Course Specification
—(Bachelor)

Course Title: Database Management System

Course Code: 173 CIS-3

Program: Programming and Database

Department: Computer department

College: Applied college

Institution: Najran university

Version: TP -153- 2024

Last Revision Date: 2 OCT 2024

Table of Contents:

A. General information about the course:

1. Credit hours: 3(2+1)

2. Course type

A.	☐University	☐College	☒ Department	☐Track	☐Others
B.	☒ Required			☐Elective	

3. Level/year at which this course is offered: (1st-2nd level)

4. Course General Description:

The course reviews topics such as conceptual data modelling, 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. Advanced Access Programming Techniques

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

272 CIS-3 Introduction to database

6. Co-requisites for this course (if any):

None

7. Course Main Objective(s):

- Identify Basic Concepts and techniques relating to Databases Management Systems (DBMS).
- Use classical and improved techniques for data modeling.
- Identify the Relational Model for database.
- Complete database projects at the advanced level.
- Discover advanced options for the use of forms.
- Discover advanced options and tips for building and using queries.Enable students to communicate with others effectively to solve real computing Problems.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	4 hours per week	100%
2.	E-learning		
3.	Hybrid • Traditional classroom • E-learning		
4.	Distance learning		100%

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	30
2.	Laboratory/Studio	30
3.	Field	
4.	Tutorial	
5.	Others (specify)	
Total		60

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	K1=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	K2=I		
1.3	Identify the Relational Model for database	K3=I		

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
2.0	**Skills**			
2.1	**Analysis Structured Query**	S1=M	•Lecture •Brainstorming •Small Group Work •Lab Demonstration •Project •Exam •Group Reports •Lab Reports	•home works assignments •Quizzes •Midterm Exams •Final Exam
2.2	**Analysis Structured Query**	S1=M		
...				
3.0	**Values, autonomy, and responsibility**			
3.1	**Demonstrate projects and assignments in team work for DBMS applications**	C1=P	• Small group work and presentations projects	•Group reports and presentations
3.2				
...				

C. Course Content

No	List of Topics	Contact Hours
	An Introduction to Database Development	**2 (Theory)**
	The Relational Database Model **Lab: Understanding Access Tables** • **Design a Database and create required tables.**	**2 (Theory)** **2x2 (Lab)**
3	**Relational Query Languages , Relational Algebra** • **Lab: Design a Database and link to other databases.**	**2(Theory)** **2x2 (Lab)**
4	**Database Design Using the E-R Model: Overview of the Design Process, The Entity-Relationship Model**	**2(Theory)** **2x2 (Lab)**

	• Lab: Customizing and filtering on the Datasheet View, and how to split an Access database into front and back-end		
5	Complex Attributes, Mapping Cardinalities, Primary Key • Lab: Primary Keys and Indexes in Access.	2 (Theory) 1x2 (Lab)	
6	Relational Database Design: Features of Good Relational Designs, Decomposition Using Functional Dependencies • Lab create Relational Database	2(Theory) 2x2 (Lab)	
	Microsoft Access Programming Fundamentals Lab: Basics of Macros, Macros on Events; Auto Exec Convert Macros to VBA; VBA Editor and Property Windows	2(Theory) 2x2 (Lab)	
	Advanced Access Programming Techniques Lab: Accessing Data with VBA Lab: Advanced Data Access with VBA	4(Theory) 2x3 (Lab)	
7	• Working with Access Forms and Reports .	2(Theory) 2x3 (Lab)	
	Normalization Theory and Normal Forms • Lab: Creating advanced Forms	2(Theory) 2x2 (Lab)	
Total		60	

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Midterm exam	8	20%
2.	Homework's	From 3 to 14	10%
3.	Practical exam	15	20%
4	Final exam	16	50%

*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
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	**Computer Lab with 25 seats + A Lecture room with 30 seats per section**
Technology Resources (AV, data show, Smart Board, software, etc.)	**25 PCs, Data show, Microsoft Access**
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	**None**

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	