

Foundations of Data Science (MS)

Degree Requirements

Code	Title	Hours
Required Courses		21
Statistics Core		
ST 503	Fundamentals of Linear Models and Regression	
ST 517	Applied Statistical Methods I	
Mathematics Core (choose two of the following)		
MA 523	Linear Transformations and Matrix Theory	
MA 540	Uncertainty Quantification for Physical and Biological Models	
MA 542	Convex Optimization Methods in Data Science	
Computer Science Core		
CSC 505	Design and Analysis Of Algorithms	
CSC 540	Database Management Concepts and Systems	
Machine Learning core (choose one of the following)		
ST 563	Introduction to Statistical Learning	
CSC 522	Automated Learning and Data Analysis	
Concentration Electives		9
Select 9 credit hours from the Concentration Electives listed below		
Total Hours		30

Concentration Electives

Code	Title	Hours
CSC 520	Artificial Intelligence I	
CSC 542	Neural Networks and Deep Learning	
CSC 555	Social Computing and Decentralized Artificial Intelligence	
CSC 580	Numerical Analysis I	
CSC 584	Building Game AI	
CSC 722	Advanced Topics in Machine Learning	
MA 540	Uncertainty Quantification for Physical and Biological Models	
MA 542	Convex Optimization Methods in Data Science	
MA 580	Numerical Analysis I	
MA 782	Computational Methods for Variational Inverse Problems	
MA 784	Numerical Methods for Nonlinear Equations and Optimization	
ST 533	Applied Spatial Statistics	
ST 534	Applied Time Series	
ST 537	Applied Multivariate and Longitudinal Data Analysis	
ST 540	Applied Bayesian Analysis	
ST 554	Analysis of Big Data	
ST 558	Data Science for Statisticians	