BUSINESS ANALYTICS (BAN)

BAN-1301 Fundamentals of Data Analytics (3 Credits)
Requisite(s): IT-1001
This is an introductory course to the key areas of analytical processes, including how data is created, stored, accessed, and how an organization works with data and processes data to enable effective and useful analytics. The course focuses on understanding the fundamentals of data analytics as well as to exploring basic analytics skills and tools through a hands-on approach. Topics include data analytics definitions and terminology, platforms, tools, algorithms and statistical models. The student will explore various models that can be utilized to help summarize, visualize, and interpret data in a variety of disciplines
Typically offered: All Sessions

BAN-2301 Spreadsheet Analytics (3 Credits)
Requisite(s): IT-1001
This course is designed to advance analytical skills in business decision making in the spreadsheet environment. Topics include modeling techniques, spreadsheet functions and spreadsheet auditing, data management, data visualization, optimization, risk analysis and predictive modeling utilizing spreadsheet software.
Typically offered: All Sessions

BAN-3301 Descriptive Analytics and Visualization (3 Credits)
Requisite(s): MAT-1105 or higher
This course will develop the student's ability to organize, analyze, and interpret quantitative business and economic data. It introduces practical and usable methods of gathering and using business data to solve business problems, such as exploratory data analysis, probability concepts, and empirical probability distributions. It includes topics such as graphical data analysis, hypothesis testing, confidence intervals, and simple forecasting using regression techniques. In order to foster the technological competence so necessary in today's hypercompetitive business environment, analysis of data sets and problem solution using spreadsheet software, statistical analysis tools and graphing software.
Typically offered: All Sessions

BAN-3308 Data Analytics for Business (3 Credits)
Requisite(s): MAT-2301 or ORM-3301
This course explores business analytics skills, technologies, practices for continuous iterative exploration and investigation of past business performance to gain insight and drive business planning. Business analytics focuses on developing new insights and understanding of business performance based on data and statistical methods. Building on descriptive analytics, the course will focus on predictive and prescriptive analytics.Topics will include the application of decision science in a business setting, regression analysis, forecasting techniques, optimization methods, and decision analysis.
Typically offered: All Sessions

BAN-3309 Business Forecasting (3 Credits)
Requisite(s): MAT-1109,ORM-3301
Students become familiar with the needs of businesses to forecast demand and are exposed to techniques such as time series analysis and decomposition, regression analysis, moving averages and exponential smoothing, and jackknife methods. Qualitative techniques are also addressed, including top-down and bottom-up forecasting, Delphi Method, and panel of experts approach. Students are also exposed to software packages on the microcomputer.
Typically offered: As Needed

BAN-3310 Production and Operations Management (3 Credits)
Requisite(s): ORM-3301 or MAT-2301
This course introduces students to the complex processes by which such inputs as land, labor, and capital are converted into outputs such as goods and services. Issues include production scheduling, integrated control systems, and control methods for quality, cost, inventory, and projects.
Typically offered: As Needed

BAN-3311 Adv Analytics & Business Intelligence (3 Credits)
Requisite(s): Take BAN-3301
Data analytic and business intelligent techniques are applied to solve a variety of business problems. Topics include advanced regression modeling, financial modeling, categorical data analysis, online analytical processing, data mining, process mining, complex event processing, business performance management, benchmarking, text mining, predictive analytics, and prescriptive analytics to help identify, develop, and create new strategic business opportunities. Use of advanced statistical software. Lab fee.
Typically offered: As Needed

BAN-4995 Independent Study in Orm (1-3 Credits)
Individual research and study with the approval of the Management department.
Typically offered: On Demand

BAN-6001 Business Analysis for Managers (3 Credits)
Graduate students only. This course will cover the application of quantitate techniques to business problems. Topics will include business applications of probability and statistics, forecasting techniques, and decision theory.
Typically offered: All Sessions

BAN-6002 Predictive Analytics (3 Credits)
Requisite(s): BAN-6001
Graduate students only. This course extends the ideas of regression analysis introduced in BAN 6001. It takes a modern approach applicable to managerial decision making in the presence of Big Data. While the course focus centers around prediction, the course will also explore and emphasize the trade-off between prediction power and model interpretability. As the business world rapidly progresses towards a paradigm of data-driven decision making, the primary goal of this course is on understanding both the power and limitations of regression analysis.
Typically offered: All Sessions

BAN-6003 Data Mining (3 Credits)
Requisite(s): BAN-6001
Graduate students only. This course introduces students to the key concepts in the field of data mining and enhances understanding of the issues that business organizations face. The course emphasizes concepts, principles, methods, implementation techniques, and applications of data mining, with a focus on pattern discovery, discussion of pattern evaluation measures; and explore their applications. The course will provide an opportunity for hands-on experimentation with algorithms for data mining using software and cases.
Typically offered: All Sessions

BAN-6300 Emerging Issues of Technology in Analytics (3 Credits)
Requisite(s): BAN-6001
Graduate students only. This course will explore emergent technology topics in business analytics. The subject matter will vary and will be chosen by the instructor prior to registration, with the approval of the department chair. Topics may include a survey of emergent technology issues in business analytics; an introduction to new technologies being utilized in business analytics; or a focus specifically on a small set of emergent technology issues in areas such as (but not limited to) data presentation, data governance, data sharing, machine learning, data visualization, predictive analytics, big data, data modeling, data mining, forecasting, decision analysis, data ethics, data literacy, data quality, or other contemporary issues in business analytics.
Typically offered: All Sessions

BAN-6308 Business Analytics (3 Credits)
Requisite(s): MAT-2301 or BAN-2301,MAT-1109 or MAT-2202
This course is focused on business analytics as the process of collating, sorting, processing, and studying business data, and using statistical models and iterative methodologies to transform data into business insights. . It includes topics such as exploratory data analysis, probability concepts, empirical probability distributions, graphical data analysis, hypothesis testing, confidence intervals, and forecasting using regression techniques. To foster the technological competence analysis of data sets and problem solution using spreadsheet, statistical analysis, and graphing software will be emphasized.