

M.S. / Ph.D. Degree Planner: Medical Devices & Systems (EC90) 2021-2022

- ❖ Minimum of 12 units (Plan I) 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, with the exception of research units.
- ❖ Students **CANNOT** repeat a course unless they earned a D, F, U, or W 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](#).
- ❖ Note that **ONLY** 100+ courses will count towards your overall GPA.
- ❖ Must meet the Academic Residency requirement. More info can be found [here](#).

Core Coursework (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

Quarter/Core Courses	
	ECE 201
Total: 12 Units	

* Students can take BENG 280A OR ECE 187 OR ECE 207A. May only receive credit for one of these courses towards the degree.

12 Additional Units Selected from the following:

- ❖ Two CORE graduate courses from the same major area of ECE. Please mark which major area is chosen so that it is reflected on the audit. (AEM, AOS, AP-EDM, CTS, CE, ECS, ISRC, MI, MLDS, NDS, PHO, or SIP)
- ❖ Some examples of courses that satisfy this requirement are: BENG 230A, BENG 230B, NANO 242, BGGN 235, BGGN 211, BGGN 223, BGGN 224, BGGN 242, and BGGN 249B-C. This is by no means a comprehensive list of courses and many more courses in biology, biochemistry, and medicine are offered by UCSD to meet the requirement. PhD 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.

Quarter/Add. Units	
Total: 12 Units	

Technical Electives (24 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 courses 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.
- ❖ Students are strongly encouraged to take as 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 required 48 units).

Quarter/Tech. Electives	
Total: 24 Units	

* Not including ECE 195, 197, 198, 199, 210 or 298. ** Not including CSE 123, 140, 140L, or 143

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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.**