Business Analytics Online Graduate

BUAN 500 Applied Regression with Research Methods 3 Cr.

This seminar is designed to be a practical introduction to regression application and analysis, one of the most powerful and useful tools in the field of statistics. Although regression is commonly used among statisticians, social scientists, and data scientists, it is also extremely useful for a variety of other business settings. A mastery of regression will teach students how to think carefully about causality and how to use data to make better decisions. Exploring proper research methods, such as quantitative, analytical and statistical skills, students will learn to use these research strategies in a wider application of regression. Topics include simple linear regression, multiple regression, logistic regression, ANOVA and ANCOVA analysis. 3 Credits. Co-req: BUAN 501.

BUAN 501 Problem Solving in Applied Data Science 3 Cr.

This course introduces several important modeling approaches for decision-making. The course focuses on deterministic optimization problems, including linear, integer and possibly dynamic programming. Additionally, the course addresses decision-making under uncertainty. The intent throughout is on understanding the problem, formulating a suitable model, finding a solution, interpreting it, and performing sensitivity analysis. Mastering how different techniques work, along with experience in applying them to real problems and in presenting results and recommendations in a clear and persuasive manner to specialists and non-specialists alike, are significant elements of this offering. 3 Credits. Co-req: BUAN 500.

BUAN 510 Predictive Analytics, Relational Database, & Data Transformation 3 Cr.

The use of predictive analytics includes a variety of statistical and machine learning techniques and applications in a business environment. The primary goal of predictive analytics is to discover and apply relationships found in datasets in order to make predictions about the future or otherwise unknown events. In this hands-on course, students will be introduced to concepts related to constructing, testing, and applying quantitative models in various business settings. From this perspective, students will utilize major software tools in order to conduct an analysis of continuous, classification and clustering models. Upon completion of this course, students will gain insight into how models are constructed and how predictive models can improve business. Pre-req: successful completion of BA 500 and BA 501 COURSE UNDER CONSTRUCTION; AWAITING APPROVAL BY UNIVERSITY CURRICULUM COMMITTEE.

BUAN 511 Prescriptive Analytics, Non-Relational Database, & Location Based Data 3 Cr.

The use of prescriptive analytics includes multiple techniques and applications that recommend which course of action a decision maker should take within a business environment. The primary goal of prescriptive analytics is to use these techniques in order to determine optimal strategies that can improve the results related to business decisions. In this hands-on course, students will be introduced to concepts related to developing various linear and non-linear models using major software tools that are commonly used by business professionals. From this perspective, students will conduct an analysis of the assignment, transportation, and network models as well as investigate business scenarios that require additional theories such as integer and goal programming. In addition, students will also develop simulation models and utilize decision analysis techniques and strategies in order to explore situations when future events are uncertain. Upon completion of this course, students will gain insight into how various models are constructed, and also gain insight into how prescriptive models can improve business decision making. Pre-req: successful completion of BA 500 and BA 501 COURSE UNDER CONSTRUCTION; AWAITING APPROVAL BY UNIVERSITY CURRICULUM COMMITTEE.

BUAN 512 Data Mining for Predictive Decision Making 3 Cr.

This course introduces data mining or knowledge discovery to provide business intelligence by analyzing massive amounts of data to find interesting patterns that can be used to assist decision making or provide predictions. Topics include decision trees, Bayesian classification, clustering, sequence clustering, association rules, time series analysis, neural networks, and others. Students are expected to analyze real-world data in business using data mining software. Pre-req: successful completion of BA 500 and BA 501 COURSE UNDER CONSTRUCTION; AWAITING APPROVAL BY UNIVERSITY CURRICULUM COMMITTEE.

BUAN 513 Prescriptive Analytics, Business Process and Enterprise Analytics 3 Cr.

Big data analytics is the application of analytic techniques to very large, diverse data sets that often include varied data types and streaming data. Students will learn how to define big data and big data analytic techniques and review big data use cases. Big data analytics explores business and customer interactions from data that seldom finds its way into a data warehouse or standard report. This data is often unstructured data coming from sensors, devices, third parties, internet applications, and social media; much of it sourced in real time on a large scale. Using advanced analytics techniques such as predictive analytics, data mining, statistics, and natural language processing, businesses can study big data to understand the current state of the business and can track evolving aspects such as customer behavior. Pre-req: successful completion of BA 500 and BA 501 COURSE UNDER CONSTRUCTION; AWAITING APPROVAL BY UNIVERSITY CURRICULUM COMMITTEE.

BUAN 514 Information Visualization and Communication 3 Cr.

This course teaches the skills necessary to communicate information about data clearly and effectively through written, oral and visual means. Students will master advanced graphical tools to communicate effectively. The course will build from the understanding of data to the presentation of the analysis. Data storytelling will provide tools to communicate ideas effectively, summarize, influence, explain, persuade and provide evidence to an audience. Visualization can convey patterns, meaning, and results extracted from multivariate, geospatial, textual, temporal, hierarchical, and network data. Students will deliver presentations using these techniques and learn to evaluate other presentations critically. 3 credits. Pre-req: successful completion of BUAN 500 and BUAN 501.

BUAN 515 Data Governance in Business Analytics 3 Cr.

As organizations deploy business analytic systems to harness information and value from their data assets, the proper governance of data is crucial. Organizational issues critical to successful data management require the implementation of enterprise-wide data governance policies. Effective data management requires a data governance structure and framework that emphasizes collaboration between business and IT to support organizational goals. This course looks at the needs and processes for data governance to manage data effectively. It addresses the complete life cycle of effective data governance from metadata management to privacy and compliance. 3 credits. Pre-req: BUAN 500 and BUAN 501; Co-Req: BUAN514.

BUAN 570 Data, Models and Effective Organizational Decisions 3 Cr.

This course introduces leadership strategies in the use of data implementation. Management and decision making at the various levels of leadership, from middle management to corporate levels. Students are expected to understand the managerial challenges and solutions for corporate data management. COURSE UNDER CONSTRUCTION; AWAITING APPROVAL BY UNIVERSITY CURRICULUM COMMITTEE.

BUAN 571 Practicum in Business Analytics 3 Cr.

The analytics practicum provides the student opportunities to apply techniques, applications, concepts, and models from prior course work in the Master of Science in Business Analytics (MSBA) program to support decision-making under uncertainty in a simulated competitive business environment. Students will apply their course material from the MSBA program to a consulting or simulated business experience. Students will define a business problem to address, assess the organization and its context, and suggest solutions and an action plan for implementing the solution. Upon completion of the practicum, students will have been exposed to the outcomes of their strategic and tactical approaches to managing a business. Pre-req: successful completion of BA 510, BA 511, BA 512, BA 513, BA 514, BA 515. COURSE UNDER CONSTRUCTION; AWAITING APPROVAL BY UNIVERSITY CURRICULUM COMMITTEE.

BUAN 595 Residency 0 Cr.