FALL 2025

DATA SCIENCES + OPERATIONS

DSO 528

BLENDED DATA BUSINESS ANALYTICS FOR EFFICIENT DECISIONS

16244: Mon & Wed | 12:30 PM – 1:50 PM
16245: Mon & Wed | 11:00 AM – 12:20 PM

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WHY TAKE THIS COURSE?

This course is ideal for students and professionals aiming for careers in business analytics, digital transformation, or any data-driven field. It's particularly valuable for those who want to learn how to apply analytical models to real business problems using both internal and external data sources. Whether you are new to analytics or looking to bridge the gap between data science and business strategy, this course will equip you with practical tools and insights.

SCHEDULE OF CLASSES

COURSE OBJECTIVES

- Apply descriptive, diagnostic, predictive, and prescriptive analytics to real-world business challenges.
- Build and explain analytical models (e.g., classification, clustering) that drive strategic decision-making and create stakeholder value.
- Develop data mining skills and interpret business intelligence frameworks to monetize data effectively.

KEY CONCEPTS

- Data Mining
- Business Intelligence
- Supervised Learning
- Unsupervised Learning
- Python and Google Colab
- Classification
- Clustering and Association rules
- K-Nearest Neighbors (KNN)
- Decision Tree, Logistic Regression
- Neural Network, Naïve Bayesian
- Partitional and Hierarchical Clustering
- Ensemble Modeling – Bagging and Boosting
- KPIs – Business and Statistical
- Search Engine Marketing
- Social Impact of AI

Course Description

The course prepares students to solve complex business problems through data analytics. Covering the full analytics lifecycle—from data sourcing and enrichment to model development and business strategy—students learn to design and implement data-driven solutions aligned with organizational goals. Emphasis is placed on real-world application through case studies, hands-on modeling in JMP and Python, and a capstone project. By the end of the course, students gain the ability to turn large, messy datasets into actionable insights that drive efficient and informed business decisions.