

# Area Courses

## Data Science and Engineering: Core

**Fundamental Software Courses**

**CSCI 455X** Introduction to Programming Systems Design  
4 units

**EE 538** Computing Principles for Electrical Engineers  
2 units

**EE 547** Applied and Cloud Computing for Electrical Engineers  
2 units EE 538

**Fundamental Math Courses**

**EE 503** Probability for Electrical and Computer Engineers  
4 units

**EE 510** Linear Algebra for Engineering  
4 units

**Machine Learning**

**EE 541** A Computational Introduction to Deep Learning  
2 units EE 503, EE 510

**EE 556** Stochastic Systems and Reinforcement Learning  
4 units EE 503  
EE 512

**EE 559** Machine Learning I: Supervised Methods  
3 units EE 503, EE 510  
EE 541

**EE 641** Deep Learning Systems  
2 units EE 541, EE 559

**EE 660** Machine Learning II: Mathematical Foundations and Methods  
4 units EE 503, EE 510, EE 559  
EE 538, EE 541

**EE 689** Computational Intelligence and Neural Learning  
4 units EE 483, EE 503, EE 510

**Mathematical Methods for Data Analytics and Machine Learning**

**EE 517** Statistics and Data Analysis for Engineers  
4 units EE 503

**MATH 541ab** Introduction to Mathematical Statistics  
a:3 units, b:3 units

**EE 546** Mathematics of High-Dimensional Data  
4 units EE 503, EE 510

**EE 563** Estimation Theory  
3 units EE 503

**EE 583** Statistical Signal Processing  
3 units EE 503


**EE 588** Optimization for the Information and Data Sciences  
3 units EE 510  
EE 503

**Legend**

**Grouping**

EE 000 Course Title

Course Units      Prerequisite Courses  
Recommended Prep.      Corequisite Courses

 indicates a class with a significant computing/design component

This chart shows course relationships

Please check the University Catalogue for specific course details including any recommended preparatory courses and Degree Requirements