DATA SCIENCE, MS

Overview

The Master of Science in Data Science program is jointly offered by the Mathematics and Computer Science departments. This program benefits from its interdisciplinary nature and provides students with flexibility to balance theory and practice. By combining traditional training in statistics and mathematics with hands-on experience in machine learning and artificial intelligence, students will be well-prepared for careers in data science.

Requirements

Course ID	Title	Credits
Data Science Foundations		
MATH 6070	Intro To Probability	3
MATH 6090	Linear Algebra	3
CMPS 6100	Introduction to Computer Science	3
Data Science Core		
MATH 6080	Intro to Statistical Inference	3
MATH 6040	Linear Models	3
or MATH 7260	Linear Models	
CMPS 6240	Intro to Machine Learning	3
or MATH 6720	Analysis II	
CMPS 6160	Introduction to Data Science	3
Choose Four Electives [1]		**12**
Total Credit Hours		**33**

[1] The elective requirement consists of four full-semester courses chosen from the list below. Additional courses (e.g. independent study) may substitute for elective courses upon approval from the Graduate Studies Committee of the Math and Computer Science Departments.

Course ID	Title	Credits
Data Science, MS Electives		
MATH 7360	Data Analysis	3
MATH 6030	Stochastic Processes	3
or MATH 7030	Stochastic Processes	
MATH 6370	Time Series Analysis	3
or MATH 7370	Time Series Analysis	
MATH 6310	Scientific Computing I	3
MATH 7570	Scientific Computatn II	3
MATH 7710	Topics In Algebra	3
COSC 6000	C++ Prog For Sci & Engr	3
COSC 6200	Large Scale Computation	3
CMPS 6360	Data Visualization	3
CMPS 6260	Advanced Algorithms	3
CMPS 6140	Intro Artificial Intelligence	3
or CMPS 6620	Artificial Intelligence	
CMPS 6610	Algorithms	3
CMPS 6660	Special Topics in Computer Sci	1-3
CMPS 6730	Natural Language Processing	3
CMPS 6740	Reinforcement Learning	3
BIOS 7150	Categorical Data Analysis	3
BIOS 7300	Survival Data Analysis	3

EBIO 6440	Introduction to Data Science for Ecologists	3
BMEN 6800	BME Data Science: Medical Imaging/Machine Learning	3