IDS 572 Data Mining for Business
4 Credit Hours
Fall 2012
Thursdays 6:00-8:30pm
L270

Instructor:
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Office Hours:
Thursday 5:00-5:50pm

Other times by appointment.

COURSE DESCRIPTION

Data Mining, also referred to as Predictive Analytics, is becoming imbedded in the operations of most large organizations as a means of extracting knowledge from increasingly large and diverse stores of data an predicting future outcomes. Analytics are being integrated into business processes from call centers to web sites to point-of-sales systems. An appreciation of how to effectively employ the power of various data mining techniques is essential to creating an ongoing process for developing predictions regarding the next best action to take with dealing an individual customer or client. This is the key to becoming a customer centric organization and maintaining a strong, long term relationship with customers.

The purpose of this course is to introduce students to how data mining technologies are used to transform large quantities of data into information to support tactical and strategic business decisions. We discuss applications of data mining technologies in a variety of business contexts including customer relationship management (CRM), direct marketing, e-commerce, banking and retailing.

The course includes hands-on lab sessions and an actual data-mining project. While students will be introduced to data mining technologies, the focus of the course will be learning when and how to use data mining in business applications.

COURSE OBJECTIVES

The goal of the course is to introduce students to the current theories, practices, tools and techniques in Data Mining. Specifically, at the end of the course students will be able to:

- Explain how businesses can gain competitive advantage through the mining of data.
- Describe when and how various data mining techniques should be applied.
- Understand the basic process and mechanics of data mining.
- Students should be able to make strategic decisions regarding the use of data mining within their workplaces.

COURSE APPROACH

The course uses lectures, discussions of examples/applications, assigned readings, exercises, and team projects to achieve the above learning objectives.

Course will be built around:

- Lectures
- Readings & Discussions
- Computer Lab Work
- Class assignments
- Completing a Data Mining Project

KEY TOPICS

- Data Mining in the enterprise environment
- Basics of statistical techniques
- Data preparation
- Decision tree methods
- Market basket analysis
- Neural Networks
- Clustering techniques
- Mining web data
- Emerging analytical techniques
- Text mining for unstructured data
- Deploying modeling results

CLASS PARTICIPATION

To get the most out of the learning experience, students are expected to have completed required readings and assignments before class and actively participate in the class discussions. Students are expected to contribute to class discussions, to ask questions, and to share experiences with other students.

GRADING

Grades are based upon the following:

a)	Class participation (attendance and involvement)		10 points
b)	Class assignments(3 total worth 5, 10, and 15 points respectively)		30 points
c)	Data Mining Project		60 points
	• Proposal (properly formatted on agreed terms of reference)	10 points	
	• Initial report (due mid-term)	15 points	
	• Final report	35 points	
	TOTAL		100 points

REQUIRED TEXT

Data Mining Techniques: For Marketing, Sales, and Customer Relationship Management, 3rd Edition

Gordon S. Linoff, Michael J. Berry

ISBN: 978-0-470-65093-6

Paperback

888 pages

April 2011