

Choose
UMSL

And your major.

Mathematics MA - Data Science

This MA program responds to the growing regional and national demand for professionals with data science knowledge, skills and abilities. Our rigorous course curriculum balances both theory and applications and covers fundamentals of applied mathematics, statistics and data computing. Students acquire a solid command of the fundamental tools in applied mathematics and statistics and build proficiency in statistical computing and modeling, data analysis, data management and data mining. Our faculty are committed to excellence in both teaching and research, and provide personalized mentoring. All program courses may be completed in the evening.

Career Outlook

Graduates from our program are well-prepared to succeed in a broad range of specialized professions, such as: statistician, data scientist, data analyst, operations research analyst, investment data analyst, market research analyst, business intelligence analyst and data engineer. As the national demand for individuals well-trained in statistics and data science is continually increasing, our alumni find employment in all major industries and work for a wide range of companies and government agencies. The site CareerCast.com ranks the data analyst profession as the Number One Best Job of 2019, with a projecting growth of near 20 percent.

Future Career Options

- Data scientist
- Data analyst
- Mathematical modeler
- Statistician
- Investment analyst
- Business analyst
- Market researcher

Skills developed through degree completion

- Identify, interpret, and manage the computational issues involved in the handling of large volumes of data
- Apply optimization principles and statistical theories to analyze data-sets, interpret data, extract meaningful information, and assess findings
- Choose and apply tools and methodologies to solve data science tasks, build and evaluate data-based models
- Apply machine learning techniques to data-mining problems

2-YEAR ACADEMIC MAP

Successful alumni have gone on to fulfill many of the opportunities above. Additional possibilities are taken from the Bureau of Labor Statistics. Contact an advisor to discuss additional future career options.

MA in Mathematics Data Science

Year 1 FALL SEMESTER (6 credit hours)

MATH 4005: Exploratory Data Analysis with R (3)
MATH 5070: Nonlinear Optimization (3)

SPRING SEMESTER (9 credit hours)

MATH 4200: Mathematical Statistics I (3)
MATH 5250: Statistical Methods in Learning & Modeling (3)
MATH/Data Science Elective (3)

Year 2 FALL SEMESTER (9 credit hours)

MATH 4210: Mathematical Statistics II (3)
MATH/Data Science Elective (3)
MATH/Data Science Elective (3)

SPRING SEMESTER (6 credit hours)

MATH/Data Science Elective (3)
MATH/Data Science Elective (3)

Degree completed!



2023-2024 2-YEAR ACADEMIC MAP

This is a sample academic map for the courses to take each academic semester/session. ***This map is not a substitute for academic advisement.*** Contact your advisor when making final selections.

- Apply for Graduation

Don't forget that students should apply for graduation the semester that you intend to graduate, so apply prior to the deadline!



Ready to be
an UMSL Triton?
Apply today.

[umsl.edu](https://www.umsl.edu)

888-GO-2-UMSL

314-516-5451

admissions.umsl.edu