

# Foundations of Data Science (MS): Mathematics Concentration

## Degree Requirements

Code	Title	Hours
<b>Required Courses</b>		<b>21</b>
Statistics Core		
ST 503	Fundamentals of Linear Models and Regression	
ST 517	Applied Statistical Methods I	
Mathematics Core		
MA 523	Linear Transformations and Matrix Theory	
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	
<b>Concentration Electives</b>		<b>9</b>
A minimum of 9 hours of elective courses must be taken from the following courses:		
MA 540	Uncertainty Quantification for Physical and Biological Models	
MA 580	Numerical Analysis I	
MA 782	Computational Methods for Variational Inverse Problems	
MA 784	Numerical Methods for Nonlinear Equations and Optimization	
<b>Total Hours</b>		<b>30</b>