

SYLLABUS

MCIS 6313 – Data Warehousing and Data Mining

Class and faculty information

Course: MCIS 6313, Section 01
Semester: Spring 2003
Office Phone: 512-894-4880
Office Hours: By Appointment

Class: Wednesday, ACAD 113 (also ACAD 305)

Class requirements / expectations

- Prerequisite: ISMG 6306, Database Systems
- Students will be expected to learn new software and apply that knowledge to this course.

Description

This course covers the fundamentals of data warehousing architecture and the issues involved in planning, designing, building, populating and maintaining a successful data warehouse. The course introduces students to data mining and how it relates to data warehousing. Specific topics covered include the logical design of a data warehouse, the data staging area and extract-transform-load processing, the use of multi-dimensional analysis using OLAP techniques, and coverage of the knowledge discovery process including common data mining modeling techniques.

Objectives

The main goal is to provide the student with an understanding of the concepts and elements of data warehousing and data mining both from a business and technology perspective, including hands-on experience with a sample of tools used in decision support environments.

At the conclusion of this course the students will be able to:

- Explain the purpose for developing a data warehouse, including the differences between operational and decision support systems.
- Describe and use the dimensional modeling technique for designing a data warehouse.
- Describe the architecture of a data warehouse.
- Understand the project planning aspect of building a data warehouse.
- Use OLAP analysis with contemporary analysis and visualization tools.
- Understand and explain the purpose of data mining.
- Understand the knowledge discovery process.
- Understand several different data mining techniques such as market basket analysis, clustering, genetic algorithms, as well as which kinds of problems these techniques are applicable to.

Textbooks

Modern Data Warehousing, Mining, and Visualization, by George M. Marakas, 2003, Prentice-Hall.

The Data Warehouse Toolkit, by Ralph Kimball and M. Ross, 2002, Wiley.

Current syllabus for this course may be obtained from professor. This is a sample syllabus and should not be used by students enrolled in this course.

Course Organization / Structure / Rules / Policies

The main content of this class is based upon class lectures, in-class labs, a project, and two tests. With respect to assignments and tests:

- NO LATE WORK IS ACCEPTED.
- ALL ASSIGNMENTS ARE DUE AT THE BEGINNING OF THE CLASS PERIOD.
- NO MAKEUP TESTS. If you are going to miss a test please talk to me at least 2 weeks in advance.

Grading and Grades

Homework Problems	15%
Midterm	30%
Project	30%
Final	25%

Details of Grade Elements

The table above summarizes grading; additional details will be provide as relevant.

Special Circumstances

If you need accommodation for a disability, provide the instructor with documentation from Student Disability Services, www.stedwards.edu/aps/sds.htm, 448-8557, 448-8660.

Weekly Class Activity

Class Schedule:

Date	Agenda	Homework	Other
1/15	Intro to Data Warehousing, Mining, and Visualization. Chap 1/Marakas. The Data Warehouse. Chap 2/Marakas.	Read C1 and C2/M.	
1/22	Dimensional Modeling Primer. Chap 1/Kimball.	Read C1/K.	
1/29	Four-Step Dimensional Design Process. Chap 2/Kimball.	Read C2/K.	
2/5	Data Warehouse Bus Architecture. Chap 3/Kimball.	Read C3/K.	
2/12	Building the Data Warehouse. Chap 16/Kimball.	Read C16/K.	Meet in ACAD 305
2/19	Data Warehouse Lab and Midterm Review.		Meet in ACAD 305
2/26	MIDTERM		
3/5	Data Mining and Visualization. Chap 3/Marakas.	Read C3/M.	
3/12	NO CLASS – SPRING BREAK		
3/19	Machines that Can Learn. Chap 4/Marakas.	Read C4/M.	
3/26	Data Mining Lab		Meet in ACAD 305.
4/2	The Future of Data Warehousing, Mining, and Visualization. Chap 7/Marakas.	Read C7/M.	
4/9	Presentations		
4/16	FINAL		

THIS CLASS SCHEDULE IS SUBJECT TO CHANGE

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Last Revised: Fall, 2002

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