Computational Data Analytics, Minor

This minor, offered by the Department of Electrical and Computer Engineering in the College of Engineering, seeks to provide a coherent technical foundation in the fundamentals and application of data analytics. The minor addresses the growing demand in industry to be able to apply background in probability/statistics, calculus, engineering problem solving, computing, and analytical principles/tools to identify patterns and trends, find clusters and outliers, and characterize/summarize the mountain of data being generated in our world. This program leverages faculty expertise in electrical and computer engineering and includes courses from across the College of Engineering, College of Science, and the Khoury College of Computer Sciences

Students need to complete the program requirements with at least three courses that are not part of their major required course work.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: Students need to complete the program requirements with at least three courses that are not part of their major required coursework.

Required Courses

Code	Title	Hours
EECE 5642	Data Visualization	4
EECE 5644	Introduction to Machine Learning and Pattern Recognition	4
Complete one of the following:		4
EECE 2140	Computing Fundamentals for Engineers	

Probability and Statistics

Code	Title	Hours
Complete one of the following:		4
BIOE 2365	Bioengineering Measurement, Experimentation, and Statistics	
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
EECE 3468	Analysis of Random Phenomena in Electrical and Computer Engineering	
IE 3412	Engineering Probability and Statistics	
MATH 2280	Statistics and Software	
MATH 3081	Probability and Statistics	

Elective

Code	Title	Hours
Complete one of the following:		4
CS 3000	Algorithms and Data	
CS 3200	Introduction to Databases	
CS 5200	Database Management Systems	
EECE 2520	Fundamentals of Linear Systems	
EECE 2560	Fundamentals of Engineering Algorithms	
EECE 4694	Numerical Methods and Computer Applications	
EECE 5639	Computer Vision	
IE 4515	Operations Research	
IE 5640	Data Mining for Engineering Applications	

GPA Requirement

2.000 GPA required in the minor