



**Philadelphia University**  
**Faculty of Administrative & Financial Sciences**  
**Department of Business Networking and Systems**  
**Management**

<u>Course Syllabus</u>	
<b>Course Title: Database Management Systems</b>	<b>Course code: 371231</b>
<b>Course Level: second year</b>	<b>Course prerequisite (s) and/or co requisite (s): 0371313</b>
<b>Lecture Time:</b>	<b>Credit hours: 3</b>

<u>Academic Staff</u>				
<u>Specifics</u>				
Name	Rank	Office Number	Office Hours	E-mail Address
Mr. Ahmad Al-Ghoul	M.Sc.	32404	11-13 SUN,TUE,THU	Ahmad4_2_69@hotmail.com

**Course module description:**

- This class is applicable to Oracle8i users. This course offers students an extensive introduction to data server technology. The class covers the concepts of both relational and object relational databases and the powerful SQL programming language.
- Students are taught to create and maintain database objects and to store, retrieve, and manipulate data. They also learn to write SQL and SQL\*Plus script files using the SQL\*Plus tool to generate report-like output. Demonstrations and hands-on practice reinforce the fundamental concepts.

**Course module objectives:**

- You will learn the principle techniques of database Analysis, Design and Implementation.
- You will learn SQL, and PLSQL of the relational database world.
- You will apply these principles to the design of relational databases using Oracle 8i.
- You will enhance your skills in group problem-solving and teamwork.

## Course/ module components

- **Books**

- **Text book:**

- Introduction to oracle SQL and PL/SQL

- Copyright oracle corporation

- AUTHORS: Neena Kochhar , Ellen Gravina

- **Homework guide.**

- HOMEWORK:** Homework is an essential part of the educational process.

- The homework in this course will reinforce the material covered in the classroom and provide time for practice. Students will earn points for each homework assignment completed. Homework assignments will be graded based on completion.

## **Teaching methods:**

Duration: 16 weeks in first semester, 48 hours in total

Lectures: 32 hours (2 hours per week),

Tutorials: 16 hours, 1 per week,

Laboratories: as needed

## **Learning outcomes:**

- Knowledge and understanding
  - 1- Be able to understand the fundamentals of relational database terms and concepts.
  - 2- Be able to understand the principle techniques of database design and implementation.
  - 3- Be able to understand SQL, and PLSQL of the relational database world.
  - 4- Be able to apply these principles to the design of relational databases using Oracle 8i.
  - 5- Be able to enhance your skills in group problem-solving and teamwork.

## **Cognitive skills (thinking and analysis).**

The lecturer will present the material in the text book in an interactive way that stimulates the thinking side of students.

Conducting the learning objectives for each module components in clear manner to insure the material is digested by the students.

- Analyzing, summarizing and integrating information from a variety of media.

- The student must be able to understand how to analyze and design database using normalization, ERD and how to create and maintain database objects and to store, retrieve, and manipulate data.

## **Communication skills (personal and academic).**

-Module language: English

-For every lecture the last five minutes will be open for discussion. For further discussion, the students are welcome at the lecturer's office hour as appeared in first page.

**Time Management:** Assignments are varied, integrated, and overlapping, and students must focus on multiple issues, projects, and demands. Students must, therefore, take responsibility for planning and pacing their own work as well as developing time management skills.

**Project Development:** Groups of approximately four to six students develop projects, complete research, schedule meetings, write papers and reports, and deliver a 20-30 minute oral presentation using visual aids.

**Group Management:** Students work on group projects to practice interpersonal skills by communicating with group members, other groups, and peers outside the group.

## **Practical and subject specific skills (Transferable Skills).**

The student is able to build and maintain database objects and to store, retrieve, and manipulate data using SQL\*Plus.

## **Assessment instruments**

- Short reports and/ or presentations, and/ or Short research projects.
- Quizzes.
- Home works.
- Final examination: 50 marks.

<b><u>Allocation of Marks</u></b>	
<b>Assessment Instruments</b>	<b>Mark</b>
First examination 24/11/2014	<b>20</b>
Second examination 31/12/2014	<b>20</b>
Final examination: 50 marks	<b>40</b>
Reports, research projects, Quizzes, Home works, Projects	<b>20</b>
Total	<b>100</b>

## **Documentation and academic honesty**

This course is given from the textbook mentioned above. It is copyright protected. Students are encouraged to purchase this textbook from the university bookshop.

### **Definition of Plagiarism**

Plagiarism is the unacknowledged borrowing of another writer's words or ideas.

### **How Can Students Avoid Plagiarism?**

To avoid plagiarism, you must give credit whenever you use another person's idea, opinion, or theory;

- any facts, statistics, graphs, drawings—any pieces of information—that are not common knowledge;
- quotations of another person's actual spoken or written words; or
- Paraphrase of another person's spoken or written words.

