SMU

DataScience@SMU

# SMU's Master of Science in Data Science—Delivered Online

## Program Overview

The online Master of Science in Data Science program from Southern Methodist University (SMU) equips data-driven professionals with the skills required to generate measurable impact in their business or organization. During the program, students master the concepts and tools required to effectively mine, manage and analyze unstructured data and to clearly communicate results and solutions to inform strategy in organizations. They also have the opportunity to customize their curriculum and choose an area of specialization for their elective coursework that aligns with their specific career interests.

This program can be completed in as little as 20–28 months.

## Curriculum Overview

DataScience@SMU's curriculum matches the academic rigor and standards of SMU's on-campus programs. Students learn techniques to effectively manage and analyze data and make strategic decisions. SAS, Python and R programming languages are used as a foundation to cultivate technical skills in areas that include statistical analysis, programming, data mining and network security.

As students progress in the program, they master more advanced concepts and have the opportunity to choose a specialization that aligns with their individual goals and expands the specific skill sets needed in their organization.

## Specializations

Students can choose one of the following specializations to support their career goals:

### Machine Learning Specialization

Master the machine learning techniques needed to build self-optimizing systems and provide solutions to problems or improve processes in any organization.

### Business Analytics Specialization

Master the analytical tools required to synthesize qualitative data and effectively communicate results to key stakeholders to inform strategic decision-making.

## Immersion

The immersion experiences are designed to offer additional learning, networking and relationship-building opportunities. Held on the SMU campus in Texas, the immersions are three- to four-day experiences. Students will attend a conference and have the chance to meet in person with classmates, faculty, industry leaders and employers for collaborative, hands-on workshops, panels, lectures and informational sessions. Students are required to attend two immersions during their time in the program. Hotel accommodations are included.

**30** coursework credits

**2** credit capstone

**1.5** immersion experience credits

**33.5** total credits

## Student Experience

DataScience@SMU offers working professionals the opportunity to earn a top master's degree while maintaining their current job responsibilities. Students will:

- Attend live, face-to-face classes from anywhere through a web-based platform. Each week, our experienced faculty lead classes through problem-solving discussions, and students complete self-paced, interactive coursework for a rich learning experience.
- Attend in-person immersion experiences and network with classmates and professors during seminars and workshops.
- Collaborate and connect with students and professors regularly through SMU's virtual campus and immersion experiences. Many students build relationships in and outside of class through our online platform.
- Receive top-tier support services from dedicated academic advisers, technical support specialists and career advisers throughout the program.

## Admissions Overview

SMU considers all applications holistically. Admissions decisions are based on SMU's assessment of each applicant's ability to succeed in the program, considering his or her undergraduate grades, test scores and work experience.

Students may apply to begin the program in January, May, September or November.

Admissions requirements include:

- Bachelor's degree
- GRE scores (may be waived for applicants who have a minimum of five years of related work experience or a master's degree)
- Basic understanding of programming language (R, JAVA, C++, Python, etc.)
- Quantitative skills demonstrated through college-level coursework or work experience
- Test of English as a Foreign Language (TOEFL) scores for applicants whose native language is not English

A complete list of application deadlines and requirements can be found at

https://datascience.smu.edu/admissions/overview/.

## Core Coursework

- Statistical Foundations for Data Science
- Doing Data Science
- Applied Statistics: Inference and Modeling
- File Organizations and Database Management
- Data and Network Security
- Data Mining
- Visualization of Information
- Quantifying the World

## Electives

- Business Intelligence
- Cloud Computing
- Machine Learning
- Natural Language Processing
- Statistical Sampling
- Time Series Analysis with R
- Visualization of Information and Creative Coding II