This Minor in Business Analytics will provide students with the cutting-edge knowledge and skills they need to use and gather data to identify, understand, and deliver insights that internal and external clients find vital to organizational success.

The required course for the Business Analytics Minor is:

- **MIS 431** Data Mining for Business Applications

In addition, students must choose **four (4)** of the following courses:

- **MKTG 351** Marketing Research Techniques and Applications
- **MKTG 352** Marketing Analytics for New Product Development
- **MIS 302** Introduction to Programming for Business Applications
- **MIS 310** Database Management Systems
- **MIS 430** Data Warehousing
- **OM 352** Methods and Models of Management Science
- **OM 452** Business Forecasting
- **FNAN 430** Empirical Methods in Finance
- **FNAN 436** Probability Methods for Finance
- **ACCT 361** Accounting Information Systems
- **STAT 362** Introduction to Computer Statistical Packages
- **STAT 456** Applied Regression Analysis

**MIS 431: Data Mining for Business Applications** Covers data mining methods and tools for business analytics to improve managerial decision making. The objective is to understand data mining methods and their suitability for decision making in a variety of business domains. The students will learn how to apply appropriate analytical tools to gain useful insights from real-life datasets. Emphasis will be on hands-on experience and application to large data sets using suitable data mining software.

**MKTG 351: Marketing Research Techniques and Applications** Presents the concepts and techniques underlying the marketing research process and their role in managerial decision making. Focuses on skills required to conduct a marketing research project: qualitative and quantitative research designs, survey methodology, instrument creation, sampling procedures, data collection, data analysis, and reporting of findings.

**MKTG 352: Marketing Analytics for New Product Development** Students will learn to analyze historical data, market research data, and competitive information for making strategic marketing decisions. Specifically students will learn about: how to value customers, how to segment the market, how to position the product in customers’ minds, which attributes to include/exclude in a new product, and how to forecast sales and predicting consumer choice behavior. Each of these decisions will be made using analytic tools that are often used by marketers in the real world.

**MIS 302: Introduction to Programming for Business Applications** Covers design and implementation of program data structures and algorithms to solve business problems using structured programming techniques. Students become familiar with program development life cycle using standard programming language such as Visual BASIC.NET supported by a modern Integrated Development Environment (IDE). Students complete assignments involving development of real-life business application.

**MIS 310: Database Management Systems** Introduces principles of designing and manipulating relational databases with a focus on business applications. Theoretical database concepts and hands-on experience with a relational package. Term project requiring implementation of a substantial business database application.

**MIS 430: Data Warehousing** Deals with the challenges faced by businesses in managing large amounts of data and making meaningful use of this data for informed decision making. Introduces students to data warehousing fundamentals, practices, and technologies; and their application to solving business problems. Specific emphasis is on designing of data warehouse to meet the business requirements and hands-on learning of the design principles through implementation on commercially used data warehouse technologies. Also introduces students to OLAP solutions and data mining approaches to supporting business decision making.

**OM 352: Methods and Models of Management Science** Introduces operation research and management sciences (OR/MS) techniques for supporting business management decisions. Specific mathematical programming and probabilistic topics include linear programming, integer programming, goal programming, network flow models, decision analysis, game theory, queuing models, and Monte Carlo simulation.

**OM 452: Business Forecasting** Introduces techniques for producing predictions of future business operations as aids to making planning decisions. Specific topics include judgmental forecasting, forecast accuracy, correlation analysis, smoothing methods, regression models, decomposition, and autoregressive and ARIMA models. Methods demonstrated and used through computer software.
FNAN 430: Empirical Methods for Finance Examines statistical and econometric techniques used in analyzing financial data and developing financial models. Combines development of understanding of fundamental concepts with applications. Includes extensive use of standard software.

FNAN 436: Probability Methods for Finance Focuses on the development and use of probability models for analyzing risks and financial decisions. Emphasis is on Monte Carlo simulation modeling, linear programming, and decision analysis of complex problems in corporate finance and in investment analysis.

ACCT 361: Accounting Information Systems Involves the study and development of accounting information systems. The focus is on business processes covering many industries with an emphasis on data modeling and internal control. Special topics including XBRL and commercial systems are incorporated throughout the course.

STAT 362: Introduction to Computer Statistical Packages Use of computer packages in statistical analysis of data. Topics include data entry, checking, and manipulation, and use of computer statistical packages for regression and analysis of variance.

STAT 456: Applied Regression Analysis Introduces statistical modeling with a focus on regression. Topics include: Correlation, simple and multiple regression models, model fitting, variable selection, diagnostic tools, model validation, inference for regression parameters, and matrix forms for multiple regression. Data analysis is emphasized. Computer statistical packages are used to perform computations.