DATA SCIENCE, MS

The Master of Science in Data Science program is designed for students who have completed their undergraduate degree in Computer Science or a related field, and who seek to enhance their theoretical, analytical, and practical skills through a solid foundation in data science, statistical computing, object-oriented programming, database systems, data mining, artificial intelligence, natural languages, machine learning, computer networks, cloud computing, big data and analytics. Achieving an MS degree in Data Science provides career opportunities in the following industries: technology, banking/financial, healthcare, media/telecom, defense, entertainment, retail, real estate, education, government, and non-profit industries/entities.

Students who complete the degree program will be prepared for various industry recognized certifications such as Certified Analytics Professional (CAP), Data Science Council of America (DASCA), IBM Certified Data Architect, Microsoft MCSE-Data Management and Analytics, Microsoft Certified Azure Data Scientist Associate, SAS Certified Advanced Analytics Professional, SAS Certified Big Data Professional, SAS Certified Data Scientist and/or other certifications.

Primary program objectives of the MS in Data Science degree program are:

1. Upon completion of the program, graduates will have acquired strong theoretical and practical skills in coding, data modeling, statistical computing, data visualization, forecasting, and technical analytic techniques - all needed in modern business settings
2. Upon completion of the program, graduates will have developed competencies in the areas of database systems, data mining, big data, data science, computer networks, cloud computing, artificial intelligence, machine learning, and statistical programming as they prepare for advanced careers in data science
3. Upon completion of the program, graduates will be able to utilize leading edge resources such as Oracle, Hadoop, AWS, SAS, Tensorflow, and Tableau, and languages such as SQL, Python and R. These skills will strengthen the graduate's expertise in assessing and analyzing systems in a variety of industry sectors.

Requirements

Code	Title	Credits
Required Core Courses		
CS-617	Statistical Computing	3
CS-628	Data Science	3
CS-630	Database Systems	3
CS-633	Data Mining	3
CS-650	Artificial Intelligence	3
CS-655	Machine Learning	3
CS-675	Big Data: Management & Analytics	3
CS-703	Applied Data Science Project	3
KG-604	Graduate Research & Critical Analysis	3
Required Core Courses Subtotal		27
Elective Courses		
Select three of the following:		9
CS-640	Computer Networks	
CS-645	Computer Security & Privacy	
CS-665	Analytic Techniques	
CS-670	Cloud Computing	
CS-707	Research Topics in Data Science	
Subtotal		9
Total Credits		**36**

Course	Title	Credits
Semester 1		
CS-628	Data Science	3
CS-630	Database Systems	3
KG-604	Graduate Research & Critical Analysis	3
	Credits	**9**
Semester 2		
CS-617	Statistical Computing	3
CS-633	Data Mining	3
CS-650	Artificial Intelligence	3
	Credits	**9**
Semester 3		
CS-655	Machine Learning	3
CS-ELE	Computer Science Elective	3
CS-ELE	Computer Science Elective	3
	Credits	**9**
Semester 4		
CS-675	Big Data: Management & Analytics	3
CS-703	Applied Data Science Project	3
CS-ELE	Computer Science Elective	3
	Credits	**9**
	Total Credits	**36**