EMIS 3309 - Information Engineering   Fall 2017

Instructor Contact Information

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Course Information

Lecture:	TTh 11:00 – 12:20PM
Lab:	F 11:00AM – 12:20AM or F 12:30PM - 1:50PM

For further information, assignments and assignment submission see Canvas at
http://canvas.smu.edu/

Course Description

This course places an emphasis on working with data, databases, and performing and interpreting descriptive analytics in the context of contemporary, data-rich decision making environments including various engineering and management applications. The course will introduce the use of databases (database management systems and SQL) and discuss the functions of practical (e.g., corporate or public) data warehouses while placing a strong emphasis on formal methods of descriptive analytics including data preparation, visualization, and interpretation.

Prerequisites: CSE 1341, EMIS 3340/CSE/STAT 4340

Learning Outcomes

1. Students will be able to set up a database to manage large amounts of data efficiently.
2. Students will understand the data warehouse infrastructure available in many large organizations and will know how to obtain data from such databases.
3. Students will be able to perform advanced descriptive analytics and visualization to gain insight into data and communicate results effectively.

Textbooks [not required]

A First Course in Database Systems (3rd Edition), Jeffrey D. Ullman, Jennifer Widom, Pearson (2007). **ISBN-10:** 013600637X

Business Analytics (2nd Edition), James R. Evans, Pearson (2015). **ISBN-10:** 0321997824.

Data Analysis Using SQL and Excel (2nd Edition), Gordon S. Linoff, Wiley Publishing (2015). **ISBN-10:** 111902143X

Course Topics and Class Outline

Session	Date	Lecture	Lab / Project
Week 1	8/22&24	Introduction (read Competing on Analytics)	
Week 2	8/29&31	Introduction to Database Management Systems, SQL	
Week 3	9/5&7	SQL	Lab 1: Simple Queries
Week 4	9/12&14	SQL	Lab 2: Joins
Week 5	9/19&21	The Entity-Relationship Model	Lab 3: Import Data & Queries
Week 6	2/26&28	The Entity-Relationship Model	Lab 4: SQL & Excel
Week 7	10/3&5	Introduction to Analytics , Mid term exam (on 10/5)	
Week 8	10/10&12	**Fall Break (10/10),** Introduction to Analytics (10/12)	
Week 9	10/17&19	Data Types, quality and preprocessing	Lab 5: SQL & Excel
Week 10	10/24&26	**No class on 10/24,** Visualizing and Exploring Data	Project 1: Business Understanding
Week 11	10/31&11/2	Descriptive Statistics	Project 2: Data Understanding
Week 12	11/7&9	Trendlines and Regression	Project 3: Relationships
Week 13	11/14&16	Data Mining	Project 4: Modeling & Evaluation
Week 14	11/21&23	Project presentations, **Thanks Giving Break (11/23)**	
Week 15	11/28&31	Project presentations	Project report due

Course Work and Grading

Reading materials may be referenced in class as needed. The course grade will be determined based on the following assessments.

Assessment	Percentage
Lab assignments	20%
Mid term	40%
Project	40%

See Canvas for grading scale and other grading details.

The course may also include unannounced quizzes. Quiz performance will be used to determine the final grade for students with a total score between two grades.

Projects

The project will be introduced later during the semester.

Attendance Policy

Students are expected to attend class regularly. **If a student is absent from class, it is that student's responsibility to make arrangements with the professor to make up any work missed or to ensure that assignments are submitted on time or early.** Late assignments will not be accepted except in extreme instances. Any assignments that will be missed (including those due to university-sanctioned events) must be completed before the due date. This includes quizzes and homework assignments.

Academic Ethics and Collaboration

You may work together to get ideas and write code, but you are expected to create, edit and print your own assignments. If you submit work which is not completely yours then you will receive a 0 on the particular assignment. In severe cases, you will receive an F in the course and may be brought in front of the SMU Honor Council. It is your responsibility to know and understand the University's Honor Code and the expectations for collaboration in this course.

Additional Information

- **Disability Accommodations:** Students needing academic accommodations for a disability must first register with Disability Accommodations & Success Strategies (DASS). Students can call 214-768-1470 or visit http://www.smu.edu/Provost/ALEC/DASS to begin the process. Once registered, students should then schedule an appointment with the professor as early in the semester as possible, present a DASS Accommodation Letter, and make appropriate arrangements. Please note that accommodations are not retroactive and require advance notice to implement.
- **Religious Observance:** Religiously observant students wishing to be absent on holidays that require missing class should notify me in writing at the beginning of the semester, and should discuss with her, in advance, acceptable ways of making up any work missed because of the absence.
- **Excused Absences for University Extracurricular Activities:** Students participating in an officially sanctioned, scheduled University extracurricular activity will be given the opportunity to make up class assignments or other graded assignments missed as a result of their participation. It is the responsibility of the student to make arrangements with me prior to any missed scheduled examination or other missed assignment for making up the work.