DATA SCIENCE, ADVANCED GRADUATE CERTIFICATE

Prior to applying to this program, students must have completed MSDS 420-DL Database Systems and MSDS 422-DL Practical Machine Learning or are expected to possess equivalent knowledge and skills.

Curriculum

To earn a certificate, students must complete any four of the MSDS electives:

Course	Title
MSDS 402-DL	Research Design for Data Science
MSDS 403-DL	Data Science and Digital Transformation
MSDS 410-DL	Supervised Learning Methods
MSDS 411-DL	Unsupervised Learning Methods
MSDS 413-DL	Times Series Analysis and Forecasting
MSDS 431-DL	Go and AI-Assisted Programming
MSDS 432-DL	Foundations of Data Engineering
MSDS 434-DL	Data Science and Cloud Computing
MSDS 436-DL	Technology Product Engineering
MSDS 440-DL	Conversational AI Assistants
MSDS 442-DL	AI Agent Design and Development
MSDS 450-DL	Marketing Analytics
MSDS 451-DL	Financial Engineering
MSDS 452-DL	Graphical and Network Models
MSDS 453-DL	Natural Language Processing
MSDS 454-DL	Applied Probability and Simulation Modeling
MSDS 455-DL	Data Visualization
MSDS 456-DL	Sports Performance Analytics
MSDS 457-DL	Sports Management Analytics
MSDS 458-DL	Artificial Intelligence and Deep Learning
MSDS 459-DL	Knowledge Engineering
MSDS 460-DL	Decision Analytics
MSDS 462-DL	Computer Vision
MSDS 464-DL	Intelligent Systems and Robotics
MSDS 466-DL	Applied Generative AI for Enterprises
MSDS 470-DL	Technology Entrepreneurship
MSDS 472-DL	Management Consulting
MSDS 474-DL	Accounting and Finance for Technology Managers
MSDS 475-DL	Project Management
MSDS 476-DL	Business Process Analytics
MSDS 480-DL	Business Leadership and Communications
MSDS 485-DL	Data Governance, Ethics, and Law

In some cases, students who have completed equivalent coursework previously may be allowed to replace the required course with another course in the field.

Please note that courses completed in the certificate program cannot be transferred to the corresponding graduate degree.