

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. Graduates from the MSBA program will be armed with skills in data storing/pre-processing/visualization, in building prediction/forecasting models, and in 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 required and elective coursework. Courses follow an 8-week-long term. The program can be completed in 9 months (taking three courses per term), or 12 months (taking two to three courses per term). Submitting a GMAT or GRE test score is optional for admission. College level math such as Finite Math and/or Calculus 1,2 are required. Applicants with more of the following courses/skills tend to be more competitive for admission to the program: Linear Algebra (basic matrix operations), familiarity with basic statistics (descriptive and inferential) and at least one programming language (e.g., C++, Python, R, Java, SQL). Students lacking these fundamentals will have access to resources to gain the necessary background before joining the program. International students are also required to submit a TOEFL score (waivers will be considered on a case-by-case basis).

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 is 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 program requires students to take 12 courses (a total of **36 credit hours**), from which 10 are required core courses and 2 are electives. A listing of core courses is below. Full-time students take two or three courses per term.

Code	Title	Credits
The Foundation		
	Mathematics for Business Analytics (Online Module) ¹	0
Core Courses		
DS 801	Business Intelligence	3
DS 802	Probability and Simulation	3
DS 803	Fundamentals of Statistical Analysis	3
DS 804	Exploration and Communication of Data	3
DS 805	Statistical Learning	3
DS 806	Optimization Methods I	3
DS 807	Modeling Unstructured Data	3
DS 808	Optimization Methods II	3
DS 809	Time Series Analysis	3
DS 810	Big Data and AI: Strategy and Analytics (Capstone)	3
Electives		
	Select two (2) Approved Electives from the below list of courses. ²	6
Total Credits		36

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 MSBA 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.

Code	Title	Credits
Approved Electives		
DS 815	Programming for Business Analytics	3
DS 816	Tools for Business Analytics	3
ADMN 829	Corporate Financial Strategy	3
ADMN 830	Investments	3
ADMN 834	Private Equity/Venture Capital	3
ADMN 846	International Financial Management	3
ADMN 852	Marketing Research	3
ADMN 863	Marketing Analytics	3
ADMN 864	New Product Development	3
ADMN 912	Managing Yourself & Leading Others	3
ADMN 839	Applied Financial Modeling and Analytics	3
ADMN 842	Project Management	3
ADMN 845	Supply Chain Management	3
ADMN 865	Digital Marketing	3
ADMN 919	Accounting/Financial Reporting, Budgeting, and Analysis	3
ADMN 926	Leveraging Technology for Competitive Advantage	3
ADMN 930	Financial Management/Raising and Investing Money	3
ADMN 940	Managing Operations	3
ADMN 960	Marketing/Building Customer Value	3
ADMN 970	Economics of Competition	3

Accelerated Master's

The Accelerated Master of Science in Business Analytics (MSBA) option provides an opportunity for UNH undergraduate students to begin graduate study while completing a bachelor's degree—making you stand out among other job applicants with advanced skills and increasing your earning potential. Qualified students can begin earning graduate credit

during their undergraduate programs, allowing them to maximize their time on campus and return on their educational investment.

Eligibility

- Current UNH undergraduate student with a GPA of 3.2 or higher.
- Apply **before** completing 90 undergraduate credits.
- Acceptance into the Accelerated Master's Program **before** taking 800-level courses.

Accelerated MSBA Requirements

- Qualified students may complete up to 6 credits at the 800-level during their undergraduate studies, earning dual credit toward their B.S. and M.S. degrees.
- Once a qualified student matriculates into the MSBA program (after completing undergraduate degree), the student will take a minimum of 30 additional credits to complete the 36 credit MSBA program requirement.
- Students are required to earn a B- or better in graduate courses to earn credits toward their degree.

Approved Dual Credit Electives

To earn graduate credits, students need to enroll in the 800-level sections of approved dual credit courses. The 800-level sections require additional work beyond the requirements for the undergraduate versions. The following is the list of approved dual credit courses for the accelerated path in the MSBA program:

Code	Title	Credits
DS 872	Predictive Analytics and Modeling	3
DS 874	E-Business	3

Student Learning Outcomes

Program Learning Outcomes

- Students will demonstrate knowledge of content areas of business analytics.
- Students will demonstrate the ability to solve complex business problems.
- Students will demonstrate effective oral communication behaviors.
- Students will demonstrate effective written communication behaviors.
- Students will demonstrate ability to cleanse, aggregate and visualize data.
- Students will demonstrate ability to apply statistical inference techniques to business and societal problems.
- Students will effectively develop and interpret optimization and simulation software output to inform business or policy decision making.