DA - DATA ANALYTICS (DA)

*Course Fees are Per Credit Hour

DA 541. Statistical Analysis Systems. (3 Credits)
Using SAS for data analysis, regression, forecasting, timeseries analysis of variance, charts, plots, and market research. Prerequisite: MBA 601.
Course Fees: $90

DA 590. 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 Shewhart, CUSUM, EWMA, and retrospective control charts. Emphasis is placed on techniques commonly used in industrial data analysis. Prerequisite: MBA 601.
Course Fees: $90

DA 662. Analytical Tools for Strategic Decision Making. (2 Credits)
DA 662 presents sophisticated analytical tools for making effective short- and long-term business decisions. Topics covered include: regression, forecasting, framing, scanning, visioning, and planning. The course employs elements of traditional Decision Theory and Foresight methodology. Prerequisite: MBA 601. (Fall, Spring)
Course Fees: $90

DA 669. Quantitative Techniques in Business. (3 Credits)
Matrix algebra, differential calculus, optimization techniques for functions of several variables and integral calculus. Prerequisite: MBA 601.
Course Fees: $90

DA 670. Decision Theory. (3 Credits)
Quantitative techniques for decision making and optimization in business and economics; use of Baysian Analysis; game theory; queuing theory; linear programming theory; inventory control and simulation. Prerequisite: MBA 601.
Course Fees: $90

DA 671. Statistical Quality Control. (3 Credits)
This course covers the fundamentals of statistical quality control and statistical process control. Topics include X-Bar, R, P and Sigma charts; control of nonconformities and special process control. Also included are various acceptance sampling techniques and other selected topics. Prerequisite: MBA 601.
Course Fees: $90

DA 675. Business Analytics. (3 Credits)
This course expands on methods of Data Analytics used to address business challenges. Methods covered include confidence intervals, hypothesis tests, data visualization, regression, and data mining techniques. This course offers a hands-on approach to methods used in this new and exciting field. Prerequisite: MBA 601. (Fall)
Course Fees: $90

DA 676. Optimization. (3 Credits)
A graduate-level course on optimization techniques using Excel's Solver package. Students learn basics of setting up optimization problems in words, in math, and in Excel, then use those skills to solve non-linear, linear, integer, and non-smooth optimization models. Some solution algorithms (such as the simplex method) are discussed in more detail. The development of useful and appropriate heuristics when it is intractable to find global optimal solutions is also explored. Prerequisite: DA 675. (Spring)
Course Fees: $90

DA 677. Regression and Time Series Analysis. (3 Credits)
Extensive analysis of simple and multiple regression in both linear and nonlinear forms. Techniques of instrumentation variables and model building. Extensions of regression to time-series and econometrics. Emphasis is on application of models to actual business problems. Prerequisite: MBA 601. (Summer)
Course Fees: $90

DA 680. International Experience and Internship. (3 Credits)
Study abroad experience to include structured group visits to businesses and business centers; lectures delivered by managers involved in international trade, internship experiences, and/or structured participation in a university sponsored academic program. Program must be approved in advance by MBA Graduate Program Coordinator and Dean of the College of Business. (Offered upon sufficient demand)
Course Fees: $90

DA 688. Quantitative Finance. (3 Credits)
This course introduces the fundamental mathematical tools and financial concepts needed to understand quantitative finance, portfolio management and derivatives. Key topics include: the random behavior of asset prices, the Black Scholes model, the Black-Scholes formulae and the Greeks, early exercise and American options, how to delta hedge, fixed-income products and analysis: yield, duration and convexity, swaps, the binomial model and financial modeling in Excel VBA. It is expected that students will have significant experience using Excel spreadsheets. Also listed as FI 688 but creditable only in field for which registered. Prerequisite: FI 632 or approval by department chair.
Course Fees: $90

DA 698. Independent Study/Research. (3 Credits)
Guided independent study and/or research in an area related to data analytics. Prerequisite: approval of the department chair.
Course Fees: $90