

# DATA SCIENCES AND OPERATIONS

FALL 2022

## DSO 510 - Business Analytics

Section(s) – 16324R

### Professor

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### Email

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### When

Thursday; 6:30 PM – 9:20 PM

### Office

BRI 303 F

### Units

1.5



## WHO SHOULD TAKE THIS COURSE?

Graduate students seeking to obtain an understanding of the transformative role of business analytics on various domains and functions of an organization while also developing their analytical toolkits.

## COURSE OBJECTIVES

- Describe business analytics and the required skills, methods, tools, and resources
- Explain how leading companies use business analytics in multiple major functional areas of an organization
- Use an overall business analytics framework and several techniques and tools to implement strategies and approaches for business analytics
- Define, perform, and present business analytics for data-driven decision making and innovation

## KEY CONCEPTS

We will cover four major modules:

- 1) Defining Business Problems and Obtaining and Organizing Data
- 2) Descriptive Analytics and Visualization
- 3) Probability and Probability Distribution
- 4) Statistical Inference
- 5) Predictive Analytics (Regression, Supervised Data Mining, Time Series)
- 6) Prescriptive Analytics (Simulation and Optimization)

## COURSE DESCRIPTION

Business analytics is the process of utilizing tools and techniques to turn data into meaningful business insights. This course provides students with foundational knowledge for business analytics, including strategies, methods, and tools. Students will obtain the necessary skills for defining business analytics for data-driven decision-making and innovation and hands-on experience using analytics to solve real-world problems. While this course exposes students to various analytics tools, the focal objective is to provide a managerial perspective on the usage and role of business analytics in progressive corporations.

This course will help students obtain a managerial perspective on the applications of analytics across various domains. Importantly, this course focuses on the process of defining a business problem, breaking it down into concrete hypotheses, translating these hypotheses into an analytically solvable question, conduct analysis, and then translating data analytics into meaningful business insights and outcomes.

Business analytics helps organizations achieve a broad and deep understanding of and insights into markets, customers, operations, and suppliers. Business analytics provides benefits throughout all major functional areas of an organization, including strategy, product development, marketing, operations, customer service, and finance. Organizations ranging from entrepreneurial start-upsto large global companies can innovate using business analytics to accelerate communication, enhance products, grow relationships, and operate in efficient, effective, and scalable manners.