COMPUTER ENGINEERING: MACHINE LEARNING AND DATA SCIENCE, BS

REQUIREMENTS

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MACHINE LEARNING AND DATA SCIENCE REQUIRED COURSES

Code	Title	Credits
E C E 331	Introduction to Random Signal Analysis and Statistics (typically offered fall) [2]	3
E C E/COMP SCI/ M E 532	Matrix Methods in Machine Learning [1]	3
E C E/COMP SCI/ M E 539	Introduction to Artificial Neural Networks [3]	3
COMP SCI 564	Database Management Systems: Design and Implementation [4]	4
Total Credits		**13**

1 This course can be taken as a Professional Elective.
2 This course fulfills the Probability requirement.
3 This course can be taken as a CMPE Elective II.
4 This course fulfills the System Software Requirement.

MACHINE LEARNING AND DATA SCIENCE ELECTIVE

Code	Title	Credits
Choose one as an Advanced, Professional, or Free Elective:		3-4
E C E 431	Digital Signal Processing (typically offered fall) [1]	
E C E/COMP SCI/ I SY E 524	Introduction to Optimization [1]	
E C E/ COMP SCI 533	Image Processing (typically offered fall) [1]	
E C E/ COMP SCI 561	Probability and Information Theory in Machine Learning (typically offered fall)	
E C E/I SY E 570	Ethics of Data for Engineers	
COMP SCI/I SY E/ MATH/STAT 525	Linear Optimization [1]	
COMP SCI 540	Introduction to Artificial Intelligence	
COMP SCI/ B M I 567	Biomedical Image Analysis [1]	
COMP SCI/ B M I 576	Introduction to Bioinformatics	
COMP SCI 577	Introduction to Algorithms	
I SY E 412	Fundamentals of Industrial Data Analytics	
I SY E 521	Machine Learning in Action for Industrial Engineers	
L I S 461	Data and Algorithms: Ethics and Policy	
MATH/I SY E/ OTM/STAT 632	Introduction to Stochastic Processes [1]	
MATH 635	An Introduction to Brownian Motion and Stochastic Calculus [1]	
M S & E 460	Introduction to Computational Materials Science and Engineering [1]	
STAT 421	Applied Categorical Data Analysis [1]	
STAT/M E 424	Statistical Experimental Design [1]	
STAT 456	Applied Multivariate Analysis [1]	
STAT 461	Financial Statistics [1]	

1 This course has additional requisites not required for the BS in Computer Engineering.