

Mathematical Data Science (Minor)

The Undergraduate Minor in Mathematical Data Science is a 15 credit interdisciplinary credential that offers a path towards developing essential skills in data science with depth in fundamental mathematical content. Students who pursue this minor will have the opportunity to learn from data science instructors & practitioners and mathematics faculty in industry and academia, alongside their peers from various colleges. Students will pursue courses in data management, communication, applications, ethics, mathematical foundations of data science, and more, in addition to choosing from electives of interest.

Plan Requirements

Required Courses

Code	Title	Hours	Counts towards
Required DSC Courses: At least one course from each category			6
Data Communication			
DSC 202	Introduction to Data Visualization		
Ethics, Policy, & Privacy			
DSC 225	Data Science for Social Good		
DSC 235	Introduction to Data Science for Cybersecurity		
Data Management & Analysis			
DSC 406	Exploratory Data Analysis for Big Data		
Machine Learning and AI			
DSC 412	Exploring Machine Learning		
Electives or Internships & Capstones			
DSC 405	Data Wrangling and Web Scraping		
DSC 410	Data Internship Preparation for Social Impact		
Special Topics courses (i.e., DSC 295, DSC 495, or DSC 595) may be used to substitute for some of these as approved by the Data Science Academy.			
Required Depth Courses: At least three courses from the following			9

Prerequisites: MA 141, MA 241, MA 242 and a programming course (MA 116, ST 114, PY 252, CSC 111, CSC 112, or CSC 113)

Linear Algebra Requirements (one of the following)

MA 305	Introductory Linear Algebra and Matrices
MA 405	Introduction to Linear Algebra

Mathematical Foundations of Data Science (required)

MA 326	Mathematical Foundations of Data Science
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Data-focused Math Electives (Student must take at least one additional 3-credit upper division math course with connections to data science)

MA 402	Mathematics of Scientific Computing
MA 432	Mathematical Models in Life Sciences

Topics courses may be used for Data-focused Math Electives as approved by the Math Department (math minor coordinator)

NOTE 1: Students pursuing multiple Data Science Academy credentials must have at least 2 distinct 1-credit DSC courses and 2 distinct 3-credit depth courses between any two credentials (8 distinct credits total).

NOTE 2: Per university requirements courses already used to satisfy two or more credit requirements cannot also be used to satisfy the data science minor (or any third requirement).

Total Hours **15**