<p align="center">**Course Specifications**</p>

Programme(s) on which the course is given   **B.Sc. of Pure Mathematics and Computer**
<p align="center">**Science, Physics and computer science**</p>

Major or minor element of programs	**Major**
Department offering the program	**Mathematics**
Department offering the course	**Mathematics**
Academic year / Level	**Fourth level (4)**
Semester	
Date of specification revision	**September 2012**
Date of specification approval	**September 2012**

A- Basic Information

    Title: **Data Design**   **Code:**   **M4311**
    Credit Hours: 3   **Total: 3 hr.**

    Lecture: 3   **Tutorial:**   **- Practical: - Other: -**

B- Professional Information

    1 – Overall Aims of Course

       The student learns the concepts of relational data base theory. Also Relational domains, attributes and data dependencies, Query path normalization, processing design concepts, normal form and database development phases. Dependency preservation on lossless decomposition with some design algorithm. Database development phases. Advanced database Management problems such as Integrity, Concurrency, Security.

    2 – Intended Learning Outcomes of Course (ILOs)

    a- Knowledge and Understanding:

    The student should be able to

       a1- Understand concepts of data base theory

       a2- Demonstrate the differences between data base types

       a3- Apply relational data and data dependencies

       a4- Demonstrate how to design database in a normalized form

b- Intellectual Skills

      b1- Able to develop good designed database

      b2- Capable to manage databases

      b3- Identify processing requirements for databases

c- Professional and Practical Skills

      c1- Apply queries to any relational database

      c2- Differentiate between a normalized design and a non-normalized one

d- General and Transferable Skills

      d1- Explain database management administration.

      d2- Explain database development approaches.

      d3- Design query processing methodologies.

3- Contents

Topics	No. of hours	Lecture	Tutorial/Practical
Concepts of relational data base theory	**6**	**2**	**-**
Relational domains	**6**	**2**	**-**
Attributes definition	**6**	**2**	**-**
Data dependencies	**6**	**2**	**-**
Query path normalization	**6**	**2**	**-**
Processing design concepts	**6**	**2**	**-**
Normal form and database development phases	**6**	**2**	**-**

4– Teaching and learning methods

    4.1- Lectures

    4.2- Working on hand in assignments

    4.3- Attending practical classes

5- Student assessment methods

      5.1 Mid term written exam to assess understanding competencies

5.2 Mid term practical Exam   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 + project	Week 7
Assessment 2	semester activities	Week 5 and 8
Assessment 3	Final term oral exam	Week 13
Assessment 4	final term written exam	Week 14

Weighting of assessments

Mid-Term Examination
20%

Semester Work   (homework assignments + oral tests)
20 %

Other types of assessment
00%

Final-term written Examination
60%

Total

100%

Any formative only assessments

6- List of references

6.1- Course notes

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

6.2- Essential books (text books)

Elementary text books under the title :

6.3- Recommended books :

6.4- Periodicals, Web sites, … etc

Non.

7- Facilities required for teaching and learning

Lecture: PC's - packages for ready made scientific programs.

- Data Show.

Course coordinator: Dr. Passent El-Kafrawy

Head of Department: Prof. Mohamed R. Abdellatif

Date: / /