

Business Statistics (BSTAT)

COURSES

BSTAT 2305. INTRODUCTORY STATISTICS FOR BUSINESS ANALYTICS. 3 Hours.

Guiding business and economic decision-making with the use of descriptive and inferential statistical techniques. Topics include the collection, description and summarization of business and economic data; probability as a foundation of business intelligence; discrete and continuous random variables, their probability and sampling distributions, and their application in business analytics; estimation and confidence intervals for (and tests of hypotheses regarding) the population mean in business settings; and correlation and linear regression analysis as business decision-making tools. Software is used to conduct analyses throughout the course.

BSTAT 3321. INTERMEDIATE STATISTICS FOR BUSINESS ANALYTICS. 3 Hours.

Informing business and economic decision-making with intermediate-level tools of business analytics. Topics can include the quality and representativeness of data; conditional probability; statistical independence; business applications of discrete and continuous probability distributions at the intermediate level; multiple-population inference; non-parametric methods; and intermediate regression analysis. Both spreadsheet and statistical software are used to conduct analyses throughout the course. Prerequisite: MATH 1308 or BSTAT 2305.

BSTAT 3322. ADVANCED STATISTICS FOR BUSINESS ANALYTICS. 3 Hours.

Advanced statistical methods oriented toward predictive analytics and multivariate methods in business settings. Topics can include experimental design; regression cross-validation; logistic regression; classification and regression trees; cluster analysis; factor analysis and multi-dimensional scaling; and time series analysis and forecasting. Prerequisite: BSTAT 3321.

BSTAT 5301. FOUNDATIONS OF ANALYTICS. 3 Hours.

Introduction to statistical learning for business analytics, designed to prepare graduate students to become competent consumers of data analytics and statistical information that they will encounter in their professional and personal lives. Students should be able to perform basic statistical analyses and to think critically when interpreting statistical results. Topics include data visualization, spreadsheet analytics, descriptive statistics, probability, estimations, hypothesis testing, and simple regression.

BSTAT 5303. QUANTITATIVE ANALYSIS. 3 Hours.

Study of the methods of quantitative analysis used in business administration. Topics include matrix algebra, systems of linear equations, differential and integral calculus, linear programming, classical optimization, and a survey of management science models. Prerequisite: MATH 1315.

BSTAT 5325. ADVANCED METHODS FOR ANALYTICS. 3 Hours.

Advanced statistical learning for business analytics designed to prepare graduate students to become competent producers and consumers of predictive analytics and statistical information and to use evidenced based managerial decision making in their careers. They should be able to recognize the strengths and weaknesses of applicable techniques and when additional expertise is required. Topics include multiple regression, correlation, logistic regression, discriminant analysis, clustering, and classification and regression trees. It is strongly recommended that students who have no recent courses in statistics take BSTAT 5301 prior to BSTAT 5325.

BSTAT 5330. Nonparametric Statistics. 3 Hours.

A survey of statistical tools which may be used when the normal assumptions of parametric statistics cannot be made; including procedures for categorical data, methods involving ranks, bootstrapping, and Kolmogorov-Smirnov type techniques. Cross-listed with BSAD 6330. Prerequisite: BSTAT 5325 or equivalent.

BSTAT 5360. COMPUTATIONAL TECHNIQUES FOR BUSINESS ANALYTICS. 3 Hours.

Computer software is the primary analytical tool for business analytics and modern research methods. Data analysts, statisticians, and researchers need technologies and skills using the computer as a tool for structuring and cleaning data sets, creating validation samples, conducting analyses, fitting models, simulating stochastic systems, model validation, and model presentation. Emphasis is placed on the use of data analytic software. Cross-listed with INSY 5360. Prerequisite: BSTAT 5325 or equivalent.

BSTAT 5392. SELECTED TOPICS IN BUSINESS STATISTICS. 3 Hours.

In-depth study of selected topics in business statistics. May be repeated when topics vary.

BSTAT 5399. GRADUATE BUSINESS ANALYTICS INTERNSHIP. 3 Hours.

Practical training in business statistics. Analysis of theory applied to real life situations. Course counts as an elective and has a pass/fail grade. No credit will be given for previous experience or activities.

BSTAT 6382. INDEPENDENT STUDIES IN BUSINESS STATISTICS. 3 Hours.

Extensive analysis of a business statistics topic.