

## M.S. / Ph.D. Degree Planner: Intelligent Systems, Robotics & Control (EC80) 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 (16 Units):

ECE 269	Linear Algebra & Application
ECE 271A	Statistical Learning I
ECE 272A	Stochastic Processes in Dynamic Systems I
ECE 276A	Sensing & Estimation in Robotics

\*Students may take MAE 280A in place of ECE 272A. You can't count both courses towards your degree.

Quarter/Core Courses	
<b>Total: 16 Units</b>	

### 12 Additional Units Selected from the following:

ECE 250	Random Processes
ECE 252A-B	Speech Compression, Speech Recognition
ECE 253	Fundamentals of Digital Image Processing
ECE 271B-C	Statistical Learning II, Deep Learning & Applications
ECE 272B	Stochastic Processes in Dynamic Systems II
ECE 273	Convex Optimization & Applications
ECE 275A-B	Parameter Estimation I & II
ECE 276B-C	Planning & Learning in Robotics, Robot Reinforcement Learning
ECE 285	Special Topics in Signal & Image Processing/Robotics & Control Systems
CSE 250A	Principles of Artificial Intelligence: Probabilistic Reasoning & Learning
CSE 252A	Computer Vision I
MAE 247	Cooperative Control of Multi-Agent Systems
MAE 280A	Linear Systems Theory
MAE 281A	Nonlinear Systems

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

### Technical Electives (20 Units)

- ❖ Any 4 unit, 200+ course from ECE, CSE, MAE, BENG, CENG, NANO, SE, MATS, MATH, PHYS or CogSci 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 (CSE100+ 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 or 298  
 \*\* Not including CSE 123A, 140, 140L, or 143

Quarter/Tech. Electives	
<b>Total: 20 Units</b>	

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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.**