BUA 684
Business Data Mining and Knowledge Discovery
Graduate School of Business
Maine Business School
University of Maine
Term: TBD

Instructor:	Dr. Tim Lu
Office:	Law Building #602, USM Campus, Portland
Phone:	207-780-4531
Office Hours:	TBD
Email:	yonggang.lu@maine.edu

MISSION:

The mission of the Maine Business School is to advance business knowledge, connect with our local and global communities, seek adaptive approaches for business processes, and foster a sense of professionalism, teamwork, and respect for ourselves and our constituents.

COURSE DESCRIPTION:

This course introduces students to a variety of cutting-edge mining methods for the purposes of supervised learning and unsupervised learning. Students will apply these methods to analyze data in different business functional areas such as marketing, accounting/finance, operation, and management across industry sectors. The course emphasis is on learning valuable data information from the data analysis results and discovering interpret able and meaningful knowledge that can support better business decision making. Mainstream analytical software is used intensively to analyze real business datasets.

COURSE OBJECTIVES:

After completing this course, students are expected to

- grasp skills of analyzing large data collection in different business functional areas using popular supervised and unsupervised learning methods for the ultimate purpose of supporting better business decision making
- gain proficiency in learning valuable information and discovering meaningful knowledge from data mining results and, also importantly, communicating the information and the knowledge efficiently and effectively with general business audiences.

COURSE CONTENT OUTLINE:

Module 1 - Introduction to Data Mining
    What is Data Mining?
    Categories of Data Mining
    Business Data Mining Process

Module 2 - Unsupervised Learning
    Unsupervised Learning and Its Business Applications
    Clustering Analysis
    Principle Component Analysis
    Associate Rule Learning

Module 3 - Supervised Learning
    Supervised Learning and Its Business Applications
    Regression-based Learning
    Tree-based Learning
    Networks-based Learning

Module 4 - Text Data Mining
   Introduction to Text Data Mining and Its Business Applications
   Word Cloud and N-gram Analysis
   Sentiment Analysis
   Latent Topic Modeling

Module 5 - Class Capstone Project