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674-1S Database Management

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INFO 674: Database Management

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Office Hours: By Appointment.

Mission of the Williams College of Business

 "We educate students of business, enabling them to improve organizations and society, consistent with the Jesuit tradition".

Course Description and Objectives

Databases are at the core of most information-based systems with which we interact in our daily lives and help keep track of myriad of details of every transaction that takes place in a business. Database management requires multiple perspectives: understanding an organization as a social system and understanding of database technology. Rapid growth in data continues to challenge this space evolving new business models and challenges for data administrators. The developments in big data and the internet of things are some of the new trends in data growth that are shaping existing frameworks for data management.

This course is designed for the graduate student *who has no prior experience* in database systems and it covers the fundamentals of database systems as well as emerging technologies that are likely to play a strategic role in business organizations. Some of you maybe more familiar or proficient with the fundamentals of relational database design. However, please note that the course will still cover all topics from the beginning. Topics include the role of data management systems, data modeling, design, implementation and analysis of relational databases. These

topics will be explored from the perspective of both a user and manager of database technologies.

Students will gain experience with data modeling and Structured Query Language (SQL). The course will cover basic data modeling and SQL concepts. The concepts learnt over the term will enable students to design, implement and analyze a prototype database using a relational database system. The goal is to experience the database development life cycle and explore issues relevant to managing corporate data resources. The course will also cover trends in managing organizational memory technologies such as business intelligence, big data and analytics.

Upon successfully completing INFO 674, you should be able to

1. Understand the organizational issues involved in data management;
2. Develop a valid data model for a business system of medium complexity;
3. Build and use a relational database;
4. Formulate a wide range of relational database queries;
5. Be familiar with the principles of managing organizational data;
6. Be familiar with the design principles and technology used to manage and exploit organizational intelligence;

In so doing, the course reinforces WCB Learning Goals and Objectives:

-   Collect, evaluate and synthesize information to offer solutions and support decision making.
-   Produce business reports demonstrating their ability to organize and communicate ideas clearly and professionally.
-   Make effective presentations, accompanied by the appropriate technology, demonstrating their ability to organize and communicate ideas clearly and professionally, both individually and in teams.

These objectives are met through a combination of two in class sessions and the rest as asynchronous sessions composed of video lectures, reading, hands-on lab assignments, and a group project.

Course Prerequisites & Required Skills

There are no formal prerequisites for this course. However, I assume you are computer literate. This means you know computer history, computer technology, and some business applications.

I will NOT assume that you are familiar with any database management system. We will start at the very beginning and learn the use of a basic database management system package (i.e., Microsoft Access). This will help us focus on learning basic data management concepts using a basic database management package. We may explore other packages given the availability of other reliable database platforms.

Course resources

E-Text Book : (Available online via library)

1. Watson, Richard. Data Management: Databases and Organizations, Fifth Edition. Wiley, New York, 2006. (ISBN: 0-471-71536-0)

Teradata University Network:

The class may use resources on the Teradata University Network (TUN). Please register on TUN. Its URL is http://www.teradatauniversitynetwork.com (Links to an external site.). The password to access materials is Analytics. (Please note that the password is not case sensitive).

Course Grading

Student performance will be evaluated on the following basis:

Database Team Project	25%
Individual Assignments	25%
Exams	50%
	100%

Database Team Project:

- Each team must have 3 members. Each team will be required to define, elect or volunteer a team leader as the point of contact for the team.

- Most of you will work effectively in teams, each contributing your best effort and proving to be a reliable, productive team member. However, because past experience has proven that team projects always raise the possibility that some team members may not carry their fair share of the load, a confidential peer evaluation will be conducted at the end of the term. This evaluation will impact your grade.

Assignments:

There will be individual lab assignments, individual management summaries on article sets during the term.

Exams, Assignments and Team Project Deliverables:

There will be two exams during the course of the term. Deliverables of assignments/project milestones should be submitted by the due date and time stated on Canvas. Late deliverables will not be accepted. Your grade on the database team project will be based on the quality of the deliverables your team produces.

General Course Philosophies & Policies

Academic honesty:

Academic dishonesty, in any form, is a serious offense. The University Rules and other documented policies of the department, college, and university related academic integrity will be enforced. Any violation of these regulations, including acts of plagiarism or cheating, will be dealt with on an individual basis according to the severity of the misconduct.

Special needs:

If you have any special needs related to your ability to perform in this course that may influence your performance in this course you should inform the instructor to arrange reasonable provisions to ensure an equitable opportunity to meet all the requirements of this course.

Evaluation:

The final grade awarded will be based on the percentage of the total points awarded as follows:

Scale

A	94-100		
A-	90-93		
B+	87-89	C+	77-79
B	83-86	C	70-76
			Below
B-	80-82	F	70

Grading:

Every effort will be made to return papers, exams, etc…within one week of submission.

Grade appeals:

If you have a concern about a grade that you receive in this class, you are invited to submit to me an appeal (via email only) within one week of receiving the grade in question. The appeal should outline your specific concerns with the grade and provide evidence supporting why the grade should be changed. I will then review your appeal and respond as quickly as possible. I reserve the right to re-grade the entire exam, assignment or project milestone in question.

Communication:

Email is the best way to communicate with me. I will answer emails within 48 hours of receipt. Make sure to check canvas announcements on a regular basis for updates or additional course material.

 Please note that I am available to answer questions/help one on one. Email me and we can setup virtual office hours to work on course content.

Teaching Style

The instructional style will primarily consist of video lectures based on the text. If you are unsure about a topic PLEASE ASK QUESTIONS via email/phone. If I receive no questions, I can only assume that everyone understands the material