Business Analytics Courses

BUSA 501 - Intro to Business Analytics
Hours: 3
This course is designed to provide students with a general understanding of the role of big data and business analytics in today's dynamic organizational environment. Graduate students will learn the process of analyzing big data and discovering new information to support management decision making. Students will learn how business analytics can be leveraged by organizations to gain competitive advantage.

BUSA 511 - Business Analytics for Managers
Hours: 3
This course provides students an opportunity to understand the underlying framework of business analytics, the role of big data in today's dynamic organizational environment and using analytical models in business operations and decision making. Through a combination of lectures and business case studies (using SAP®), graduate students will learn how big data can support manager's decision making and how business analytics can be leveraged by organizations to gain a competitive advantage. The case studies explored will illustrate how companies take advantage of different sources of data with different analytical techniques to improve performance, gain an understanding of optimizing results for better decisions, and employing analytical methods to translate data into key insights.

BUSA 516 - Emerging Technologies and Business Innovations
Hours: 3
This course covers emerging technology applications in business analytics and management. The hands-on course contents include the mechanisms of new technologies and how managers can integrate technology innovations into their decision making process.

BUSA 521 - Project Management
Hours: 3
This course addresses problem-solving of complex projects where the use of data driven analytical skills yields real-world experience. As a team, students will be given the context of a business situation, and then asked to identify relevant tools and analytic frameworks to gain both insights into past and present operations, as well as predictions of future performance. Topics include but are not limited to resource management (time, money, and people), change management, quality control, risk management, leadership, and communication. Prerequisites: Must be taken in last semester. All core courses must be completed, ECO 595, BUSA 511, BUSA 523, BUSA 542, BUSA 526, BUSA 532, BUSA 537.

BUSA 523 - Business Analytics Programming
Hours: 3
Introduces graduate students to programming business applications in the large enterprise system environment. Programming logic and design, documentation, debugging and testing.

BUSA 526 - Database Management
Hours: 3
This course provides a foundation for the design, implementation, and management of database systems. Students will study both design and implementation issues with an emphasis on database management issues.

BUSA 530 - Informatics in Health Care
Hours: 3
This course focuses on the application of computer technology to healthcare management of individuals and groups, with recognition of the social, ethical, and legal issues involved. Available resources useful in patient care and educational settings are emphasized. The opportunity for application of specific concepts is provided. Crosslisted with: NURS 5207.

BUSA 532 - Data Warehousing
Hours: 3
This course covers the fundamentals of data warehousing architecture and the issues involved in how IT tools and techniques can allow managers to extract analytics and patterns from numeric data. Specific topics covered include the logical design of a data warehouse, the data staging area and extract-transform-load processing, the use of multi-dimensional analysis using OLAP techniques, and other techniques. The course will explore how to support informed decision making and extract predictive analytics and patterns from nonnumeric data by leveraging tools and techniques to analyze unstructured data. Prerequisites: BUSA 526.

BUSA 533 - Cyber Security and IT Auditing
Hours: 3
An examination of the technical and managerial aspects of Cyber Security and IT Auditing nature of the course. An IT audit is the examination and evaluation of an organization's information technology infrastructure, policies and operations which is critical to understanding cyber security and assurance. This course provides the foundation for understanding the key issues associated with protecting information assets, identifying threats to information assets and planning responses to threats. Addresses the use of analytics tools and techniques to enhance the ability of quality management approaches to improve information and security processes.

BUSA 535 - Ethical Hacking
Hours: 3
In this course, students will develop and gain an understanding of the principles, concepts, and methods to prevent and detect outside attacks in a business environment.

BUSA 537 - Advanced Analytics
Hours: 3
This course covers the applications of advanced analytical techniques. Students learn to analyze data sets, and identify critical business success factors under uncertainties. Topics include linear regression, decision trees, time series analysis as well as techniques for non-linear data such as text mining.

BUSA 539 - Cyber Forensics and Information Security Policy Governance
Hours: 3
This course provides a foundation in the use of cyber forensic tools and procedures necessary to collect and analyze digital information that might be used in administrative, civil or criminal cases. Special emphasis will be placed upon ensuring that organizational information security policies meet all applicable laws and regulation requirements.

BUSA 541 - Global Network Design
Hours: 3
This course teaches students the core modules such as logistics and customer relationship management in enterprise resources planning activities. The course introduces modern quality management approaches including Six Sigma. Students learn global supply chain system design and implementation techniques and practices through class discussions and case analyses.

BUSA 542 - Applied Decision Modeling
Hours: 3
This course covers the development, implementation, and utilization of optimization models for managerial decision making. Students will learn linear programming models such as network model, integer optimization, goal programming as well as data mining models in this course. Examples include optimization analysis for strategic planning, financial portfolio management, operations, project management, and marketing research.

BUSA 545 - Machine Learning
Hours: 3
This course is aimed at developing practical machine learning and data science skills which are quintessential for future professionals in the field of analytics. The course will cover theoretical concepts of broad range of machine learning and deep learning concepts and methods. The tutorials, assignments and projects provide students with practical knowledge to solve real world problems. Prerequisites: BUSA 523.

BUSA 547 - Data Visualization
Hours: 3
In this digital age, it is becoming essentials for people to understand how to leverage data and generate insights that have the power to change the world. Data Analysis, visualization and storytelling are indispensable skills for communications, engineering, managing and marketing professionals. Student will learn the fundamentals of storytelling concepts, narrative theories, methods for research, cleaning and analyzing datasets, and focus on developing stories using Tableau and other creative data tools.

BUSA 580 - Internship in Business Analytics - BUSA
Hours: 0-4
The goal of this course is to gain relevant work experience in the student's field of study by developing specific work related skills to improve marketability upon graduation. Students will also build a "network" of professional contacts. Prerequisites: Departmental approval.

BUSA 589 - Independent Study
Hours: 0-4
One to four individualized instruction/research at an advanced level in a specialized content area under the direction of a faculty member. Prerequisites: Consent of department head.

BUSA 597 - Special Topic
Hours: 1-3
Special Topics. One to three semester hours. Organized class. May be repeated when topics vary.