Database Management System

Requirements

Prerequisite knowledge

Required products

Database Management System 1

Oracle Database 11g

Course Info. & Office Hours

Instructor: Dr. Habes Alkhraisat
Contact Information: Email: h.alkhraisat@bau.edu.jo

Office Hours: Sun, Mon, Tue, and Wend 09:30-10:30 a.m. and by appointment
Class Meeting Day, Time, and Location: Sun, Mon, Tue, and Wend 08:00-09:30 a.m., Lab: 102.

Overview

   This course is designed to introduce students to advance topics in database systems, which are relevant to industrial development going on today in the broad context of database system. The focus of this course is on Storage and File Structure, Indexing and Hashing, Query Processing, Query Optimization, Database Security and Authorization, Database Tuning, Object Oriented Database Management System, as well as on and transaction processing and concurrency control.

   This is not a course on database design or SQL programming

   Classes will consist of lectures and discussions based on readings from the database literature. There will be a semester long project, as well as two exams and a few (2 or 3) problem sets.

Grading

   Your grade will be determined based on the following weight factors:

ACTIVITIES	PERCENTAGES
Problem Sets	10%
Mid Term Exams	40%
Final exam	50%

Text Book

1. *Database Systems Concepts, Silberschatz, Korth, and Sudarshan. Sixth Edition. ISBN: 0073523321.*

Reading Book

1. Fundamentals of Database Systems, 6th Edition by Ramez Elmasri, Shamkant B. Navathe. ISBN-13: 978-0-136-08620-8

General Course Policies including:

1. Academic Honor Policy.

   I encourage and expect collaboration among learners. Feel free to discuss assignments, issues and questions with other students. However, when it comes time to submit written work for grading, I expect, *indeed insist, that the submitted work must be your individual work*. While it is OK to receive help with a program assignment, you are working on; the program you hand in is to be your own work. If duplicate or essentially duplicate programs are handed in, **both students will receive a zero for the assignment**. Multiple occurrences of plagiarism may result in action ranging from reduced grade or failure of a course, to expulsion from the University or revocation of degree.

2. The Late Assignment Policy

   In all of my courses unless specifically specified otherwise is to deduct 10% of the total point value of an assignment for each day that it is late. After one week of due date, assignments are worth 0 points.

3. Attendance

   Regular attendance is an important element in your successful completion of this course. If you miss class when a quiz is given and collected that day, **you may not make-up the quiz.**

Topics Covered

   Topics related to database management system, including advance SQL; advance relational algebra, DCL language, Clustering and Indexing, Data Partitioning, query processing; query optimization and cost estimation. Lecture and reading from original research papers.

Week	Topics	Chapter
1	Formal Relational Query Languages	6
2	Relational Database Design	8
2	Storage and File Structure	10
3	Indexing and Hashing	11
3	Query Processing	12
4	Query Optimization	13
5	Database Security and Authorization	23
6	Database Tuning	6
6	Object Oriented Database Management System	22
7	Overview of Transaction Management	14
8	Concurrency Control	15

Please note that the above schedule is subject to change. Students are expected to come to class prepared and ready to participate. The associated chapters should be read ahead of time.