

# Master of Science in Business Analytics

The Master of Science in Business Analytics (MSBA) program provides an in-depth understanding of the latest data analytics practices. You'll look at commonly used statistical modeling methodologies, as well as leading state-of-the-art data mining techniques, challenging yourself to not just master data analysis, but to refine and develop strategies for communication of their findings. Bentley has been a leader in the advanced study of business analytics for more than 20 years, and this expanded program takes this commitment to a new level.

## Program Features

- Continues Bentley's long tradition of training analytics professionals at the graduate level, providing the valuable tools you need to succeed in this emerging field.
- Built around seven-course core component coupled with three focused electives in one of six clusters: data science, economics, finance, information management, management or marketing.
- Designed to match the needs of a wide variety of employers in the analytics space, providing you very strong career opportunities upon graduation.
- STEM designation, increasing employability of international students due to three years of OPT (optional practical training).
- Combine data analysis with computer science, applied to various business fields. Acquire skills in statistical programming languages R and Python, database language (SQL) and visualization and data storytelling. Gain an understanding of statistical modeling, data mining and machine-learning techniques through hands-on projects.

## Experiential Learning

Success in today's business world requires a practical, hands-on approach to information, whether you are analyzing it, integrating it or sharing it. Our high-tech learning labs ensure that you'll have access to the leading edge of technology, giving you every opportunity to cut your teeth on the equipment and software being used in the business world today. MSBA candidates can take advantage of our User Experience Center and Computer Information Systems Learning and Technology Sandbox, and learn how to manipulate working solutions from real data trends they've uncovered.

## Career Outcomes

The MSBA prepares you for such careers as:

- Senior business analyst
- Data scientist
- Consultant
- IT systems administrator
- Senior analyst
- Business intelligence analyst
- Product specialist
- Marketing analyst



# “Studying at a business school versus a computer science school makes a difference.”

## Amanda Dery

Senior Data Scientist  
Virgin Pulse



## Curriculum

Candidates for the MSBA degree should demonstrate strong interest in business analytics. Admission requires a background in business statistics or the willingness to take an additional business statistics foundation course. The ideal candidate has a degree in science, business or engineering, but highly motivated students from all disciplines are welcome.

### Foundation (1 course)

**All applicants will be evaluated for foundation waivers.**

**GR 521** Managerial Statistics

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### Core (7 courses)

#### Analytics Core

**CS 605** Data Management and SQL for Analytics

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**IPM 652** Managing with Analytics

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**ST 625** Quantitative Analysis for Business

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#### Business Analytics Core

**MA 610** Optimization and Simulation for Business Decisions

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**MA 611** Time Series Analysis

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**MA 710** Data Mining

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**ST 635** Intermediate Statistical Modeling for Business

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### Electives (3 courses)

Choose from one of six elective clusters to further refine your expertise. Students may choose from the suggested electives or from courses outside of these clusters.

#### Data Science Cluster

**CS 612** Web-Based Application Development

**CS 650** Data Management Architectures

**CS 753** Business Intelligence Methods

**MA 705** Data Science

**MA 706** Design of Experiments for Business

**MA 707** Introduction to Machine Learning

#### Economics Cluster

**EC 611** The Macroeconomics of Financial Markets

**EC 631** Market Structure and Firm Strategy

#### Finance Cluster

**FI 623** Investments

**FI 635** Fixed Income Valuation and Strategies

**FI 640** Equity Valuation

**FI 645** Derivatives

#### Information Management Cluster

**GR 602** Business Process Management

**HF 730** Visualizing Information

**IPM 723** Information Security, Controls and Ethics

**IPM 755** Special Topics in Information and Process Management

#### Management Cluster

**GR 603** Leading Responsibly

**MG 632** Managing Effective Work Teams

**MG 635** Negotiating

**MG 645** Leading Change

#### Marketing Cluster

**MK 612** Strategic Marketing

**MK 711** Marketing Research and Analysis

**MK 726** Customer Data Analysis and Relationship Marketing

For complete degree requirements and most up-to-date course options, visit [bentley.edu/graduate](https://bentley.edu/graduate).

[bentley.edu/graduate/business-analytics](https://bentley.edu/graduate/business-analytics)

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