DA - DATA ANALYTICS (DA)

*Course Fees are Per Credit Hour

DA 199. Service Learning. (3 Credits)
This course is designed to introduce students to Service Learning through the integration of academic learning about local, national, and global issues with service work addressing those concerns. Approval of supervising department required.
Course Fees: $90

DA 291. Statistical Process Control. (3 Credits)
Theory and application of statistical process control including experimental design, X-Bar, R and P charts, and acceptance sampling. Prerequisite: MA 112 or any Area III math included in the General Education Component listed under Requirements for the Bachelor of Business Administration Degree. (Fall, Spring, Summer)
Course Fees: $90

DA 292. Statistical Analysis for Business. (3 Credits)
Application of statistical analysis to problems in business and economics. Simple and multiple regression and correlation analysis, decision making under uncertainty, time series, and nonparametric statistics. Prerequisite: DA 291. (Fall, Spring, Summer)
Course Fees: $90

DA 295. Quantitative Methods in Business and Economics. (3 Credits)
A survey of mathematical tools used in business and economics, including calculus, matrix algebra, and linear programming. Prerequisite: MA 112 or any Area III math included in the listing for the Bachelor of Business Administration Degree. (Spring)
Course Fees: $90

DA 359. Special Course. (1-6 Credits)
Course number reserved for special courses offered from time to time in response to special circumstances. The courses are discipline specific with variable credit and when offered, they are identified by department content and credit.
Course Fees: $90

DA 360. Introduction to Data Analytics. (3 Credits)
This course builds upon DA 292 concepts, focusing on database construction, linear and nonlinear model building and estimation. Topics taught in this course include time series regression using ordinary and generalized least squares, bi/multinomial logistic regression, forecasting, and regression diagnostics. Based on regression diagnostics and trends in the data, students are introduced to model/variable correction techniques to include first differencing, variable transformations, and other methodologies to improve model performance. Significant emphasis is placed on interpretation of model results and its application to business/real-world use and problem solving. Prerequisite: DA 292. (Fall)
Course Fees: $90

DA 369. Special Course. (1-6 Credits)
Course number reserved for special courses offered from time to time in response to special circumstances. The courses are discipline specific with variable credit and when offered, they are identified by department content and credit.
Course Fees: $90

DA 389. On-Campus Internship. (3 Credits)
Course Fees: $90

DA 395. Decision-Making Techniques for Business. (3 Credits)
Decision-making techniques available to management, including linear programming, integer programming, game theory, simulation, Markovian Chains, and queuing theory. Prerequisite: DA 292. (Offered upon sufficient demand)
Course Fees: $90

DA 399. Departmental Service Learning. (1-6 Credits)
This course is designed to provide students the opportunity to integrate academic learning about vital service issues within a specific discipline with service work addressing those issues. This course may be repeated for a maximum of six credits. Approval of supervising department required.
Course Fees: $90

DA 460. Predictive Data Analytics. (3 Credits)
Data mining involves a collection of techniques for extracting patterns and trends in large databases. As more of our everyday life is recorded and quantified, these techniques are quickly becoming a standard analytical tool in a number of fields, including information technology, banking, retail marketing, and consulting. This course offers a hands-on introduction to methods used in this new and exciting field. Prerequisite: DA 292 or permission of instructor.
Course Fees: $90

DA 461. Optimization and Machine Learning. (3 Credits)
This course builds upon DA 460 concepts, focusing on optimization as a decision-making tool and then more advanced prediction methods that form the basis of modern machine learning algorithms. These methods include using neural networks, genetic algorithms, and support vector machines to make automated decisions. Significant programming applications in Python or a similar language will be incorporated. Prerequisite: DA 460. (Spring)
Course Fees: $90

DA 462. Projects in Data Analytics. (3 Credits)
This course integrates theoretical concepts and practical skills gained in previous data analytics courses into a capstone project. This course presents real-world problems through applied client-based projects while emphasizing the student's communication, collaboration, technical, and problem-solving skills. Prerequisite: DA 460. (Spring)
Course Fees: $90

DA 470. Regression and Time-Series Analysis. (3 Credits)
Extensive analysis of simple and multiple regression in both linear and nonlinear forms. Techniques of instrumental variables and model building. Extensions of regression to time-series and econometrics. Emphasis is on application of models to actual business problems. Prerequisite: DA 292. (Offered upon sufficient demand)
Course Fees: $90

DA 480. Data Analytics Internship. (3 Credits)
A work related experience in a private, public, or governmental organization enhancing the applications of data analysis theories and concepts. Must be a junior or senior. Must be admitted to the BBA program. International students must receive approval from the Office of International Affairs prior to course registration. Prerequisites: Approval of department chair and be admitted to the BBA program and must be a junior or senior. (Fall, Spring, Summer).
Course Fees: $90

DA 490. Experimental Design and Advanced Statistical Process Control. (3 Credits)
Basic experimental design and statistical process control methods, including randomized block, factorial, nested, repeated measures, and alias structure designs, and Shewhart, CUSUM, EWMA, and retrospective control charts. Emphasis is placed on techniques commonly used in industrial data analysis. Prerequisite: DA 292. (Offered upon sufficient demand)
Course Fees: $90

DA 495. Mathematical Economics. (3 Credits)
Applications of calculus and matrix theory in economics, including elasticity optimization, equilibrium, and linear models. Prerequisites: DA 292 or equivalent and DA 295 or equivalent.
Course Fees: $90

DA 499. Independent Study-Practicum. (3 Credits)
Open to senior majors on approval of the department chair. Provides for study, research, or special field experience under departmental determination, supervision, and evaluation.
Course Fees: $90