BUSINESS ANALYTICS (M.S.)

https://paulcollege.unh.edu/program/ms/business-analytics

Description

The Master of Science in Business Analytics (MSBA), offered by the Peter T. Paul College of Business and Economics, prepares students for careers related to data analytics and quantitative decision making in modern organizations. The graduates from the MSBA program will be armed with skills in data storing/pre-processing/visualization, in building prediction/forecasting models, and formulating/solving optimal business decision problems when faced with limited resources. The MSBA program places heavy emphasis on building both the theoretical fundamentals and the practical applications of business analytics supported by relevant and modern programming skills. In addition, the MSBA curriculum is designed to foster teamwork and presentation skills that will help students to seamlessly transition into relevant corporate roles.

The MSBA is a STEM-designated program and consists of 12 courses totaling 36 credit-hours of coursework (10 required courses and 2 elective courses from a suggested list). Each course follows an 8-week long term and the program can be completed in 9 months (taking three courses per term), 12 months (taking two to three courses per term), 16 months (taking two courses per term) or 28-33 months (taking one course per term). The MSBA program requires that applicants possess an introductory level of exposure to Calculus and programming. General familiarity with basic concepts from Calculus I, Calculus II (e.g. functions, derivation, and integration), and Linear Algebra (basic matrix operations) and prior exposure to, at least, one programming language (C++, Python, R, Java, SQL, etc.) are highly desirable. Any students without Calculus, Linear Algebra, and programming fundamentals will have access to resources to acquire the relevant background prior to joining the program.

In addition, a bachelor’s degree, a GMAT or GRE test score within the last five years (the emphasis will be on the quantitative score for both tests and waivers will be considered on a case-by-case basis), and a TOEFL score (only for international students) are required.

The field of Business Analytics has grown rapidly over the last few years due to technological advancements and the ease of access to data for decision making in organizations ranging from small to large. Every firm interested in hiring and training individuals with analytical capabilities to sustain competitive advantage in the marketplace. A list of examples of careers in business analytics is as follows:

- Business Analytics & Optimization Consultant
- Business Case Modeling Analyst/Consultant
- Business Intelligence Analyst
- Decision Science Analyst
- Analyst & Planner (Six Sigma)
- Internal Quantitative Marketing Strategy Consultant
- Manager of Modeling and Analytics
- Pricing & Revenue Optimization Analyst
- Project Manager/Promotion Response Analytics
- Quantitative Analyst – Asset Allocation
- Quantitative Analyst – Insurance Risk
- Quantitative Marketing Solutions Director & Manager
- Quantitative Modeler
- Quantitative Research Analyst

Requirements

The MSBA require students to take 12 courses (a total of 36 credit hours) out of which 10 are required and 2 are electives. A listing of core courses is below. Part-time students take one course per term and full-time students take 2 or 3 courses per term.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS B809</td>
<td>Business Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>DS B802</td>
<td>Probability and Simulation</td>
<td>3</td>
</tr>
<tr>
<td>DS B803</td>
<td>Fundamentals of Statistical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>DS B804</td>
<td>Exploration and Communication of Data</td>
<td>3</td>
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<tr>
<td>DS B805</td>
<td>Statistical Learning</td>
<td>3</td>
</tr>
<tr>
<td>DS B806</td>
<td>Optimization Methods I</td>
<td>3</td>
</tr>
<tr>
<td>DS B807</td>
<td>Modeling Unstructured Data</td>
<td>3</td>
</tr>
<tr>
<td>DS B808</td>
<td>Optimization Methods II</td>
<td>3</td>
</tr>
<tr>
<td>DS B809</td>
<td>Time Series Analysis</td>
<td>3</td>
</tr>
<tr>
<td>DS B810</td>
<td>Enterprise Level Analytics (Capstone)</td>
<td>3</td>
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</table>

1 The online module acts as a refresher for the mathematical background needed for the program and is designed to prepare students for the MSBA program.

2 Below is a list of suggested elective courses from the MBA program.

   Other courses from other UNH graduate programs may be substituted with a petition.

   Depending on the availability, students can take the below courses in a face-to-face format or in an online format.

   - Hospitality Operations & Financial Metrics
   - Corporate Financial Strategy
   - Investments
   - Private Equity/Venture Capital
   - International Financial Management
   - Marketing Research
   - Marketing Analytics
   - New Product Development
   - Topics (Digital Marketing)
   - Topics (Applied Financial Modeling and Analytics)
   - Topics (Big Data in Finance)
   - Topics (Project Management)
   - Managing Yourself & Leading Others
   - Accounting/Financial Reporting, Budgeting, and Analysis
   - Leveraging Technology for Competitive Advantage
   - Financial Management/Raising and Investing Money
   - Managing Operations
   - Marketing/Building Customer Value
   - Economics of Competition

In addition, students for the MSBA program.

Depending on the availability, students can take the below courses in a face-to-face format or in an online format.