Mathematical Data Science Major

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The Department of Mathematics offers a major program of study leading to a Bachelor of Arts in Mathematical Data Science. This major explores the volume of data available in a variety of fields, including but not limited to biology, business, and education. This program supports a deep understanding of statistics, programming skills, and communication skills. By studying large data sets in applicable fields, students who major in Mathematical Data Science will learn to access data, ask critical questions, gleaning patterns and insights from the data, and communicate results to answer real-world problems. The results will be technologically uncovered, researched in literature, and communicated clearly for their intended audiences. A major in this area of study provides a solid foundation for continued work and graduate study in data science surrounding business, science, or social science fields.

ACADEMIC REQUIREMENTS SUMMARY SHEET　　　　　**ACADEMIC YEAR 2024-2025**

Major:

Course Code	Title	Hours	Semester	Grade
MAT 411	Data Science Seminar	3		
Mathematics elective (upper-level course)				
MAT 3xx/4xx	Upper-Level Elective	3		
Other Required Courses				
CSA 104	Programming Logic and Design	3		
CSA 321	Python Programming	3		
CSA 327	Database Management Systems	3		
Choose one of the following courses (3 hours)				
BIO 212	Research Methods in Biology and Environmental Sciences	3		
ECN 355	Research Methods for Business and Social Sciences Applications	3		
PSY 270	Research Tools in Psychology	3		
PSY 274	Methods in Experimental Psychology	3		
One Upper-Level Elective				
	An advisor approved upper-level course in Biology, Chemistry, Business, Physics, Psychology, Computer Science, Environmental Science, or Economics which has a pre-req in the discipline.	3		
	Total Major Hours	**45**		