Business Analytics (BANA)

COURSES

BANA 3308. INTRODUCTION TO BUSINESS ANALYTICS. 3 Hours.
This course introduces students to data mining and business analytics techniques that will enable them to draw actionable insights from data. In addition to tracing the evolution of ideas in Artificial Intelligence (AI), Machine Learning (ML), and Deep Learning (DL), the course provides hands-on exposure to state-of-the-art machine learning algorithms-such as linear, ensemble, and neural network models-that organizations rely on to derive business value. Prerequisite: BSTAT 3321 and INSY 3300.

BANA 3309. DATA VISUALIZATION AND BUSINESS INTELLIGENCE. 3 Hours.
This course introduces students to cutting-edge techniques for visualizing data and creating dashboards to facilitate data-driven decision making. Topics include fundamentals of SQL, preprocessing of data, examining principles and concepts underlying visual characteristics of data, exploring graphs and charts to draw insight from data, assessing the quality of datasets, and performing exploratory analysis. Creating dashboards and storytelling to communicate business insight will also be emphasized. Prerequisite: BSTAT 3321 and INSY 3300.

BANA 4308. ADVANCED DATA SCIENCE. 3 Hours.
This course provides an in-depth understanding of machine learning concepts and algorithms using Python. Students will receive hands-on training on supervised learning algorithms such as KNN, Naïve Bayes, Linear and Logistic Regression, Support Vector Machines, Decision Trees and Ensembles, and Artificial Neural Networks (ANNs). The course will also cover foundations of Natural Language Processing (NLP) and unsupervised learning algorithms such as K-Means, Hierarchical Clustering, and DBSCAN. Prerequisite: BANA 3308 and BANA 3309.

BANA 4311. ETHICAL AND SOCIAL ISSUES IN DATA SCIENCE. 3 Hours.
This course discusses ethical concerns and social issues related to the creation, storage, analysis, use, and dissemination of data arising from business applications of machine learning, artificial intelligence, predictive analytics and data science. Topics include fairness, validity, anonymity, privacy, ownership, human subject research and societal consequences of data analysis and use by business organizations. Prerequisite: BANA 3308.

BANA 4326. CAPSTONE IN BUSINESS ANALYTICS. 3 Hours.
This course covers advanced analytics techniques, such as Natural Language Processing, Deep Learning, and Reinforcement Learning. It also provides students an opportunity to apply their analytics skills to solve a real-world problem and present the efficacy of their solution from a business perspective. Communication and presentation skills will be emphasized. Prerequisite: BANA 4308.

BANA 4331. SEMINAR IN BUSINESS ANALYTICS. 3 Hours.
The course will be taught in a seminar style and will involve readings and discussions on advanced/special topics in Business Analytics. It may be repeated for credit with the consent of the department. Prerequisite: 60 or 90 credit hours and consent of instructor.

BANA 4393. BUSINESS ANALYTICS INTERNSHIP. 3 Hours.
The course will allow students to apply analytics concepts and principles to problems in a real-world setting. The course may be used as an advanced business elective only and will be graded on a pass/fail basis. No credit will be given for previous experience or activities. The course may not be repeated for credit. Prerequisite: Junior standing and consent of department internship advisor.