If you are in doubt about whether what you are doing is inappropriate, consult your instructor. **A claim that “you didn't know it was wrong” will not be accepted as an excuse.**

### **Penalty for Plagiarism**

The minimum penalty for an act of plagiarism is a 0 on the assignment, homework, and project. Serious cases of plagiarism may result in failure in the course as a whole, or expulsion from the university.

### **Course/module academic calendar**

<b>week</b>	<b>Basic and support material to be covered</b>	<b>Notes/Homework/Project</b>
<b>(1)</b>	Data Design Concepts, database components and Web-Based database design, data design terminology.	
<b>(2)</b>	File organization (terms, and concepts), Storing information, relational Database Concepts, data Model, Relational Database terminology, and data Integrity Control	MORE REDINGS: MIT COURSE Database, Internet, and Systems Integration Technologies, LECTURE 8 Database: Data modeling, part 1
<b>(3)</b>	Entity relationship diagrams, Unnormalized and first normal form, second and third normal form.	<b>Project Phase one</b> MORE REDINGS: MIT COURSE Database, Internet, and Systems Integration Technologies, LECTURE 9 Database: Data modeling, part 2
<b>(4)</b>	SQL commands categories, SQL commands Guidelines, Data types, SQL and SQL*Plus comparison	MORE REDINGS: MIT COURSE Database, Internet, and Systems Integration Technologies, LECTURE 10 Database: Data normalization
<b>(5)</b>	List capabilities of SQL select statements, execute a basic select statement, differentiate between SQL and SQL*Plus commands, Limit the rows retrieved by a query, and Sort the rows retrieved by a query	MORE REDINGS: MIT COURSE Database, Internet, and Systems Integration Technologies, LECTURE 11 Database: SQL basics: SELECT, INSERT
<b>(6)</b> <b>First examination</b>	Describe various types of functions available in SQL, use character, number, and date functions in select statements, and use conversion functions	

<b>(7)</b>	Write select statements to access data from more than one table, using equality and none quality joins, view data that generally does not meet a join condition by using, outer joins, join a table to itself using a self-join	
<b>(8)</b>	Identify the available group functions, use group functions, group data using the group by clause, include or exclude grouped rows using the having clause	
<b>(9)</b>	Describe the types of problems that subqueries can solve, define subqueries, list the types of subqueries, write single-row and multiple-row subqueries	<b>First home work</b>  MORE REDINGS:MIT COURSE : Database, Internet, and Systems Integration Technologies, LECTURE 13 Database: SQL joins, subqueries, views
<b>(10)</b>	Insert rows in a table, update rows in a table, delete rows in a table, merge rows in a table, control transactions	<b>Project Phase two</b>  MORE PRACTICE AND HELP REVIEW, MIT COURSE: Database, Internet, and Systems Integration Technologies, Database: Data modeling exercise 2 - input file
<b>(11)</b> <b>Second examination</b>	Describe the main database objects, create tables	
<b>(12)</b>	describe the datatypes that can be used when specifying column, alter table definitions, drop, rename, and truncate tables	
<b>(13)</b>	Describe constraints, Create and maintain constraints	
<b>(14)</b>	Describe a view, create, alter, and drop a view, Create, maintain, and use sequences, create and maintain indexes	<b>Second Homework</b>  MORE PRACTICE AND HELP REVIEW, MIT COURSE Database, Internet, and Systems Integration Technologies, Database: SQL homework 5
<b>(15)</b>	Create users, create roles to ease setup and maintenance of the security model, use the GRANT and REVOKE statements to grant and revoke object privileges	
<b>(16)</b> <b>Final Examination</b>	revision	<b>Project Phase three and Presentations</b>

### **Expected workload:**

On average students need to spend 2 hours of study and preparation for each 50-minute lecture/tutorial.

### **Attendance policy:**

Absence from lectures and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse acceptable to and approved by the Dean of the relevant college/faculty shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.

### **Module references**

#### **Books**

1. HANDS-ON SQL

Robert Grouth, Prentice Hall PTR, Upper Saddle River, New Jersey 07458  
ISBN0-13-486143-4







2. FUNDAMENTALS OF DATABASE SYSTEMS (fifth edition)

Ramez Elmasri, and Shamkant B. Navathe  
ADDISON-WESLEY

3. System Analysis and Design, Sixth Edition

Authors: Gary B. Shelly, Thomas J. Cashman and Harry J. Rosenblatt ,  
Publisher: SHELLY CASHMAN SEWIES

#### **Websites**

-  [www.w3schools.com](http://www.w3schools.com)
-  [www.dbs.cs.ucdavis.edu](http://www.dbs.cs.ucdavis.edu)
-  [www.computer-training-software.com](http://www.computer-training-software.com)
-  [www.en.wikipedia.org](http://www.en.wikipedia.org)
-  [www.suite101.com](http://www.suite101.com)
-  <http://ocw.mit.edu/courses/civil-and-environmental-engineering/1-264j-database-internet-and-systems-integration-technologies-fall-2013/lecture-notes-exercises/>