KOMAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
(KUST)

Database Management Systems - Course Syllabus			
Course Title	**Database Management Systems**		
Course Code	**INF3315**	**No. of Credits**	**3**
Department	**e-commerce and Information management**	**Collage**	**College of Business**
Pre-requisites Course Code	**Foundation of IT + Fundamental of e-Commerce**	**Co-requisites Course Code**	
Course Coordinator(s)	**Hemin Ibrahim**		
Email	**hemin.ibrahim@komar.edu.iq**	**Office No. 203**	**IP No. 150**
Other Course Teacher(s)/Tutor(s)			
Class Hours	**Monday and Wednesday from 10:00 to 11:30.**		
Office Hours	**Monday and Wednesday from 03:00 PM to 04:00 PM**		
Course Type	**❒ Department Requirement**		
Offer in Academic Year	**☐ Spring Semester 2016**		

COURSE DESCRIPTION

Database Management Systems course is mainly designed for undergraduate students in e-commerce and information management department, and introduces students to the use of Database Management Systems (DBMS) to explain a wide sort of information storage. Also there are a part about principles and methodologies of database design, and skills for database application development. A major part of this course will have students designing the database and implementing and using primarily MySQL.

COURSE OBJECTIVES

- Analyze existing and future data processing needs
- The design method for databases and confirming their structural correctness.
- Applying databases and applications programs mainly in the relational model
- Running querying languages, such as SQL.
- Working by a group to design and implement database projects
- Develop and improve the conceptual data model, including all entities, relationships, attributes, and business rules

COURSE LEARNING OUTCOMES

After participating in the course, the students should be able to:

1. Explain database components and DBMS. (CLO G)
2. Design and demonstrate of the relational data model. (CLO H)
3. Apply right techniques, such as normalization, in creating a database. (CLO D)
4. Understand and apply SQL data definition and SQL queries. (CLO H)
5. Practical knowledge of the development life cycle of a Database System. (CLO H)
6. Install, configure, and interact with a relational database management system. (CLO H)
7. Analyze an information storage problem and derive an information model expressed in the form of an entity relation diagram and other optional analysis forms. (CLO C)

GUIDELINES ON GRADING POLICY

A	=	95	–	100	Points	
A–	=	90	–	94	Points	
B+	=	87	–	89	Points	
B	=	83	–	86	Points	
B–	=	80	–	82	Points	
C+	=	75	–	79	Points	
C	=	70	–	74	Points	
C–	=	65	–	69	Points	
D+	=	60	–	64	Points	(65 is the passing grade. A 100 is your goal)
D	=	55	–	59	Points	
D–	=	50	–	54	Points	
F	=	0	–	49	Points	
W	Withdrawal					
I	Incomplete					

COURSE CONTENT

Course topics include:

1- Introduction to database and database management systems
2- Database Analysis, Data model, schema and DBMS languages.
3- Entity-relationship (ER) and relational data model
4- Introduction to SQL
5- SQL queries
6- Database Design and Normalization
7- Database application development
8- Distributed Database and Big data.

COURSE TEACHING AND LEARNING ACTIVITIES

Course Teaching and Learning Activities: (short description)

1. Interactive class discussion
2. Homework - Tutorials
3. Lectures
4. Assignments
5. Practical sessions
6. Quizzes and tests

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COURSE ASSESSMENT Tools		
Assessment Tool	**Description**	**Weight**
Quizzes	Students will take 4 quizzes.	10%
Assignment & Project	Students have one group project, they will finish step by step, and each step has different grade.	20%
Homework	Students have 4 homework before midterm and 2 after midterm.	10%
Midterm	The first test will be planned to cover week 1-7	20%
Test	The Second test will be planned to cover 8-11	10%
Final Exam	The final exam will be designed to cover all lectures.	30%
Extra Grade	The students can get the extra grades by doing extra assignments and projects to **improve their knowledge.**	5%

ESSENTIAL READINGS:

Textbooks:
Elmasri, R., Navathe, S., Fundamentals of Database Systems, seventh Edition, Pearson, 2015.
References:

1. Jeffrey A. Hoffer, Ramesh Venkataraman and Heikki Topi. Modern Database Management (12th Edition).
2. Pallaw, Vijay Krishna, Concept of Database Management Systems, second edition, 2010.

