

- ❖ 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 (16 Units)

ECE 143	Programming for Data Analysis
ECE 269	Linear Algebra & Application
ECE 271A	Statistical Learning I
ECE 225A	Probability and Statistics for Data Science

Quarter/Core Courses	
	ECE 143
	ECE 269
	ECE 271A
	ECE 225A
<b>Total: 16 Units</b>	

### 16 Additional Units (at least 1 course in each area) from the following

<b>Analytics</b>	ECE 225B	Universal Probability and Its Application in Data Science
	ECE 250	Random Processes
	ECE 271B	Statistical Learning II
	ECE 273	Convex Optimization and Applications
	ECE 275A-B	Parameter Estimation I, Parameter Estimation II
	ECE 285	Stochastic Approximation: Theory and Applications
	ECE 285	Semidefinite and Sum-of-Squared Optimization
<b>Computation</b>	ECE 226	Optimization and Acceleration of Deep Learning on Various Hardware Platforms
	ECE 227	Big Network Data
	ECE 229	Computational Data Analysis and Product Development
	ECE 277	GPU Programming
<b>Applications</b>	ECE 208	Computational Evolutionary Biology
	ECE 228	Machine Learning for Physical Applications
	ECE 284	Digital Health Systems
	ECE 285	Intro to Mathematical Finance
	ECE 285	Intro to Visual Learning
	ECE 285	Deep Generative Models
	ECE 271C	Deep Learning & Applications
	ECE 276A-B-C	Sensing and Estimation in Robotics, Planning and Learning in Robotics, Robot Reinforcement Learning

Quarter/Add. Courses	
<b>Total: 16 Units</b>	

Quarter/Tech. Electives	
<b>Total: 16 Units</b>	

### Technical Electives (16 Units)

- ❖ Any 4 unit, 200+ course from ECE, CSE, MAE, BENG, CENG, DSC, NANO, SE, MATS, MATH, PHYS or COGS taken for a letter grade may be counted. Exceptions to this list require departmental approval. In particular, the following courses are recommended: MATH 245 A-B-C (Convex Analysis and Optimizations), MATH 282 A-B (Applied Statistics), MATH 289C (Exploratory Data Analysis and Inferences), COGS 260 (Image Recognition).
- ❖ 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 any Jacobs School of Engineering Research units 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 298/299, MAE 299, BENG 299, NANO 299, SE 299

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

\*\* Not including CSE 123, 140, 140L, or 143 \*\*\* Seminar courses cannot count towards your degree

### Curriculum Advisor

EC93 Advisor (**Fall**): Xiaolong Wang  
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EC93 Advisor (**Winter & Spring**): Pengtao Xie  
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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.**