BUSINESS ANALYTICS (BAN)

Business Analytics (BAN) Courses

BAN 5003. Introduction to Business Analytics and Artificial Intelligence. (3-0) 3 Credit Hours.
This course offers an introduction to the fundamental concepts and applications of business analytics and artificial intelligence (AI) in the modern business environment. Students will explore the role of data-driven decision-making and AI technologies to gain competitive advantages. Key topics include data collection and management, statistical analysis, predictive modeling, and AI-driven business strategies. Through hands-on exercises and case studies, students will learn to apply analytical tools and AI techniques to solve real-world business problems and make informed decisions. By the end of the course, students will have a foundational understanding of how to leverage business analytics and AI to drive innovation and improve organizational performance. This course has Differential Tuition.

BAN 5103. Introduction to Statistics for Business Analytics. (3-0) 3 Credit Hours.
This foundational course aims to equip learners with essential statistical tools and methodologies for making informed, data-driven decisions in the business world. Students will explore core statistical concepts throughout this course, including probability theory, descriptive statistics, sampling design, hypothesis testing, and regression analysis. Emphasis will be placed on practical applications and the use of statistical software to analyze real-world business data. Students will learn to interpret statistical outputs, understand variability, and make predictions based on empirical evidence. By the end of this course, students will be adept at leveraging statistical techniques to solve business problems, enhance strategic decision-making, and provide actionable insights based on data analysis. This course has Differential Tuition.

BAN 6003. Data Management and Analytics Integration. (3-0) 3 Credit Hours.
This course provides an in-depth exploration of data management principles and the integration of advanced analytics in modern business environments. Students will learn how to effectively manage and govern data across an organization, ensuring data quality, consistency, and accessibility while adhering to data ethics and privacy regulations. The course covers key topics such as data warehousing, data lakes, cloud-based data solutions, and data governance frameworks. Additionally, students will explore integrating analytics tools and techniques, including data visualization, predictive modeling, and machine learning, to drive data-driven decision-making. Practical case studies and hands-on projects will enable students to apply their knowledge in real-world scenarios, preparing them for data management, analytics, and business intelligence positions. This course has Differential Tuition.

BAN 6103. Data Visualization and Communication for Business Applications. (3-0) 3 Credit Hours.
This course focuses on the principles and practices of effectively communicating data-driven insights to support business decision-making. Students will learn to translate complex data analyses into clear, actionable messages for diverse business audiences. The course covers data visualization techniques, storytelling with data, and the use of various tools to create compelling data presentations. Emphasis will be placed on tailoring communication strategies to different stakeholders, ensuring that data are appropriately understood and drive informed decision-making. Through case studies, hands-on projects, and presentations, students will develop the skills necessary to influence business decisions through clear and impactful data communication. This course has Differential Tuition.

BAN 6203. Decision-Making in Business. (3-0) 3 Credit Hours.
This course explores advanced techniques in optimization and simulation, focusing on their application to complex decision-making problems in various fields. Students will learn to formulate and solve optimization models, including linear, nonlinear, and integer programming. In addition, the course will cover simulation methods, emphasizing their use in analyzing and improving system performance. Through hands-on projects and case studies, students will develop the skills to apply these techniques to real-world scenarios, enhancing their ability to design efficient, effective solutions in business, engineering, and other disciplines. This course has Differential Tuition.

BAN 6303. Machine Learning for Business Analytics. (3-0) 3 Credit Hours.
This course explores the application of machine learning techniques to solve complex business problems. Students will learn to use various machine learning algorithms, such as regression, classification, clustering, neural networks, and ensemble methods, to analyze large datasets and uncover actionable insights. Emphasis is placed on understanding the practical implications of these techniques in a business context, including model evaluation, selection, and optimization. Through hands-on projects and case studies, students will develop the skills to apply machine learning to real-world business scenarios, enhancing their ability to make data-driven decisions. This course has Differential Tuition.

BAN 6403. Text Analytics for Business. (3-0) 3 Credit Hours.
This advanced course focuses on extracting actionable insights from unstructured text data, a critical skill in today's data-driven business environment. Students will explore the principles of text mining and natural language processing to transform raw text into valuable business intelligence. The course covers various modes for analyzing large volumes of text data, including social media, customer feedback, and other textual sources. Emphasis will be on applying these techniques to real-world business problems and making data-driven decisions. By the end of this course, students will be proficient in leveraging text mining techniques to uncover hidden patterns, trends, and insights from textual data, enhancing their ability to make informed business decisions. This course has Differential Tuition.

BAN 6503. Marketing Analytics. (3-0) 3 Credit Hours.
This course provides an in-depth exploration of data-driven marketing strategies and techniques. Students will learn to leverage analytical tools and methodologies to measure, manage, and analyze marketing performance. Topics include customer segmentation, predictive modeling, campaign effectiveness, and digital marketing analytics. The course emphasizes using data to inform marketing decisions, optimize marketing spend, and improve customer acquisition and retention. Through hands-on exercises and real-world case studies, students will gain practical experience in applying analytics to solve marketing challenges and drive business growth. This course has Differential Tuition.

BAN 6603. Analytics for Finance and Economics. (3-0) 3 Credit Hours.
This course examines the analysis of financial and economic data. Students will learn advanced techniques for modeling and predicting trends, cycles, and seasonal patterns in financial markets and economic indicators. Key topics include ARIMA models, GARCH models, cointegration, vector autoregression (VAR), and machine-learning approaches to time-series forecasting. The course emphasizes practical applications, allowing students to develop predictive models and perform scenario analysis on real-world financial and economic datasets. By the end of the course, students will be equipped to make informed predictions and strategic decisions based on time-series analysis. This course has Differential Tuition.

BAN 6703. Capstone Project in Business Analytics. (3-0) 3 Credit Hours.
The Capstone Project in Business Analytics is the culminating experience for students in the Master's in Business Analytics program. This course allows students to integrate and apply the knowledge and skills acquired throughout their coursework to a real-world business problem or research question. In this course, students will work in teams or individually to tackle a comprehensive analytics project, which may involve collaborating with industry partners, utilizing large datasets, and applying advanced analytical techniques. The project will require students to demonstrate their ability to conduct thorough data analysis, develop actionable insights, and professionally present their findings. This course has Differential Tuition.

BAN 6943. Business Analytics Internship. (0-0) 3 Credit Hours.
Prerequisite: Graduate standing, 15 semester credit hours of graduate work, and consent of instructor. The internship must be approved in advance by the Internship Coordinator and the student's Graduate Advisor of Record. The internship is a supervised experience relevant to the student's program of study within selected organizations and agencies. Individual written reports are required. This course has Differential Tuition.

BAN 6953. Independent Study. (0-0) 3 Credit Hours.
Prerequisite: Graduate standing and permission in writing (form available) from the instructor and the student's Graduate Advisor of Record. Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not typically or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the degree. This course has Differential Tuition.

BAN 6973. Special Topics in Business Analytics. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not typically or not often available as part of the regular course offerings. Special Topics courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to the degree. This course has Differential Tuition.

BAN 6983. Master's Thesis. (0-0) 3 Credit Hours.
Prerequisite: Permission of the Graduate Advisor of Record and Thesis Director. Thesis research and preparation. May be repeated for credit, but not more than 6 semester credit hours will apply to a Master's degree. Credit will be awarded upon completion of the thesis. Enrollment is required each term in which the thesis is in progress. This course has Differential Tuition.