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.

For Program Information:
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Graduate Program Director
adutt@umbc.edu

For Application Information:
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Director, Office of Professional Programs
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umbc.edu/datascience
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

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

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

Project Management
(in collaboration with the College of Engineering and Information Technology)
ENMG 650: Project Management
ENMG 661: Leading Virtual/Global Teams
ENMG 662: Advanced Project Management

Management Science
(in collaboration with the College of Engineering and Information Technology)
Choose three ENMG courses from:
ENMG 650 - 690

Note: Students pursuing the Project Management pathway are eligible for a certificate in Project Management upon completion.

Please consult umbc.edu/datascience for typical schedule and exact courses and course descriptions.