Master of Science

Data Science and Analytics with a Concentration in Geospatial Analytics (MS)

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Geospatial Analytics Concentration

This concentration enables MS Data Science students to develop advanced skills and expertise in geospatial science and technology. Incorporating Geographic Information Systems (GIS), remote sensing, and location-based data allows data scientists to uncover spatial patterns. The concentration provides a foundation across the breadth of geospatial technology to prepare data for analysis, perform suitability analysis, spatial predictive modeling, geostatistics, and space-time pattern mining and object detection. The concentration coursework (12 credits) incorporates advanced geovisualization and webmapping technology to also enhance cartography analytics and communications.

Admission

The requirements for admission to the Master of Science in Data Science and Analytics are as follows:

1. A baccalaureate degree in computer science, electrical and/or computer engineering, mathematics, statistics, information system & technology, or a related field from a regionally-accredited institution or an equivalent institution outside the U.S.; students holding a bachelor's degree in an unrelated field will need competency in topics related to basic statistics and computer science.

2. GRE scores with a 50% or better attainment on quantitative reasoning (or waiver (https://www.odu.edu/sites/default/files/documents/GRE-Waiver_1.pdf))

3. Current scores on the Test of English as a Foreign Language (TOEFL) of at least 230 on the computer-based TOEFL or 79 on the TOEFL iBT, or IELTS 6.5 overall.

Students with previously completed work at a regionally-accredited institution may submit a request for a maximum of 12 elective graduate credit hours to be transferred into the program. If approved by the admission committee, it will be added to the transcript.

Curriculum Requirements

The program requires 30 credit hours. The curriculum includes two concentrations: computational data analytics and, business intelligence and analytics. A capstone project is required.

Data Science & Analytics Core

Core Requirements

DASC/CS 620	Introduction to Data Science and Analytics	3
CS 624	Data Analytics and Big Data	3
CS 625	Data Visualization	3
STAT 603	Statistical/Probability Models for Data Science and Analytics	3
STAT 604	Statistical Tools for Data Science and Analytics	3
Total Credit Hours for Concentration		**12**
Capstone Course		**3**
Total Credit Hours		**30**

Geospatial Analytics Concentration

GEOG 600	Geospatial Data Analysis	3
GEOG 601	Spatial Statistics and Modeling	3
Select two of the following:		6
GEOG 525	Internet Geographic Information Systems	
GEOG 532	Advanced GIS	
GEOG 562	Advanced Spatial Analysis	
GEOG 590	Applied Cartography/GIS	
GEOG 519	Spatial Analysis of Coastal Environments	
GEOG 520	Marine Geography	
GEOG 563	GIS Programming	
GEOG 573	Geographic Information Systems for Emergency Management	
GEOG 595	Topics in Geography	
Total Credit Hours		**12**