

## M.S. / Ph.D. Degree Planner: Photonics (EC81) 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 detailed info can be found [here](#).

### Core Coursework (12 Units):

ECE 240A	Lasers and Optics
ECE 240B	Optical Information Processing
ECE 240C	Optical Modulation and Detection

### 12 Additional Units Selected from the following:

ECE 212CN*	Nanophotonics
ECE 222B-C	Applied Electromagnetic Theory – Electromagnetics & Computational Methods for Electromagnetics
ECE 236B	Optical Processes in Semiconductors
ECE 241A-B-C	Nonlinear Optics, Integrated Photonics, Holographic Optical Elements
ECE 243B	Optical Fiber Communication
ECE 244A	Statistical Optics
ECE 247A	Advanced BioPhotonics

\*Students cannot receive credit for both ECE 212C & 212CN.

Quarter/Core Courses	
	ECE 240A
	ECE 240B
	ECE 240
<b>Total: 12 Units</b>	

Quarter/Add. Units	
<b>Total: 12 Units</b>	

### 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.
- ❖ Any of the courses listed above if not counted for Core or Additional coursework
- ❖ 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
- ❖ With the exception of research units, all courses counted towards the degree must be taken for a letter grade.

\* Not including ECE 195, 197, 198, 199, 210, or 298

\*\* Not including CSE 123, 140, 140L, or 143

Quarter/Tech. Electives	
<b>Total: 24 Units</b>	

**Curriculum Advisor:** Yu-Hwa-Lo [ylo@ucsd.edu](mailto:ylo@ucsd.edu) (858)-822-3429

**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.**