

Business Analytics (BANA)

Courses

BANA 200. Foundations of Business Analytics. 2 Units.

Provides overview of the field of business analytics, and the theory and practice underpinnings of the three MSBA curricular tracks: Data Analytics, Marketing Analytics, and Operations Analytics. Provides students with a working knowledge of the R programming language.

Restriction: Graduate students only. Business Analytics Majors only.

BANA 201A. Statistics for Data Science. 4 Units.

Methods of statistical inference, emphasizing applications to administrative and management decision problems. Topics include classical estimation and hypothesis testing, regression, correlation, analysis of variance, decision analysis, and forecasting.

Restriction: Graduate students only. Business Analytics Majors only.

BANA 201B. Management Science for Analytics. 4 Units.

An introduction to computer-based models for decision making. Topics include optimization (linear programming, integer programming, network flow models) and computer simulation. Uses spreadsheets extensively, including Excel built-in and add-in packages.

Restriction: Graduate students only. Business Analytics Majors only.

BANA 205. Foundations of Marketing. 4 Units.

Introduction to the field of marketing. Objectives include developing familiarity with fundamental concepts, theories, and techniques in marketing, and acquainting students with the type of decisions made by marketing managers, including customer targeting, product, pricing, distribution, promotion, and research.

Restriction: Graduate students only. Business Analytics Majors only.

BANA 208. Operations Analytics. 4 Units.

Introduction to strategic and tactical issues in production and operations management. A blend of quantitative and qualitative considerations. Topics include product planning, process design, capacity management, production planning, inventory control, distribution management, just-in-time manufacturing, quality management.

Restriction: Graduate students only. Business Analytics Majors only.

BANA 211. MSBA ProSeminar.

Provides students in the Merage School Master of Science in Business Analytics program with information and practical skills for success in the MSBA program and for business career planning.

Grading Option: Satisfactory/unsatisfactory only.

Repeatability: May be repeated for credit unlimited times.

Restriction: Graduate students only. Business Analytics Majors only.

BANA 212. Data and Programming for Analytics. 4 Units.

Challenges and teaches students how to handle data, from initial data acquisition to final data analysis. Provides students with a working knowledge of the Python programming language.

Prerequisite: Basic familiarity with programming is recommended.

Restriction: Graduate students only. Business Analytics Majors only.

BANA 241. Business Analytics Internship. 2-4 Units.

Students apply analytics and big data knowledge obtained from classroom theory through work experiences. Provides knowledge of career opportunities, an understanding of the role analytics plays in business environments, and preparation for the business analytics profession.

Grading Option: Satisfactory/unsatisfactory only.

Repeatability: May be repeated for credit unlimited times.

Restriction: Business Analytics Majors only.

BANA 271. Marketing Analytics. 4 Units.

Introduces students to quantitative marketing analytics methods and teaches them how to apply the methods to business problems of interest. Topics include: resource allocation and ROI, marketing mix analytics, customer analytics, market segmentation and targeting, advertising, promotions, and digital marketing.

Restriction: Graduate students only.

BANA 273. Machine Learning for Analytics. 4 Units.

Introduces methods to mine data repositories for business intelligence to facilitate analytical decision-making. Topics include clustering for market segmentation, association rules to discover relationships between different purchase decisions, and Naive-Bayes classification techniques for decision making using decision-trees.

Restriction: Graduate students only. Business Analytics Majors only.

BANA 274. Deep Learning and Applications. 4 Units.

Provides students with an understanding of specific topics in machine learning including networks and deep learning, improving neural networks, structuring deep learning projects, and convolutional neural networks.

Restriction: Graduate students only. Business Analytics Majors only.

BANA 275. Natural Language Processing and Applications. 4 Units.

Focuses on providing students knowledge of advanced techniques for data analytics. Students deepen their understanding of topics including: dimension reduction, text mining and topic modeling, sentiment analysis, collaborative filtering, and causal estimation.

Restriction: Graduate students only.

BANA 277. Customer and Social Analytics. 4 Units.

Examines how business managers can leverage Web 2.0 and social media analytics to create value for their organizations and customers. Topics include digital and social strategies; Web and search analytics; display and mobile advertising; social networks and influence; social media.

Restriction: Graduate students only.

BANA 279. Business Data Management. 4 Units.

Provides essential knowledge for business managers to store and utilize data effectively. Aims to introduce the core concepts in databases, data warehouses, and big data on cloud. Offers an in-depth understanding of each technology's core concepts with hands-on programming.

Restriction: Graduate students only. Business Analytics Majors only.

BANA 285. Supply Chain Analytics. 4 Units.

Introduces students to the tools and strategies to effectively match supply and demand. Focuses on the coordination of material and information flows in supply chains. Recent innovations are also discussed, including globalization, the impact of electronic commerce, and sustainability issues.

Restriction: Graduate students only. Business Analytics Majors only.

BANA 287. The Art and Science of Applied Forecast Modeling. 4 Units.

Covers core and advanced techniques of forecasting. Emphasizes the innovation required to develop accurate models, inspires the need to break rules, leverages ideation needed to discover data sources and engineer variables, and seeks ways to build new models.

Restriction: Graduate students only. Business Analytics Majors only.

BANA 288. Predictive Analytics. 4 Units.

Deals with predicting entities (forecasting) and predicting membership of known groups (classification). Blends methodologies of forecasting and data mining, focusing on multiple regression, logistic regression, neural nets, ARIMA, discriminate analysis, and k-nearest neighbors, and applying these methods to managerial problems/decision-making.

Restriction: Graduate students only.

BANA 290. Special Topics in Business Analytics. 4 Units.

Studies in selected areas of business analytics. Topics addressed vary each quarter.

Repeatability: Unlimited as topics vary.

Restriction: Graduate students only.

BANA 295. Big Data Management Systems. 4 Units.

Provides an introductory-level overview to the emerging technologies in database systems. Students gain critical insight into big data challenges, the choices of different systems and technologies available, relative advantages/disadvantages, and unique aspects of different systems.

Restriction: Graduate students only.

BANA 298A. Business Analytics Capstone Prep. 2 Units.

Prep course for the required capstone project. Students apply the knowledge and methods acquired through the program's coursework to an applied business analytics problem. Requirements include project selection, submission of project plan, and data collection/analysis.

Restriction: Graduate students only. Business Analytics Majors only.

BANA 298B. Business Analytics Capstone Project. 4 Units.

Continuation of the capstone project. Students apply the knowledge and methods acquired through the coursework in the program to an applied business analytics problem. Work includes data analysis, completed research paper, and final presentation.

Prerequisite: BANA 298A. BANA 298A with a grade of B- or better

Restriction: Graduate students only. Business Analytics Majors only.

BANA 299. Individual Study. 1-4 Units.

Individual study under the direction of a selected faculty member.

Repeatability: May be repeated for credit unlimited times.