



Course Specification

Course title: DataBase

Code: CS 401

Program(s) on which the course is given: Mathematics & Computer Science

Major or minor element of program: Major

Department offering the program: Mathematics & computer Science

Department offering the course: Mathematics & Computer Science

Academic year/ Level: Fourth year/first Semester

Date of specification approval:.... /.... /

1- Basic information			
Academic year: Fourth	Course Title: DataBase	Code: CS 401	
Lecture	Practical: 4	Tutorial: 4 hour/week	Total: 8 hours /week
2- Professional Information			
1- Overall aims, of course	<p>. Design a system, component and process to meet the required needs within realistic constraints.</p> <p>Design, conduct experiments, analyze and interpret data.</p>		
3- Intended learning outcomes, of course (ILOs)			
a. Knowledge and Understanding	<p>On completing this course, students will be able to:</p> <p>a1. Explain main concepts of Database.</p> <p>a2. Enumerate the principles and techniques from a number of application areas informed by the research directions of the subject.</p>		
b. Intellectual Skills	<p>On completing this course, students will be able to:</p> <p>b1. Planning logically by using the appropriate scientific methods.</p> <p>b2. Use integrated approaches to problem solving in various subjects.</p>		
c. Professional, and Practical Skills	<p>On completing this course, students will be able to:</p> <p>c1. Apply essential concepts, principles, and practices of SQL and DB packages, showing judgment in the selection and application of tools and techniques.</p> <p>c2. Use computer laboratory correctly to generate information in computer science subjects in a responsible, safe and ethical manner, paying attention to risk assessment and safety regulations.</p> <p>c3. Use appropriate programming languages, web-based systems and tools, design methodologies, and knowledge and database systems.</p>		



d. General and Transferable Skills	<p>On completing this course, students will be able to:</p> <p>D1. Interpret the information, discuss and communicate ideas effectively both orally and in writing using a range of formats.</p> <p>D2. Manage time, work to deadlines and priorities workloads to achieve targets.</p> <p>D3. Actively participate in groups but be capable of independent work. Assess the relevance and importance of ideas of others.</p>
4. Contents	
<ol style="list-style-type: none"> 1. Introduction to DB 2. Physical data organizations. 3. Database models. 4. DBMS architecture. 5. Relational Database design and normalization. 6. ER & EER models 7. Overview of DB languages and architectures 8. Query language & Relational Algebra. 9. Writing simple DDL statement 10. Writing simple SQL program 11. Brief concept of ODB 12. Distributed database. 	
5- Teaching and learning methods	<ol style="list-style-type: none"> 1- Lectures 2- Practical
6- Student assessment	
a- Methods	<ul style="list-style-type: none"> - Mid-Term exam to assess the ability of understanding and thinking -Oral exam to assess their confidence and understanding the scientific materials -Discussions during the lectures to assess their ability of understanding -Final comprehensive Exam.
b-Assessment schedule	<ol style="list-style-type: none"> 1- Oral Exam week 16 2- Final Exam week 16 3-Activities Of The Academic Year week 7
c-Weighting of assessments	<ul style="list-style-type: none"> - Activities Of The Academic Year 28 - Final-Term Examination 100 - Oral Examination 12 - Practical Examination 60 <p style="text-align: right;">Total: 200</p>
7- List of references	
a-Course Note	
b-Recommended Text Book	<ol style="list-style-type: none"> 1- RamezElmasri, Shamkant B. Navathe , Fundamentals of Database Systems. Newer version. Chris J. Date, Introduction to Database Systems, Addison Wesley.
c- Additional References	The web site to download MySQL.
d. Periodical journals, Web sites, etc.	



Matrix to measure ILO's of course with ILO's of Program

ILO's of Course	ILO's of Program
Knowledge and Understanding	
a1	A1,A6
a2	
Intellectual Skills	
b1	B1,B2
b2	
Professional and Practical Skills	
c1	C1,C2,C6
c2,c3	
General and Transferable Skills	
d1	D1-D3
d2,d3	



Course Map (Content of Course with ILO's of Course)

Aim of course	Content Of Course	week	Knowledge & Understanding	Intellectual Skills	Professional & Practical Skills	General skills	Teaching and Learning	Teaching and Learning activity	Assessment Methods	Evidences
<p>Design a system, component and process to meet the required needs within realistic constraints.</p> <p>Design, conduct experiments, analyze and interpret data.</p>	1. Introduction to DB	1	a1,a2	b1,b2	c1-c3	d1-d3	Lectures Assignments and exercises.	using white board and data show. Discussion. -Presentation Computer lab	Oral Exam (12 marks) - Activities Of The Academic Year (28 marks) - Final term written Exam (100 marks). Practical exam	Department course notes. - Library books. - Student semester work. - Exam papers. - Sheets.
	2. Physical data organizations.	1	a1,a2	b1,b2	c1-c3	d1-d3				
	3. Database models.	1	a1,a2	b1,b2	c1-c3	d1-d3				
	4. DBMS architecture.	1	a1,a2	b1,b2	c1-c3	d1-d3				
	5. Relational Database design and normalization.	1	a1,a2	b1,b2	c1-c3	d1-d3				
	6. ER & EER models	1	a1,a2	b1,b2	c1-c3	d1-d3				
	7. Overview of DB languages and architectures	1	a1,a2	b1,b2	c1-c3	d1-d3				
	8. Query language & Relational Algebra.	1	a1,a2	b1,b2	c1-c3	d1-d3				
	9. Writing simple DDL statement	1	a1,a2	b1,b2	c1-c3	d1-d3				
	10. Writing simple SQL program	1	a1,a2	b1,b2	c1-c3	d1-d3				
	11. Brief concept of ODB	1	a1,a2	b1,b2	c1-c3	d1-d3				
	12. Distributed database.	1	a1,a2	b1,b2	c1-c3	d1-d3				

Course coordinator: Name: Assistant Prof. EmanKaramElsayed

Head of Department of Name: Prof. Dr/ Hoda Abeldaim