT YOUR STAFF ADVISOR FOR ALL OTHER ISSUES.

Quarter/Core Courses		
	ECE 201	
Total: 12 Units		

Quarter/Add. Courses			
Total: 12 Units			

Quarter/Tech. Electives		
Total: 24 Units		