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:
Dr. Abhijit Dutt
Graduate Program Director
adutt@umbc.edu

For Application Information:
Sonya Crosby
Director, Office of Professional Programs
scrosby@umbc.edu | 410-455-3899

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

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

Required Core Courses (21 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>DATA 601*</td>
<td>Introduction to Data Science</td>
</tr>
<tr>
<td>DATA 602*</td>
<td>Introduction to Data Analysis and Machine Learning</td>
</tr>
<tr>
<td>DATA 603*</td>
<td>Platforms for Big Data Processing</td>
</tr>
<tr>
<td>DATA 604*</td>
<td>Data Management</td>
</tr>
<tr>
<td>ENMG 652</td>
<td>Management, Leadership and Communication</td>
</tr>
<tr>
<td>DATA 605</td>
<td>Ethical and Legal Issues in Data Science</td>
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<tr>
<td>DATA 606</td>
<td>Capstone in Data Science</td>
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</tbody>
</table>

*Indicates courses needed for Data Science Certificate.

Pathway Courses (9 credits)

Spatial Analytics
(in collaboration with Department of Geography and Environmental Science)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>GES 773</td>
<td>GIS Modeling</td>
</tr>
<tr>
<td>GES 773</td>
<td>Spatial Analysis</td>
</tr>
<tr>
<td>GES 773</td>
<td>Visualization and Presentation</td>
</tr>
</tbody>
</table>

Data Science Analytics
(in collaboration with Department of Information Systems)

<table>
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<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>IS 721</td>
<td>Semi-Structured Data Management</td>
</tr>
<tr>
<td>IS 722</td>
<td>Systems and Information Integration</td>
</tr>
<tr>
<td>IS 733</td>
<td>Data Warehousing and Data Mining</td>
</tr>
</tbody>
</table>

Please consult umbc.edu/datascience for typical schedule.

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