COURSE POLICY *(including plagiarism, academic honesty, attendance etc.)*

Attendance Policy
Students are expected to attend all the classes for the entire semester. Students are responsible for material presented in lectures. Attendance is taken at the beginning of each class. Only students with official KUST absences, family crises, and illness are excused from class. This in no way cancels any responsibility for work due or assigned during absence. The student who misses **more than 10 percent** of the course classes will be placed on probation.

Make-up Policy
Because all examinations are announced in advance a zero will be assigned to any missed examination unless a student has a legitimate acceptable reason, such as illness, for not being able to take the examination during all the days when the examination was announced.

Academic Dishonesty
Any type of dishonesty (plagiarism, copying another's test or home-work, etc) will NOT be tolerated. Students found guilty of any type of academic dishonesty are subject to failure in this course, plus further punishment by the University Consul.

Deadlines/Due Dates
Recognizing that a large part of professional life is meeting deadlines, it is necessary to develop time

management and organizational skills. Failure to meet the course deadlines will result in penalties. **Late assignments will be accepted with a penalty if they are less than 3 days passed their respective due dates, otherwise a zero will be assigned to those assignments**. Work may be submitted early.

GUIDELINES FOR SUCCESS

1. Attend classes (on time).
2. Ask question any time you want. If you do not understand something, please, please and please ask. You can ask during the class, in tutorials, office hours and by email.
3. Solve all homework and lab questions.

CELL PHONES

All cell phones are expected to be switched to vibrating mode if available and turned off completely if this feature is not an option. Disruption of class due to a cell phone will not be tolerated and the student will be asked to leave class. All other electronic equipment that the faculty member deems not essential to the provision of academic learning is prohibited from being used in class.

REVISIONTO THE SYLLABUS

This syllabus is subject to change. It is the duty of the instructor to inform students of changes in a timely fashion after approval of Quality Assurance Office (QAO).

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Course calendar: Please check the academic calendar for 2015/2016 (Subject to Change)

Week	Beg/End Dates	Topics	Assessment
1	28 Feb. – 3 Mar.	- Introduction to the course - Introduction to database ▪ History ▪ Examples ▪ Advantages	**CLO #1**
2	6 Mar – 10 Mar	**Introduction to Database management systems** - Terms and concepts - File processing approach - Database Approach **Database Analysis** - Data Models, Schemas, Instances - DBMS Languages	**CLO #1 & #2**
3	13 Mar – 17 Mar	- Entity-Relationship (ER) Model - The enhanced Entity – relationship (EER) Model - The relational data model	**CLO #2** Quiz #1 HW #1
	20 Mar – 24 Mar	Happy Nawroz - Holiday	
4	27 Mar – 31 Mar	- Introduction to Localhost - Introduction to MySQL workbench - Introduction to SQL - Practical session	**CLO #3 & #4** Release Project
5	3 Apr – 7 Apr	- SQL Queries ▪ Insert ▪ Select ▪ Update ▪ Delete ▪ Join	**CLO #4** HW #2
6	10 Apr – 14 Apr	- Complex queries, triggers and Views - Practices	**CLO #4** Quiz #2
7	17 Apr – 21 Apr	- Database Design - Normalization	**CLO #3 & #4**
	24 Apr – 28 Apr	Midterm	
8	1 May – 5 May	- Apply Normalization - Relationship between tables	**CLO #3 &#6** HW#3
9	8 May – 12 May	- Extensible Markup Language (XML) - Database Application Development	**CLO #3** Quiz #3
10	15 May – 19 May	- Web Database programming using PHP	**CLO #3**
11	22 May – 26 May	- Disk Storage - Data warehousing	**CLO #7** Quiz #4

12	29 May – 2 Jun	Test	
13	5 Jun – 9 Jun	- Distributed Database and Big Data	**CLO #7** HW #4
14	12 Jun – 16 Jun	- Guest (Talk about Database and applying in Kurdistan) - Presentation of the assignment	Submit the Group project
15	19 Jun – 23 Jun	Review Week	
	26 Jun -30 Jun	Final Exam	