

Graduate Programs in DATA SCIENCE



Master's of Professional Studies and Graduate Certificate: Data Science

Data Science - a professionally-focused and relevant graduate degree

- » Develop an in-depth understanding of the basic computing principles behind data science in areas such as, data ingestion, curation and cleaning and the 4Vs of data science: Volume, Variety, Velocity, Veracity, and the implicit 5th V -- Value.
- » Learn how to apply principles of data science to the analysis of problems within a wide range of interdisciplinary domains.
- » Gain practical, hands-on experience with state-of-the-art data science tools.

When you choose UMBC Professional Programs, you can count on:

- » Courses developed and taught by industry experts and designed to address real-world applications of data analytics.
- » Programs that use case-based studies to bring student and faculty experiences into the classroom.
- » Curriculum that provides students with an understanding and fundamental building blocks of the skills needed to gain insights from large amounts of data.
- » Flexible evening class schedule that accommodates working professionals.
- » Wide-ranging resources offered at a top-notch public research university.

Why UMBC?

- » UMBC provides a comprehensive and quality education at a manageable cost.
- » UMBC is classified by the Carnegie Foundation as a Research University (High Research Activity).
- » UMBC is uniquely positioned to provide education and training that respond to the growing regional and national demand for professionals with data science knowledge, skills, and abilities.
- » The 2017 *U.S. News & World Report Best Colleges* guide ranks UMBC in the top five on its closely-watched Most Innovative Schools list and has recognized UMBC as a global leader in higher education.

umbc.edu/datascience

For Program and Application Information:

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Admission Requirements

M.P.S.:

- » An undergraduate degree in any subject
- » Students must have completed the following courses at the undergraduate or graduate level:
 - One semester of statistics
 - Calculus I or II
 - Candidates must have academic or professional experience equivalent to basic programming courses.
 - Students who do not have formal undergraduate programming courses or on-the-job training are encouraged to use MOOCs or Khan Academy.
- » Minimum undergraduate GPA of 3.0 on a 4.0 scale

Admission Deadlines

Fall: August 1

Spring: December 1

For detailed application process please visit:
umbc.edu/datascience

Master's Program

Master's of Professional Studies: Data Science 30 Credits (10 courses)

Required Core Courses (21 credits)

DATA 601*: Introduction to Data Science

DATA 602*: Introduction to Data Analysis and Machine Learning

DATA 603*: Platforms for Big Data Processing

DATA 604*: Data Management

ENMG 652: Management, Leadership and Communication

DATA 605: Ethical and Legal Issues in Data Science

DATA 606: Capstone in Data Science



*Indicates courses needed for Data Science Certificate.

Pathway Courses (9 credits)

Spatial Analytics

(in collaboration with Department of Geography and Environmental Science)

GES 773: GIS Modeling

GES 773: Spatial Analysis

GES 773: Visualization and Presentation

Data Science Analytics

(in collaboration with Department of Information Systems)

IS 721: Semi-Structured Data Management

IS 722: Systems and Information Integration

IS 733: Data Warehousing and Data Mining

Office of Professional Programs

UMBC's Office of Professional Programs offers a broad array of professionally focused master's degree and certificate programs that address industry needs while anticipating future opportunities.
umbc.edu/professionalprograms



Please consult umbc.edu/datascience for typical schedule.