COLLEGE OF BUSINESS STANDARD COURSE OUTLINE

I. General Information

Course Number:	IS 470
Course Title:	Business Intelligence
Units:	3
Prerequisite:	IS 301, IS 310
Course Coordinator:	Hongyu Chen
SCO prepared by:	Hongyu Chen
Date prepared/revised:	Oct. 7, 2012

II. Catalog Description

Extract useful information (business intelligence BI) from large volumes of data or internet using BI software. Theories and applications in business intelligence, data mining, and business analytics. Topics include recommender system, collaborative filtering, classification, clustering, web mining, social network analysis.

III. Curriculum Justification(s)

Most organizations are data rich and information poor. For instance, Walmart captured 20 million transactions per day in 2003. The rate at which data has been accumulating has only increased since, with newer sources like social networks and RFID. These large volumes of data potentially could reveal useful information about the target of interest—customers, in most business contexts. The primary objective of this course is to introduce students to various techniques available to extract useful information (business intelligence) from the large volumes of data an organization might possess. The course will cover general concepts in the BI field, along with many popular BI techniques like association rules, decision trees, neural networks, classification and clustering. The focus will be on how the techniques are to be used, and the details of the methodologies will be covered only to the extent necessary to understand when and how each technique can be used. Students will also gain experience using BI/DM software. We will focus on the use of SAS Enterprise Minor (EM), which is a component of SAS package.

Upon completion, the student will meet the following four specific CBA learning goals:

Learning Goal #1 – Critical Thinking
Learning Goal #3 – Team and interpersonal skills
Learning Goal #6 – Quantitative and Technical Skills

IV. Course Objectives

- To gain a general understanding of business intelligence / data mining, and to appreciate the data rich environment of today's global economy.
- To gain a practical understanding of many key methods integral to data mining.
- To gain an understanding of when to use which technique.
- To become aware of some current trends in the use of BI.
- To gain the intellectual capital required to provide business analytics services.

V. Outline of Subject Matter

- Association rules,
- Clustering and segmentation
- Hierarchical clustering
- Classification (Naïve Bayes)
- Classification (Regression)
- Classification (Logistic Regression)
- Collaborate filtering and KNN
- Personalization
- Web Mining
- CRM
- Social network analysis

VI. Methods of Instruction

This course is taught by lectures and heavily hands-on exersises. After each major topic is introduced students undertake short exercises to ensure their understanding of the essential concepts. The course must cover association rules, clustering, collaborate filtering, KNN and various classification techniques. A group base project on real world problem is strongly recommended.

Extend and Nature of Technology Use

Instructors must assign homework, exercises, and projects of various BI/DM applications.

Required Texts

Data Mining for Business Intelligence: Concepts, Techniques, and Applications in Microsoft Office Excel with XLMiner, 2e, by Galit Shmueli, Nitin Patel and Peter Bruce. Wiley, ISBN-10: 0470526823, ISBN-13: 978-0470526828

Required Software

SAS EM 7.1, UCINET

VII. Instructional Policies Requirements

A. Assessment Criteria

Homework

Students will complete individual and group based homework profiling their competence in various subject matters.

Quizzes and Exams

Students will complete mid-term exam (required), and final exam (required).

Projects

Instructors are strongly encouraged to assign comprehensive course project (group) that requires problem solving and uses SAS EM to conduct real-world data analysis.

B. Required Statement

In compliance with university policy: Final grades will be based on at least three, and preferably four or more, demonstrations of competence. In no case will the grade on any class tests count for more than one-third of the course grade.

C. Attendance, Withdrawal, Late Assignments

Students are expected to attend courses and turn in assignments on time. Specific attendance and late assignment policies are up to each individual instructor's discretion. The withdrawal policy is the same as that of the university.

D. Disabilities

Students with disabilities are responsible for notifying their instructor as early as possible of their needs for an accommodation of a verified disability. A student with a disability is urged to consult with Disabled Student Services as soon as possible in order to identify possible accommodations to enhance academic success.