

**Fundamental Courses**

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

or

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

**EE 483** Introduction to Digital Signal Processing  
4 units

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

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

**Mathematical Foundations**

**EE 512** Stochastic Processes for Financial Engineering  
4 units EE 503, (EE 510 or EE 518)

**EE 562** Random Processes in Engineering  
4 units EE 503, EE 510

**Law and Intellectual Property**

**EE 682** Law and Intellectual Property for Engineers  
3 units  
EE 503

**Signal and Image Processing**

**EE 566** Optical Information Processing  
4 units

**EE 575** Computational Differential Geometry for Engineers  
3 units

**EE 592** Computational Methods for Inverse Problems  
4 units EE 483, EE 510  
EE 503

**EE 659** Advanced Topics in Interconnection Network Design and Analysis  
4 units EE 557  
EE 450, 451, 452, or 455

**EE 569** Introduction to Digital Image Processing  
4 units  
EE 503

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

**EE 596** Wavelets and Graphs for Signal Processing and Machine Learning  
4 units EE 483, EE 510

**Data Analysis and Machine Learning**

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

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

**EE 660** Machine Learning II: Mathematical Foundations and Methods  
3 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

**EE 518** Mathematics and Tools for Financial Engineering  
4 units

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

**EE 669** Multimedia Data Compression  
4 units  
EE 503

**Speech, Biomedical, Audio, and Other Applications**

**EE 519** Speech Recognition and Processing for Multimedia  
3 units EE 483

**EE 523** Advanced Biomedical Imaging  
3 units EE 483

**EE 591** Magnetic Resonance Imaging and Reconstruction  
3 units EE 483  
EE 503

**EE 522** Immersive Audio Signal Processing  
4 units

**EE 586L** Advanced DSP Design Laboratory  
4 units EE 483

**EE 619** Advanced Topics in Automatic Speech Recognition  
3 units  
EE 503, EE 519, CSCI 544

**Legend**

**Grouping**

EE 000 Course Title

Course Units Prerequisite Courses  
Recommended Prep. Corequisite Courses

**This chart shows course relationships**

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