Course Specifications

Programme(s) on which the course is given M.Sc. of Computer Science Mathematics

Major or minor element of programs	Major
Department offering the program	Mathematics
Department offering the course	Mathematics
Academic year / Level	**Post-graduate studies**
Semester	
Date of specification revision	September 2008
Date of specification approval	September 2008

A- Basic Information

Title: Database systems		Code: M6312	
Credit Hours: 2		Total: 2 hr.	
Lecture: 2	Tutorial: -	Practical: -	Other: -

B- Professional Information

1 – Overall Aims of Course

- **Design and implementation of database systems, understand the elements of rational database. Be able to use query language in data retrieval. Be able to create databases that maintain integrity and secure. Understand server/ client technology.**

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

The student should be able to

a1- define database systems.
a2- know fundamentals of building a database.
a3- the use of metadata.
a4- understand what is data model.

b- Intellectual Skills

b1- Understand how database systems are defined and managed.
b2- Know the different elements of database systems.
b3- Understand query language and retrieve data using SQL.

c- Professional and Practical Skills

c1- Know types of database systems, while discussing the pros and cons.
c2- Defining data model, using metadata.
c3- Getting to know query language processing.

d- General and Transferable Skills

d1- The knowledge of database system architecture**.**
d2- The required work for building an integrated and secure database.
d3- the use of SQL as a query language.

3- Contents

Topics	No. of hours	Lecture
Introduction to database systems, and DBMS	4	2
Fundamentals of database architecture	4	2
Data models, server/client architecture	4	2
Details of query language SQL	6	3
Use of metadata and distributed processing	4	2
Elements of E/R diagram	4	2
Use of database systems	2	1

4– Teaching and learning methods

4.1- Lectures
4.2- Working on hand in assignments
4.3- Project and report knowledge collection

5- Student assessment methods

5.1 Mid term written exam to assess understanding competencies
5.2 Programming Project to assess programming skills
5.3 Oral Exam to assess attendance and interesting.
5.4 Semester hand in assignments to assess understanding professionalism.
5.5 Final term written Exam to assess comprehension.

Assessment schedule

Assessment 1	Mid term	Week 4 and 7
Assessment 2	semester activities	Week 5 and 8

Assessment 3	Final Project/report	Week 13
Assessment 4	Final term written exam	Week 14

6- Weighting of assessments

Mid-Term Examination	20%
Semester Work (homework assignments + quizzes)	10%
Project	10%
Final-term written Examination	60%
Total	100%

Any formative only assessments

7- List of references

7.1- Course notes

Collected and prepared notes that cover the main topics in the course content

7.2- Essential books (text books)

Elementary text books under the title: *Fundamentals of Database Systems.*

7.3- Recommended books :

7.4- Periodicals, Web sites, … etc

Non.

8- Facilities required for teaching and learning

Lecture: PC's - packages for ready made scientific programs. - Data Show,
instrumentation, and packages.

Names of professors/lecturers contributing to the design and delivery of the course

i Dr. Hani Ibrahim

ii Dr. P El-Kafrawy

Course coordinator:

Head of Department: Mohamed A. Ramadan

Date: / /