

# MS BUSINESS ANALYTICS (MSBA)

**MSBA 201. Programming for Business Analytics. 3 Units**  
**Term Typically Offered:** Fall, Spring, Summer

The purpose of this course is to introduce and familiarize students with key aspects of Python and R programming languages that are necessary for computation in business analytics. Upon successful completion of this course, students will be familiar with Python and R programming constructs, data structures, retrieving data from Excel, databases and other online sources, pre-processing data, and various types of data analysis techniques.

**MSBA 202. Data Management for Business Analytics. 3 Units**  
**Term Typically Offered:** Fall, Spring, Summer

The course is designed to provide the student with the essential knowledge needed to analyze, evaluate, design, implement, and administer a business database. The topics include: 1. The terminology and fundamental concepts associated with the relational database; 2. The design and implementation of a relational database; and 3. The business data analysis using Oracle SQLPlus.

**MSBA 203. Data Visualization and Communication for Business Analytics. 3 Units**  
**Term Typically Offered:** Fall, Spring, Summer

This course examines advanced information technologies that extract non-trivial, actionable, and novel knowledge from data to achieve strategic goals of organizations. The course emphasizes data visualization, data communication, business intelligence applications data warehousing, and data mining.

**MSBA 204. Decision Analytics. 3 Units**  
**Term Typically Offered:** Fall, Spring, Summer

Introduces students to analytics and decision models for the solution and analysis of business problems. Topics include mathematical programming, decision theory, analysis of waiting lines, simulation, and Markov processes.

**MSBA 205. Data Analytics for Business. 3 Units**  
**Prerequisite(s):** MSBA 201  
**Term Typically Offered:** Fall, Spring, Summer

This data analytics course focuses on the application of statistical methods to business problems. Emphases are placed on case studies, model building techniques, statistical reasoning, and communications of statistical results. A statistical computer package will be used in the course.

**MSBA 206. Data Mining for Business. 3 Units**  
**Prerequisite(s):** MSBA 205  
**Term Typically Offered:** Fall, Spring, Summer

This course covers data mining methods commonly used in business including advanced data visualization, dimension reduction, classification methods, association rules, cluster analysis, forecasting time series analysis. This course focuses on applications of data mining methods in the business environment.

**MSBA 207. Machine Learning for Business. 3 Units**  
**Prerequisite(s):** MSBA 206  
**Term Typically Offered:** Fall, Spring, Summer

This course provides an introduction to machine learning and statistical pattern recognition and covers basic concepts, principles, methods, implementation techniques, and applications of machine learning in business.

**MSBA 208. Capstone Project in Business Analytics. 3 Units**  
**Prerequisite(s):** MSBA 201, MSBA 202, MSBA 203, MSBA 205  
**Term Typically Offered:** Fall, Spring, Summer

Capstone Project in Business Analytics. Service learning implementation of integrated skills developed in MSBA program. Focuses on the application and ethical use of business analytics in practical context. Project deliverable required.

**MSBA 211. Marketing Analytics. 3 Units**  
**Prerequisite(s):** MSBA 205  
**Term Typically Offered:** Fall, Spring, Summer

The course covers current developments in marketing analytics. Topics include methodologies for market forecasting, estimating market size, and demand; evaluating marketing ROI and customer life time value; modeling of segmentation, positioning, competitive analysis, conjoint analysis, distribution channel analytics, and sales analytics. Students will also learn the latest analytics tools to collect, analyze, and visualize data for decision making and communicating to senior executives.

**MSBA 212. Social Media Analytics. 3 Units**  
**Prerequisite(s):** MSBA 206  
**Term Typically Offered:** Fall, Spring, Summer

This course prepares students to draw business insights and make business decisions by mining social media data.

**MSBA 213. Financial Analytics. 3 Units**  
**Prerequisite(s):** MSBA 205  
**Term Typically Offered:** Fall, Spring, Summer

This course introduces and develops the collection, analysis, visualization, and interpretation of financial data. The course utilizes current statistical programming environments and techniques applied to analytics-friendly finance problems including optimum portfolio selection, quantitative security analysis, performance measurement, and back-testing.

**MSBA 214. Big Data Technologies for Business. 3 Units**  
**Prerequisite(s):** MSBA 201, MSBA 202  
**Term Typically Offered:** Fall, Spring, Summer

This course addresses the concepts and principles of Big Data and how Big Data can be used in the enterprise. The course starts with an overview of the fundamental principles of Big Data and its role in making better decisions and predictions in the organization. Following the fundamentals of Big Data, we address the technology, infrastructure and applications of Big Data.

**MSBA 215. Human Resource Analytics. 3 Units**

**Prerequisite(s):** MSBA 201, MSBA 205

**Term Typically Offered:** Fall, Spring, Summer

This course provides students with knowledge and skills to understand and analyze Human Resource data, develop insights, and generate ethical recommendations and decisions for organizational performance. Emphases are placed on Human Resource Analytics case studies, statistical reasoning, and effective communication of results to organization management. A statistical computer package will be used in the course.

**MSBA 216. Accounting Data & Data Analytics. 3 Units**

**Prerequisite(s):** MSBA 201, MSBA 205

**Term Typically Offered:** Fall, Spring, Summer

This course provides students with knowledge and skills to understand and analyze accounting data and develop models to improve financial reporting, tax disclosures, audit quality, and managerial accounting decisions. The course provides insights into the use of machine learning, text analytics, and sentiment analysis on both structured and unstructured accounting data. It provides an overview of the regulatory environment in the auditing and accounting world regarding the usage of analytics.