MASTER OF SCIENCE IN BUSINESS ANALYTICS COURSE DESCRIPTIONS

**Introduction to Enterprise Analytics**
Ensures the foundational understanding of contextualized analytics within the business enterprise continuum, covering how data flows and is managed across the landscape of business processes.

**Introduction to Applied Analytics**
Introduces quantitative modeling tools and techniques used to solve problems faced in modern supply chains, including forecasting demand, determining the capacity of a manufacturing line and the cycle times of parts being processed on the line, and methods to manage inventory.

**Data Mining I**
Charts a roadmap for data-driven decision making and getting a practical understanding of how IT tools and techniques can allow managers to extract predictive analytics and patterns from numeric data.

**Data-Driven Quality Management**
Addresses the use of analytics tools and techniques to enhance the ability of quality management approaches to improve processes. The course introduces modern quality management approaches including Six Sigma and Design for Six Sigma, and covers DMAIC, the implementation cycle used to drive Six Sigma projects.

**Analytical Decision Making Tools I**
Focuses on mastering quantitative modeling tools and techniques for business decision-making and deterministic optimization techniques. This includes linear, nonlinear, and integer programming, network models, and an introduction to metaheuristics.

**Data Mining II**
Explores how to support informed decision making and extract predictive analytics and patterns from nonnumeric data by leveraging tools and techniques to analyze unstructured data.

**Analytical Decision Making Tools II**
Addresses the skills and knowledge necessary to model situations where uncertainty is a major factor. Models include decision trees, queuing theory, Monte Carlo simulation, discrete event simulation, and stochastic optimization, along with application for solving a wide variety of common business problems.

**Business Analytics Strategy**
Evaluates how to strategically align, plan for and direct investments in, and governance of, processes for continuous renewal of analytic deployments in business.

**Marketing Analytics**
Focuses on developing analytical methods and applying statistical and mathematical tools to predict consumer behavior. Introduces formal models to analyze how and when customers make product purchase decisions, configure new products, develop market segments, forecast market share, and determine optimal pricing strategies.

**Applied Project**
Addresses a problem in a domain where the use of your analytics skills yields real-world experience through projects drawn from real business settings that represent important aspects of organizations’ deployment of analytics in their business model.

You will be challenged to understand the context of the business situation and then identify relevant tools and analytics frameworks to gain both insights into past and present operations, as well as predictions of future performance. In addition, your end-to-end project will offer challenges that may include messy data sources and undefined business value, which will develop and advance your communication skills and leadership abilities. This team-based project is intended to push the envelope of your skills in applying data science to a variety of domains.