

DATA ANALYTICS

MDA 500 Statistics and Linear Algebra

This course provides the essential knowledge in statistics and linear algebra. It introduces students to basic concepts and tools of employing statistical methodology for the analysis and interpretation of data, and to provide essential knowledge in matrix algebra, vector spaces, and linear transformations. Letter grade only. Not challengeable.

Semester Hours: 3

MDA 501 SAS Programming Essentials

This course is an introduction to the use of the SAS programming language for business analytics and decision making. After an introduction to the SAS environment on a PC, SAS will be used to write programs for reading and processing data, and for performing descriptive and basic predictive analyses for various business analytics and decision making problems. Letter grade only. Not challengeable.

Semester Hours: 3

MDA 502 Multivariate Statistical Analysis

This course is designed to provide students with a working knowledge of the basic concepts underlying the most important multivariate techniques, with an overview of actual applications in various fields, and with experience in using such techniques on managerial problems. The course will address both the underlying mathematics and problems of applications. As such, a reasonable level of competence in both statistics and mathematics is needed. This course builds on the univariate statistical analysis in BUS 500C. Letter grade only. Not challengeable.

Semester Hours: 3

MDA 503 Data Mining and Predictive Analytics I

Prerequisite: Completion of MDA 502

This will be an introductory course with focus on the basic concepts of data mining and predictive models. The course will cover fundamental aspects and techniques of processing and analyzing large, complex datasets. Students will learn to use popular data mining methods to discover patterns and make predictions in the business analytics context. Letter grade only. Not challengeable.

Semester Hours: 3

MDA 504 Data Mining and Predictive Analytics II

Prerequisite: Completion of MDA 503

This course covers advanced data mining and statistical techniques for both qualitative and quantitative data. Letter grade only. Not challengeable.

Semester Hours: 3

MDA 561 Theory and Practice of Consumer Behavior

Prerequisite: Completion of BUS 560 and MDA 502

This course will introduce the student to the study of consumer behavior. The student will apply principles and research from the social sciences (on such topics as attention and perception, learning, memory, attitudes, decision making, and social influences) to marketing problems such as positioning, branding, communication, and building relationships with customers. Students will draw on marketing theory and consumer psychology to understand how firms attempt to influence consumers. Letter grade only, Not challengeable.

Semester Hours: 3

MDA 564 Marketing Research Methods

Prerequisite: Completion of BUS 560 and MDA 502

This course presents a comprehensive overview of marketing research methods, and discusses the concepts, processes, techniques, and applications involved in conducting research. The course covers the marketing research process, including (but not limited to) qualitative and quantitative research design, survey methods, sampling design, data collection processes, and applications of quantitative data analysis to large datasets to generate marketing intelligence for decision making. Letter grade only, Not challengeable.

Semester Hours: 3

MDA 565 Digital Marketing and Social Media Analytics

Prerequisite: Completion of BUS 560 and MDA 502

This course provides a detailed, applied perspective on the theory and practice of digital marketing and social media analytics. The topics include social network marketing and analytics, user generated content management, web analytics, online and mobile advertising and commerce, and predictive modeling for ad targeting. Letter grade only, Not challengeable.

Grade Mode: Letter, Letter

Semester Hours: 3

MDA 568 Experimental Design and Market Testing

Prerequisite: Advanced standing in MS Data Analytics and completion of BUS 560 and MDA 502

This course is primarily a class in the design and analysis of experiments in marketing, consumer behavior, and related social science disciplines. The course will cover basic and intermediate topics in ANOVA designs. The course will focus on the assumptions made in the analysis of different types of experimental designs, and on how the choice of an experimental design should be guided by what one already knows about the substantive domain under study. The role of statistical data reporting in persuading readers about the validity of claims made from research reports will also be covered. Letter grade only, Not challengeable.

Semester Hours: 3

MDA 569 Marketing Analytics

Prerequisite: Completion of BUS 560 and MDA 503

This course presents advanced predictive analytics in marketing to support the modern marketing platform across online and offline environments. It covers advanced marketing analytics using SAS Enterprise Miner, including how to optimize the performance of predictive models beyond the basics. The course continues the development of predictive models that begins in MDA 503 (Predictive Analytics and Data Mining) course. In addition, some of the newest modeling nodes and latest variable selection methods are covered including report vector machines, unsupervised variable selection, random forests and incremental response modeling. All topics are accompanied by customized empirical study based on three large US consumer databases using SAS Enterprise Miner. Letter grade only, Not challengeable.

Semester Hours: 3

MDA 572 Problem Solving Methodologies

Prerequisite: Advanced Standing in MS Data Analytics, and completion of BUS 575 and MDA 503

This course introduces students to systematic approaches to problem solving and decision making. Students will learn behavioral and organizational decision making processes. Topics include recognizing and defining the problem, root-cause analysis, brainstorming, individual and group decision making, risk management, allocating resources, development of action plans, and implementation strategies. Letter grade only. Not challengeable.

Semester Hours: 3

MDA 573 Analytics in Operations and Planning

Prerequisite: Completion of BUS 575 and MDA 503

This course studies key decision areas in supply chain operations and planning. Students will learn the basic concepts of operations management and understand what data is needed and how to use these data to measure supply chain and operations performance, such as inventory levels, product availabilities, vendor performance, warehouse operations efficiency, and customer service levels. Letter grade only. Not challengeable.

Semester Hours: 3

MDA 579 Analytics in Logistics and Sourcing

Prerequisite: Completion of BUS 575 and MDA 503

This course focuses on the application of data analytics on both strategy and operations of logistics and sourcing. Analytics in logistics involves using predictive analytics tools in logistics planning, and analytics in sourcing involves using data analytics in optimizing procurement and managing supply risks and supplier performance. Students will learn best practices of data analytics and use analytics tools to make better decisions in sourcing and distribution of products in supply chains. Letter grade only. Not challengeable.

Semester Hours: 3

MDA 580 Analytics Graduate Seminar

Prerequisite: Advanced standing in Data Analytics and completion of 21 semester hours in the program, including MDA 504

The emphasis of this course is to prepare students to become a SAS Certified Advanced Analytics Professional. It is designed for individuals who want to learn to manipulate and gain insights from big data with a variety of SAS and open source tools and make business recommendations with complex machine learning models. Credit/No Credit only. Not challengeable.

Semester Hours: 3