



King Saud University
College of Computer and Information Sciences
Department of Information Systems

Course: IS 533 – Advanced Topics in Databases

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Textbook: Database Systems: Models, Languages, Design, and Application Programming, 6/E by Ramez Elmasri and Shamkant B. Navathe, Publisher: Pearson, 2011, ISBN # 0132144980, 9780132144988

Course Objectives

After completing this course, students should be able to understand:

- Object database standards and languages.
- Transaction processing concepts and concurrency control techniques.
- Extensible Markup Language Native Database and Data Mining Techniques
- The basic database recovery techniques.
- Distributed Database and client-server architectures design.
- Query optimization and distributed query processing.
- The basic concepts of Information Retrieval

Course Schedule (Tentative)

Week	Topics	Chapter	Exams
1	Overview of Database Languages and Architectures	Chapter 2	
2	Object and Object-Relational Database	Chapter 10	
3	XML: Concepts, Languages, and Standards	Chapter 11	
4	Introduction to Query Processing and Query Optimization	Chapter 18	
5	Foundations of Database Transaction Processing	Chapter 20	
6	Introduction to Protocols for Concurrency Control in Database	Chapter 21	
7	Review		Mid-term
8	Introduction to Database Recovery Protocols	Chapter 22	
9	Emerging Database Technologies and Applications	Chapter 23	
10	Introduction to Distributed Database	Chapter 26	
11	Introduction to Information Retrieval	Chapter 27	
12	Paper Presentation	Presentation	
13	Final Project Presentation/ Demonstration	Demonstration	
14	Review		Final Exam

Assessment Methods

Scientific paper presentation	10%
Assignments	10%
Mid-Term Exam	20%
Course Project	20%
Final Exam	40%
Total	100%