

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.

NOTE: For Non-math and Non-applied math majors only

Contact

Data Science and AI Academy

datascienceacademy@ncsu.edu

Plan Requirements

Required Courses

Code	Title	Hours
Required DSA Courses: At least one course from each category		6
Data Communication		
DSA 202	Introduction to Data Visualization	
Ethics, Policy, & Privacy		
DSA 220	Introduction to AI Ethics	
DSA 225	Data Science for Social Good	
DSA 235	Introduction to Data Science for Cybersecurity	
Data Management & Analysis		
DSA 240	Measuring Success	
DSA 406	Exploratory Data Analysis for Big Data	
Machine Learning and AI		
DSA 412	Exploring Machine Learning	
Electives or Internships & Capstones		
DSA 405	Data Wrangling and Web Scraping	
DSA 410	Data Internship Preparation for Social Impact	
Special Topics courses (i.e., DSA 295, DSA 495, or DSA 595) may be used to substitute for some of these as approved by the Data Science and AI 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 251, 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 I	

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 404	Mathematical Foundations of Data Science II
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: Students pursuing multiple Data Science and AI 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).

Total Hours **15**