Bryant University
GRADUATE PROGRAMS OFFICE

Master of Science in Business Analytics

Bridge Semester (Summer, Online Only)
- *Programming Foundation for Data Analytics (for students w/o prerequisite algebra or pre-calculus)*
  - o Demystifies the complexities of computer patterns while delving into theory and pragmatics of programming, including a special focus on the Python programming language.
- *Math and Statistics Foundation for Data Analytics (for students w/o prerequisite knowledge of computer science)*
  - o Introduces data science's core principles, including foundational vocabulary, notation, concepts, and algebra rules necessary to advance in the MSBA program.

Fall Semester
- *Probability and Statistics for Data Science*
  - o Utilizing Python to explore a range of statistical methods, this course explores conceptual framework for statistical analysis and inference, as well as different types of quantitative research methods and statistical techniques for analyzing data.
- *Data Visualization and Communication*
  - o Uses Power BI, Tableau and Python to learn the fundamentals of human perception, exploratory data analysis, importance of interaction in exploration, techniques for visualization of specific data sets, and storytelling.
- *Foundation of Machine Learning*
  - o Designs, analyzes and evaluates the properties and computation efficiency of machine learning algorithms using Python, Keras and Pytorch, as well as develops approaches to problems in real applications.
- *Large Scale Database Management*
  - o Teaches how to load, store and process big data in a cloud environment while providing opportunities to work with unstructured data, using indexing and scoring documents to learn effective responses to user queries.

Spring Semester *includes two additional specialization courses*
- *Time Series Analytics and Optimization for Business Decision*
  - o Introduces a general class of models used to represent data and investigate common time series modeling and forecasting methodologies, then uses advanced statistical software such as R, Python, and Stata to test theoretical models of economic and business behavior.
- *Marketing Analytics*
  - o Discovers marketing insights generated from empirical data - such as segmentation, targeting and positioning - then applies hands-on experiences with data analysis to actual marketing business situations using Excel, R, and Tableau.

Spring, Summer or Fall Semester *includes one additional specialization course*
- *Business Strategy and Analysis*
  - o Through exploration of analytics and business intelligence, students will learn to evaluate the strategic environment of an organization, then use data models to formulate and implement effective strategy.
- *Business Analytics Capstone*
  - o Revolving around a project using data to assess, design and solve an issue facing a Bryant University-partner organization, students will create a professional presentation of their analysis and recommendations based on actual data sets.