T-104
2022

Course Specification

Course Title:	**Database Application Development**
Course Code:	**289 CIS-3**
Program:	**Information System**
Department:	**Computer**
College:	**Applied College**
Institution:	**Najran University**
Version:	4
Last Revision Date:	20/01/1445

Table of Contents:

A. General information about the course:

Course Identification				
1. Credit hours:	3(2+٢)			
2. Course type				
a.	University ☐	College ☐	Department☒	Track☒ Others☐
b.	Required ☒	Elective☐		
3. Level/year at which this course is offered:	**Level: 3ʳᵈ / Year:** 2			

4. Course general Description:

The course covers the main concept of database , Introduction to relational database theory and technology from an information science perspective. Focus on traditional transactional database theory, architecture and implementation in a user-centered systems context.
 Also it reviews topics such as conceptual data modeling, relational data model, relational query languages, relational database design and Gives them knowledge about Normalization and Normal Forms. It exposes the student to the fundamental concepts and techniques in database use and development as well provides a foundation for research in databases.

5. Pre-requirements for this course (if any):
  272CIS-3

6. Co- requirements for this course (if any):
Not Exist

7. Course Main Objective(s)

The aim of this course is to develop an understanding for how relational database systems are used to store and access information. To do this we shall examine the functions that relational databases provide, how information systems are built using relational databases, how SQL is used to specify and query databases, and how database systems can be designed.

1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	56	95%
2.	E-learning		5%
3.	Hybrid • Traditional classroom • E-learning		
4.	Distance learning		

2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	28
2.	Laboratory/Studio	28
3.	Field	
4.	Tutorial	
5.	Others (specify)	
	Total	56

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Define the main concepts of DBMS	K3=I	• Lectures, • Brainstorming, • Class • Discussion • Lab Reports	• Class work • home works assignments • Quizzes • Midterm Exams • Final Exam
1.2	Describe the principles and techniques of DBMS			
1.3	Identify the Relational Model for database			
2.0	Skills			
2.1	Analysis Structured Query	S2=M	•Lecture •Brainstorming •Small Group Work •Lab Demonstration •Project •Exam •Group Reports •Lab Reports	•home works assignments •Quizzes •Midterm Exams •Final Exam
2.2	Design Database applications			
...				
3.0	Values, autonomy, and responsibility			
3.1	Demonstrate projects and assignments in team work for DBMS applications	V1=I	• Small group work and presentations • projects	•Group reports and presentations
3.2				
...				

C. Course Content

No	List of Topics	Contact Hours
1.	Database concepts Lab: introduction SQL	**2** **2**
2.	The Relational Database Model Lab Design a Database and create required tables by SQL	6 6
3	Relational Query Languages ,Relational Algebra Lab: Design a Database and create relational database systems.	6 6
4	mid-term exam Lab:review	2 2
5	Database Design Using the E-R Model: Overview of the Design Process, The Entity-Relationship Model Lab: Design a Database using the E-R Model	4 4
6	Complex Attributes, Mapping Cardinalities, Primary Key Lab: Apply the constraints like Primary Key, Foreign key, NOT NULL to the tables.	2 2
7	Relational Database Design: Features of Good Relational Designs, Decomposition Using Functional Dependencies La: manipulating with Database	2 2
8	Normalization Theory and Normal Forms Lab: Perform the following operation for demonstrating the	2 2
9	**Review** **practical exam**	**2** **2**
	Total	56

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Assignment, Quizzes, Project	During Semester	10%
2.	Mid Monthly Exam	8	20%
3.	Practical exam	14	20%
4	Final exam	End of Semester	40%
	Total		100%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	DATABASE SYSTEM CONCEPTS, SEVENTH EDITION, Abraham Silberschatz, Yale University, Henry F. Korth,2020, ISBN 9780078022159 , 0078022150
Supportive References	
Electronic Materials	
Other Learning Materials	http://lms.nu.edu.sa/webapps/portal/frameset.jsp

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Computer Lab with 25 seats + A Lecture room with 30 seats per section
Technology equipment (projector, smart board, software)	25 PCs, Data show
Other equipment (depending on the nature of the specialty)	Oracle/SQL Server Lab

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Student	Direct: Questioners
Effectiveness of students assessment	Teacher Audit and review committees	Direct: CW & HW Exercises and short quizzes Projects Mid and final paper exams.
Quality of learning resources	Teachers and course description committees	Indirect: Benchmarking Self-evaluation External evaluation
The extent to which CLOs have been achieved	Teacher	Direct: Measuring the learning outcomes
Other		

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	