	Ministry of Higher Education and Scientific Research - Iraq University of Technology Computer Science Department Networks Management Branch	

MODULE DESCRIPTOR FORM
نموذج وصف المادة الدراسية

Module Information
معلومات المادة الدراسية

Module Title	DATABASE	**Module Delivery**	
Module Type	CORE	**Theory** **Lecture** **Lab** **Tutorial** **Practical** **Seminar**	
Module Code	DATA221		
ECTS Credits	7		
SWL (hr/sem)	175		
Module Level	2	**Semester of Delivery**	4
Administering Department	NW	**College**	
Module Leader	Noor Hayder	**e-mail**	noor.h.abdulameer@uotechnology.edu.iq
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	M.Sc.
Module Tutor	Noor Hayder	**e-mail**	noor.h.abdulameer@uotechnology.edu.iq
Peer Reviewer Name		**e-mail**	
Review Committee Approval		**Version Number**	

Relation With Other Modules
العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1. Understand Database basic concepts 2. Have the knowledge about database management system 3. Have the knowledge about relational database 4. Enables the students to design a relational database. 5. Enables the learners to analyze the database and discover errors (redundancy and anomalies) 6. Enables the learners to have the idea about how queries are executed in the database.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Enabling the student to know and understand the theoretical principles of database and analyze database. 2. Describe real world issues using ER model or Relational Model. 3. Learn database languages and have the knowledge about SQL and have ideas how to deal with database management system. 4. Understand how transactions are executed. 5. Enable the student to know and understand how the query executed in the system. 6. Gain and use Logical thinking. 7. The ability to communicate and work in a team.
Indicative Contents المحتويات الإرشادية	
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	- Encourage students' participation in the class especially through questions and answers. - Encourage student critical thinking skills.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	93	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	6.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	82	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO #3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	

	Report	1	10% (10)	13	LO #5, 8 and 10
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction, Database definition, the purpose of database, Database Management System Definition and Advantages, File system and DBMS comparison.
Week 2	Database Abstraction, Definitions in Database (Instance and schema)
Week 3	Entity Relationship Model (Entities Relationships and Attributes) Relational Model (Tables, Records, keys), ER and Relational model examples
Week 4	Mapping ER and Relational models, Cardinality, Weak Entity
Week 5	Tables joining (Cross join, Inner join, Outer join)
Week 6	Indexing: Primary index and Index Update
Week 7	Secondary Index, Hash index
Week 8	Database Administrator, Database Design process
Week 9	Database Anomaly (redundancy, insertion, deletion, update)
Week 10	Normalization and Frist Example, Normalization Second Example, *Quiz*
Week 11	Transaction, Transaction Concurrent Execution
Week 12	Fundamentals of Relational algebra (Query processing)
Week 13	System Architecture
Week 14	Database Security, Access Control, Encryption
Week 15	**Preparatory Week**
Week 16	**Final Exam**

Delivery Plan (Weekly Lab. Syllabus)
المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Introduction, Network Definition, IP address, Client Server
Week 2	Virtual Memory Settings, Network Card Setting, Software Installation
Week 3	Introduction to SQL, Data types
Week 4	Create Table, Insert (into all and some columns)
Week 5	Select statement with Where Condition
Week 6	Alter table (Add Column, update data type, delete a column and rename column)
Week 7	Delete a table and rename table, Update field(s), Delete record(s)

Week 8	Table Joining
Week 9	String Functions
Week 10	Math Functions
Week 11	View
Week 12	Introduction to PL/SQL
Week 13	Conditions with examples
Week 14	Loops with Examples
Week 15	Final Exam Group 1
Week 16	Final Exam Group 2

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Lectures created by Yasir. M. Ismaeel 2019.	Yes
Recommended Texts	Database Designs Concepts, 7th Edition, Abraham Silberschatz, Henry F. Korth, S. Sudarshan, 2020.	No
Websites	https://www.w3schools.com/sql/ Lecturers YouTube channel	

APPENDIX

GRADING SCHEME
مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note:

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.