BUSINESS ANALYTICS AND RISK MANAGEMENT, MASTER OF SCIENCE

The STEM-designated Master of Science in Business Analytics and Risk Management (BARM) full-time program equips students to improve decision making processes based on a rigorous treatment of data and information. Students gain knowledge on different types of analytics methodologies, tools used to acquire and analyze data, derive insights from the data, and effectively communicate the results for a better decision making in a volatile business environment. This program is designed to teach ways to: quantify multiple dimensions of hard business problems; analyze the structure and data related to those problems; and create rigorous approaches based on that analysis to guide business decisions. Coursework provides exposure to business analytics and risk management principles along with necessary tools which enable students to make better decisions for themselves and their organizations.

An MS in Business Analytics and Risk Management provides graduates with the tools and knowledge to:

- Convert raw data into useful information
- Present that information in compelling ways
- Use information to understand complex decision settings
- Create rigorous approaches to problem solving
- Construct persuasive arguments based on careful analysis
- Use information to diagnose problems
- Use analysis to prescribe approaches to improve performance
- Develop ways to predict future performance
- Improve decision making at all levels
- Add value to any organization in need of more analytical expertise
- Develop a thorough understanding of risk
- Protect shareholder value by managing the downside of risk

Program Requirements

The program requires 36 credits. Full-time MS students must complete the program in 3 semesters: fall, spring, and summer. Course waivers are not granted in this program.

Curriculum

The curriculum for the MS in BARM program includes the following courses. Course sequence and availability of specific electives may vary. Students must consult an academic advisor to ensure that they take courses in the approved sequence. All courses are 2 credits.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BU.210.620</td>
<td>Accounting and Financial Reporting</td>
<td>2</td>
</tr>
<tr>
<td>BU.520.601</td>
<td>Business Analytics</td>
<td>2</td>
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<tr>
<td>BU.120.601</td>
<td>Business Communication</td>
<td>2</td>
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<tr>
<td>BU.131.601</td>
<td>Business Leadership and Human Values</td>
<td>2</td>
</tr>
<tr>
<td>BU.231.620</td>
<td>Corporate Finance</td>
<td>2</td>
</tr>
<tr>
<td>BU.510.615</td>
<td>Python for Data Analysis</td>
<td>2</td>
</tr>
<tr>
<td>BU.410.620</td>
<td>Marketing Management</td>
<td>2</td>
</tr>
<tr>
<td>BU.680.620</td>
<td>Operations Management</td>
<td>2</td>
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<tr>
<td>BU.510.601</td>
<td>Statistical Analysis</td>
<td>2</td>
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Functional Core

- BU.520.620 Advanced Business Analytics
- BU.510.650 Data Analytics
- BU.520.710 Big Data Machine Learning

Elective Courses

Students must complete 6 elective courses. At least 2 of these courses must be from the Quantitative Electives section.

Quantitative Electives

Select at least two of the following:

- BU.232.650 Continuous Time Finance
- BU.450.760 Customer Analytics
- BU.330.780 Data Science and Business Intelligence
- BU.520.650 Data Visualization
- BU.610.615 Simulation for Business Applications
- BU.610.630 Pricing and Insuring Risk
- BU.450.740 Retail Analytics
- BU.610.710 Sustainable Supply Chains
- BU.610.760 Supply Chain Analytics
- BU.330.770 Database Management
- BU.330.740 Large Scale Computing on the Cloud
- BU.330.760 Deep Learning with Unstructured Data

General Electives

- BU.231.720 Corporate Governance
- BU.610.705 Crisis Management
- BU.330.730 Cybersecurity
- BU.520.701 Enterprise Risk Management Frameworks
- BU.230.750 Financial Crises and Contagion
- BU.300.620 Managing Complex Projects
- BU.230.730 Managing Financial Risk

Total Credits 36