MIS 4350

Introduction to Business Intelligence & Data Mining

Prerequisite: MIS 4300, Database Fundamentals (or equivalent)

Course Description

This course provides an introduction and overview to various conceptual and technical concepts related to the support of business intelligence activities. The primary BI activities of acquisition, analysis, and presentation of information will be examined with respect to specific technical skills and in relationship to aligning these efforts with organizational goals. Students will acquire basic skills in the business intelligence software applications SQL Server 2012 and SAS or R.

Learning Goals

- To equip the students with an understanding of the scope of BI-related activities, including the analysis of business opportunities, the modeling of data and ETL acquisition processes, the analysis of data, and the presentation of the information for appropriate decision support

- To prepare the students to support BI efforts through the application of the specific tools of SQL Server 2012, SAS, and R

- To provide the students an appropriate business-oriented perspective of decision support and overall role of BI in organizations

Learning Outcomes

- Students should be able to describe the full scope of the BI lifecycle in support of an organization's BI-related needs

- Students should be able to independently extract and analyze data, and present the resulting information using tools available in SQL Server 2012, SAS, and R

- Students should be able to explain how business intelligence should align with an organization's decision support needs

Textbooks

Larson, B. *Delivering Business Intelligence with MS SQL Server 2012*, McGraw Hill

On-line reading as assigned in class

Milestones

Sept 25th, Oct 2nd, Oct 9th, Oct 23rd, Nov 13th, Dec 2nd
Homework Assignments

Nov 6th
Exam

Dec 8th
Group Presentations Due

Evaluation

There are eight components that will be used to determine the grade earned for the course.

Homework Assignments (6)	50%
Exam	20%
Group Project	20%
Participation	10%

Grading Policy

≥ 96.7%	A+
≥ 93.3%	A
≥ 90.0%	A-
≥ 86.7%	B+
≥ 83.3%	B
≥ 80.0%	B-
≥ 76.7%	C+
≥ 73.3%	C
≥ 70.0%	C-
≥ 66.7%	D+
≥ 63.3%	D
≥ 60.0%	D-
< 60.0%	F

Descriptions of the assignments will be posted as they are assigned. A penalty of 20% per day (including weekends) will be assessed on late assignments. The lowest of the six homework grades will be dropped.

Attendance will be taken and used in consideration for the Participation grade. This grade can be adjusted at the instructor's discretion based on the value, not volume, of class discussions and the contributions to the group project as determined by group member peers.

If the exam is missed due to an excused absence, a make-up exam will be provided in the form of an essay.

After the last week of class, students have the opportunity to complete an extra credit assignment that can increase the recorded overall grade from 0% to 2% based upon the quality of the completed assignment. This extra credit assignment is a 3000 word essay written about a business intelligence topic agreed upon in advance by the student and instructor. This report must be completed before final grades need to be recorded. The students must notify the instructor in advance if they intend to complete this assignment.

The grading evaluation will follow the UT Dallas policies as documented at http://catalog.utdallas.edu/2012/undergraduate/policies/academic, where A is deemed *excellent* performance, B is *good* performance, C is *fair* performance, and D is *poor* performance.

Class Administration

eLearning will be used for class content (e.g., class slides and assignment descriptions) and the recording of grades. Slides will be posted in PDF format before class is held. Class announcements (e.g., change in assignment dates) will be sent to the student email on record in eLearning. It is the students' responsibility to regularly check their email accounts.

In addition to the book, students will be assigned on-line readings throughout the semester.

General Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. Please go to http://go.utdallas.edu/syllabus-policies for these policies.

Class Calendar *(subject to change; changes will be posted in eLearning)*

Week	Topics	Readings	Assignments
Week 1	Introduction BI Life Cycle		
Week 2	Labor Day Overview of MS BI Tools		
Week 3	Introduction to SQL Server BI Introduction & Modeling	Delivering BI, Chapters 5 Delivering BI, Chapters 1 – 4	
Week 4	Defining BI Structures	Delivering BI, Chapters 6 – 8	
Week 5	Working with Multidimensional Models	Delivering BI, Chapters 9 – 12	Homework 1
Week 6	Working with Tabular Models	Delivering BI, Chapters 13 – 14	Homework 2
Week 7	MDM		Homework 3
Week 8	SAS & R Overview Inferential Statistics		
Week 9			Homework 4
Week 10	Data Mining		
Week 11	Exam		
Week 12	Reporting		Homework 5
Week 13	User Interface Design Sundry (data scientists, NoSQL, etc.)		Homework 6
Week 14	Off		
Week 15	Work Sessions		Group Projects
Week 16	Group Presentations		