

IS533 - Advanced Topics in Databases

Second Semester Academic Year 1439/1440 - Credit Hours: 3 hours

Section 69849: Meeting Time: Monday (2:00PM-4:50PM)

Section 52995: Meeting Time: Tuesday (2:00PM-4:50PM)

Instructor	Dr. Ahmad Alhamed
E-mail	aalhamed@ksu.edu.sa
Course website	KSU LMS
Office Hours	Monday, Tuesday 10:00am – 2:00pm, Room 2053 or other times by appointment.
Office Telephone	

Course Prerequisite/Co-requisite:

Students have passed Introduction of Database System (IS230 or equivalent) and Database Management Systems (IS335 or equivalent) by grade of "C" or better.

Course Description:

This course covers the following topics: Introduction to Transaction Processing Concepts and Concurrency Control Techniques, Database Recovery Techniques, Object Database Standards, Languages, Distributed Databases and Client-Server Architectures and Design, Query Optimization and Distributed Query Processing, Basic concepts of Database Security, Extensible Markup Language, Data Mining Techniques and tools, and/or Emerging Database Technologies and Applications

Course Objectives:

At the end of the class, the student will be able to

- Understand transaction processing concepts and concurrency control techniques.
- Understand the basic database recovery techniques.
- Understand object database standards and languages.
- Be familiar with Distributed Database and client-server architectures design.
- Understand query optimization and distributed query processing.
- Be able to understand the basic concepts of Data Warehouse
- Understand Extensible Markup Language Native Database and Data Mining Techniques
- Be familiar with Big Data Analytics tool and techniques.

Textbook(s) and/or Other Required Materials:

Primary: **Fundamentals of Database Systems**
Authors: **Ramez Elmasri and Shamkant B. Navathe**
Publisher: Pearson; 7 edition
ISBN-10: **0133970779** ISBN-13: **978-0133970777**

Supplementary & readings:

Reading Assignments: Reading assignments serve as an aid to the class lecture topics. They will be assigned in the class and are expected to be completed before the next class. Announced quizzes will be given on reading assignments.

Methodology

- Lectures
- Students' assignments and activities, such as, papers review and critique, reports, and presentations.
- Discussions
- Completion of the assigned reading

Assessment Plan:

Assignments (Reports and Presentations)	35%
Mid-Term Exam – (<i>week # 10</i>)	25%
Final Exam- (<i>Comprehensive Exam</i>)	40%
Total	100%

Attending Policy: Attendance will be recorded during each class meeting and KSU rules will be implemented concerning the absence. Also, your grade may be affected for absence without accepted excuse.

General Policy: Assignments are due at the announced due date. Late assignments will only be accepted in extenuating circumstances.

Students with Disabilities:

If you need assistance, please contact the department officials. If you feel that you need special accommodations, due to the physical or other situation, please let me know at the beginning of the semester.