

Master of Science in Applied Data Science (Geographic Information Systems)

About This Program

The Master of Science in Applied Data Science with an emphasis and certificate in Geographic Information Systems is designed for students and professionals wishing to acquire skills in spatial data analysis. GIS is a powerful computer-based analytical tool used at all levels of government, in business, industry, and institutions. GIS skills are a must in many different fields including urban planning, engineering, geology, and the social sciences. In planning for instance, GIS skills provide professionals with a spatial analytical edge with application in all areas of planning including land use, environmental, transportation and economic development planning. The program includes a 3-semester credit hour (SCH) capstone project or professional internship that will allow students to experience the entire process of analyzing a given problem, starting with problem conception all the way to product delivery. The program is designed for students with a wide range of backgrounds, including STEM degrees and those with non-technical backgrounds, such as business majors. The program can be completed in 18 months (full-time students may complete it in 12 months).

Competencies

1. Upon completion, students will be able to apply statistical methodologies to real-world data from diverse applications.
2. Upon completion, students will be able to understand computational aspects of big data analytics.
3. Upon completion, students will understand computational aspects of big data analytics in GIS.

Admissions Criteria

All applicants for the Applied Data Science MS must meet UT Arlington's [graduate admission requirements](https://catalog.uta.edu/academicregulations/admissions/graduate/) (<https://catalog.uta.edu/academicregulations/admissions/graduate/>). The program does not consider GRE scores in evaluating candidates for admission.

To be considered for admission, applicants must demonstrate undergraduate preparation equivalent to a baccalaureate degree in natural, physical, or social sciences, technology, engineering, mathematics, business, or related fields. To apply for a specific track, applicants must demonstrate sufficient background in that concentration with a relevant bachelor's degree.

Applicants must submit two letters of recommendation from evaluators who can assess the candidate's potential for academic success.

UNCONDITIONAL ADMISSION

Applicants who demonstrate a GPA of 3.0 and strong support from references will be considered for unconditional admission. Applicants with a GPA of 2.7 or higher (but less than 3.0) who demonstrate relevant work experience and/or certification may be offered unconditional admission upon review.

All admitted students must complete the program's self-paced, non-credit online review, "Math Foundation of Machine Learning," prior to enrolling in classes.

Curriculum

Foundations

ASDS 5301	STATISTICAL THEORY AND APPLICATIONS	3
ASDS 5302	PRINCIPLE OF DATA SCIENCE	3
ASDS 5303	STATISTICAL AND SCIENTIFIC COMPUTING I	3
ASDS 6306	INTERNSHIP/CAPSTONE RESEARCH PROJECT	3

Geographic Information Systems Specialization

PLAN 5331	GIS WORKSHOP	3
PLAN 5356	INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS	3
PLAN 5357	INTERMEDIATE GEOGRAPHIC INFORMATION SYSTEMS	3

Select one from the following: 3

PLAN 5333	GRAPHICS AND MULTIMEDIA COMMUNICATION IN PLANNING	
PLAN 5340	GIS AND SUITABILITY ANALYSIS	
PLAN 5361	PLANNING INTERNSHIP	
PLAN 5395	SPECIAL TOPICS IN PLANNING	

Data Science Electives

Select 6 hours from the following: 6

ASDS 5305	DEEP LEARNING AND ARTIFICIAL NEURAL NETWORKS	
ASDS 6300	SPECIAL TOPICS	

ASDS 6301	ADVANCE REGRESSION ANALYSIS
ASDS 6302	MACHINE LEARNING WITH APPLICATIONS
ASDS 6303	DATA MINING WITH INFORMATION VISUALIZATION
ASDS 6304	OPTIMIZATION AND BIG DATA ANALYTICS
ASDS 6305	STATISTICAL AND SCIENTIFIC COMPUTING II
ASDS 5100	INDEPENDENT STUDY

Total Hours**30**

Advising Resources

UNDERGRADUATE AND GRADUATE ADVISING

Location:

Life Science Building Room 206A and 206B

Email:

data.advising@uta.edu

Phone:

817-272-1512

Web:

Speak to an advisor in the Division of Data Science or schedule an appointment. (<https://www.uta.edu/academics/schools-colleges/science/departments/division-data-science/advising/>)