UMBC

Graduate Programs in Data Science

Master of Professional Studies and Graduate Certificate:
Data Science

DATA SCIENCE - A PROFESSIONALLY-FOCUSED AND RELEVANT GRADUATE DEGREE

» Learn the latest data science tools and machine learning techniques to work with data at scale, derive insights from structured and unstructured data in different formats, and solve real-world problems.

» Gain skills to build predictive/prescriptive models and neural networks, run evaluations, and interpret results.

» Develop effective presentation skills and visualization methods to communicate data-driven findings to executive stakeholders.

» Understand legal and ethical implications of data privacy, data security, and bias.

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 science.

» Programs that use case-based studies to bring student and faculty experiences into the classroom.

» Curriculum that prepares students for careers in data science, analytics, predictive modeling, business intelligence, and data mining in data-driven industries including finance, healthcare, biotechnology, and sports.

» Flexible evening and online class schedule that accommodates working professionals.

WHY UMBC?

» UMBC provides a comprehensive and quality education at a manageable cost.

» 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.

datascience.umbc.edu

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Master's of Professional Studies (M.P.S.):

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.
** Must be taken in 1st semester.

PATHWAY COURSES
SELECT 3 COURSES (9 CREDITS)

PROJECT MANAGEMENT

Catonsville and Shady Grove Campus

(in collaboration with the College of Engineering and Information Technology)

DATA SCIENCE ANALYTICS

Catonsville Campus Only

(in collaboration with the Department of Information Systems)

POLICY ANALYSIS

Catonsville Campus Only

(in collaboration with the Public Policy Department)

BIOINFORMATICS

Catonsville and Shady Grove Campus

(in partnership with Foundation for Advanced Education Services @ NIH)

SPATIAL ANALYTICS

Shady Grove Campus Only

(in collaboration with the Department of Geography and Environmental Systems)

MANAGEMENT SCIENCE

Catonsville and Shady Grove Campus

(in collaboration with the College of Engineering and Information Technology)

CYBERSECURITY

Catonsville and Shady Grove Campus

(in collaboration with the MPS in Cybersecurity Program)

HEALTHCARE ANALYSIS

Catonsville Campus Only

(in collaboration with the MPS in Health Information Technology Program)

ADVANCED COMPUTING & ANALYTICS

Catonsville Campus Only

(in collaboration with the Department of Computer Science and Electrical Engineering)

ECONOMICS/ECONOMETRICS

Catonsville Campus Only

(in Collaboration with the Department of Economics)

Note: Students pursuing the Project Management and/or Cybersecurity pathways are eligible for the respective certificate in Project Management and/or Cybersecurity Operations upon completion.

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

This academic program is a participant in the U.S. Department of Education Gainful Employment program.

For more information, https://gradschool.umbc.edu/resources/careers/gainfulemploy/