

DATA SCIENCE, MS TECHNOLOGY ENTREPRENEURSHIP SPECIALIZATION

Entrepreneurship involves creating a new business or business function where one did not exist before. Advances in science and technology spur innovation, giving existing, resource-rich companies a chance to reinvent themselves, often moving into new markets. These advances, many of them emerging from data science, machine learning, and artificial intelligence, provide an opportunity for individuals and firms to build new organizations or startups. The technology entrepreneurship specialization shows students the path to building a successful, innovation-driven startup.

Curriculum

Core Courses (8 units)

Course	Title
MSDS 400-DL	Math For Data Scientists
MSDS 401-DL	Applied Statistics with R
MSDS 402-DL or MSDS 403-DL	Introduction to Data Science ¹ Data Science in Practice
MSDS 420-DL	Database Systems and Data Preparation
MSDS 422-DL	Practical Machine Learning
MSDS 460-DL	Decision Analytics
MSDS 475-DL or MSDS 480-DL or MSDS 485-DL	Project Management Business Leadership and Communications Data Governance, Ethics, and Law
MSDS 498-DL or MSDS 590-DL	Capstone Class Thesis Research

¹ Which course should students take?

- Students without a background in data science should select MSDS 402-DL Introduction to Data Science.
- Students with a background in data science should select MSDS 403-DL Data Science in Practice. Students who have at least two years' experience in the field and have or had a title, such as data scientist, data analyst, statistician, data engineer, business analyst, etc. should select this course.

Specialization Courses (4 units)

Course	Title
MSDS 470-DL	Analytics Entrepreneurship
MSDS 474-DL	Accounting and Finance for Analytics Managers
Any two electives	
MSDS 410-DL	Supervised Learning Methods
MSDS 411-DL	Unsupervised Learning Methods
MSDS 413-DL	Times Series Analysis and Forecasting
MSDS 430-DL	Python for Data Analysis
MSDS 432-DL	Foundations for Data Engineering
MSDS 434-DL	Analytics Application Engineering
MSDS 436-DL	Analytics Systems Engineering
MSDS 440-DL	Real-Time Interactive Processing and Analytics
MSDS 442-DL	Real-Time Stream Processing and Analytics
MSDS 450-DL	Marketing Analytics

MSDS 451-DL	Financial Machine Learning
MSDS 452-DL	Web and Network Data Science
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 462-DL	Computer Vision
MSDS 464-DL	Intelligent Systems and Robotics
MSDS 472-DL	Analytics Consulting
MSDS 480-DL	Business Leadership and Communications
MSDS 485-DL	Data Governance, Ethics, and Law
MSDS 490-DL	Special Topics in Data Science