MS in Data Science

Admission

Students may be admitted in full graduate standing to the MS in data science program if they have a bachelor's degree in computer science or any related engineering discipline (please see required topics below). Students who have a bachelor's degree in other quantitative disciplines (mathematics, physics or other STEM disciplines) with demonstrated quantitative skills (calculus, linear algebra, etc.) and proficiency in computer programming may be admitted on a conditional basis.

To be considered for admission to the program the minimum requirements are:

- Student must have earned a GPA of at least 3.000 (or an equivalent score from another country) in the bachelor's degree.
- Students whose bachelor's degree is from an institution outside the U.S. are required to submit official scores of the GRE General Test along with the admission application. While we do not set a minimum score, we would like the quantitative portion of the GRE to be above average.

Application materials will be reviewed by the Graduate School and the MS in data science graduate coordinator, after which the student will be notified of their decision. Students entering the MS in data science program are expected to have already completed courses in programming, linear algebra, statistics and data structures. If prior coursework deficiencies exist, then the student may be admitted on a conditional basis. It is recommended that deficiencies are completed prior to beginning graduate studies.

Program Requirements

Course	Title	Hours
Core Courses		
CS 746	Perspectives on Data Science	3
BSAN 775	Introduction to Business Analytics	3
MATH 746	Introduction to Data Analytics	3
CS 770	Machine Learning	3
CS 896	Capstone Project in Data Science	3
Data Science Elective Courses		
Select 9 credit hours from the list of classes below.		*9*
CS 665	Introduction to Database Systems	
CS 771	Artificial Intelligence	
CS 797K	Advanced Topics in Data Storage	
CS 797N	Data Visualization	
CS 797M	Introduction to Linear Data Modeling	
CS 797O	Neural Networks and Deep Learning	
CS 797P	Algorithms and Applications on Graphs	
CS 898BE	Advanced Topics in Machine Learning	
CS 898CA	Introduction to Intelligent Robotics	
CS 898BA	Image Analysis and Computer Vision	
CS 898AW	Artificial Intelligence for Robotics	
CS 898BD	Deep Learning	
Discipline Elective Courses		
Select 6 credit hours from the list of classes below.		*6*
Any of the courses listed in Data Science Electives.		
MIS 750	Data Visualization	
STAT 763	Applied Regression Analysis	
STAT 764	Analysis of Variance	
STAT 776	Applied Statistical Methods II	
IME 780AP	Neural Networks and Machine Learning	
IME 869	Bayesian Statistics and Uncertainty Quantification	
SMGT 800	Analytics and Decision Making In Sport	
IME 780AN	Big Data Analytics in Engineering	
IME 734	Introduction to Data Mining and Analytics	
MIS 884	Database Planning & Management	
BSAN 875	Advanced Business Analytics	
Total Credit Hours		**30**

The graduate coordinator should be consulted by students who would like to substitute other CS courses for any of the elective courses above (core courses cannot be substituted). Such consultations should be made before taking a course. CS 891, CS 892 and CS 893 cannot be applied under any circumstances to this degree program.

Applied Learning

Students in the MS in data science program are required to complete an applied learning or research experience to graduate from the program. The requirement can be met by completing the mandatory course CS 896 Capstone Project in Data Science.