BUSINESS ANALYTICS (BAN)

BAN 210. Data Preparation and File Structure. 3 Credits.
This course focuses on techniques used to evaluate and transform data for use in advanced analytics. Descriptive statistics and graphical views are utilized to aid in the exploration and summarization of data using SAS software. In this course, students learn how to access, explore, prepare and summarize data in SAS.
Offered: As needed

BAN 220. Data Mining. 3 Credits.
Data mining methodologies and the process of formulating and solving problems using data mining techniques are utilized to recognize patterns in data and compute predictions. Predictive models such as decision trees, neural networks, regressions and other techniques are studied.
Prerequisites: Take EC 271 or EC 272 or MA 170 or MA 176 or MA 206 or MA 275 or MA 275H or MA 285; and CIS 350.
Offered: Every year, Fall

BAN 300. Statistical Programming. 3 Credits.
This course introduces students to R, a widely used statistical programming language. Students learn to read data, write functions, analyze data and create visualizations in R.
Prerequisites: Take EC 271 or EC 272 or MA 170 or MA 176 or MA 206 or MA 275 or MA 275H or MA 285.
Offered: Every year, Fall

BAN 310. Web Analytics. 3 Credits.
This course introduces students to the concept and use of web analytics. Topics covered include measurement planning, data collection, audience characteristics, traffic acquisition and user behavior. Students use Google Analytics to apply their learning and take the Google Analytics Individual Qualification exam to demonstrate their proficiency at the completion of this course.
Offered: Every year, Spring

BAN 320. Big Data. 3 Credits.
The course focuses on the concept and techniques used for managing big data. The course explores how big data is used within organizations to support analytics. Emphasis is on the Hadoop platform and supplemental tools that are used within a Hadoop environment to design and maintain a big data infrastructure.
Prerequisites: Take CIS 351.
Offered: As needed

BAN 400. Data Mining. 3 Credits.
Data mining methodologies and the process of formulating and solving problems using data mining techniques are utilized to recognize patterns in data and compute predictions. Predictive models such as decision trees, neural networks, regressions and other techniques are studied.
Prerequisites: Take EC 271 or EC 272 or MA 170 or MA 176 or MA 206 or MA 275 or MA 275H or MA 285; and CIS 350.
Offered: Every year, Fall

BAN 410. Social Media Analytics. 3 Credits.
This course covers social media strategies and applications, implications for business, privacy issues associated with social media, and factors contributing to social change. Business cases evaluating the use and value of social media are examined and social network analysis and visualization are utilized.
Prerequisites: Take BAN 300 or CIS 245.
Offered: Every year, Spring

BAN 420. Machine Learning. 3 Credits.
The course introduces machine learning techniques for predictive modeling of business problems and opportunities. It covers the process of formulating a business analytics research hypothesis, developing business objectives, data selection, preparation and partitioning to successfully design, build and evaluate predictive models. Predictive modeling techniques such as classification and decision trees, neural networks, regression, random forests and other techniques are covered.
Prerequisites: Take BAN 400.
Offered: Every year, Spring

BAN 450. Business Analytics Capstone. 3 Credits.
The capstone course in the Business Analytics major is designed to enable students to directly utilize the business analytics tools and techniques that have been learned to analyze and prepare a solution for a major business or social project. A definition of the problem, description of the data used for analysis, an analysis of options and a comprehensive presentation of findings and solutions are required.
Prerequisites: Take BAN 420, CIS 255 and CIS 351.
Offered: Every year, Spring

BAN 484. Business Analytics Internship. 3 Credits.
Students gain experience by employing their skills in a professional setting under practicing professionals. This internship involves in-depth work related to analytics and is usually completed in the summer between the student’s junior and senior years or during their senior year. Students must obtain approval to register for this course prior to starting the work experience. Permission of the department chair or internship coordinator is required.
Prerequisites: Take BAN 400.
Offered: Every year, All