



# Course Specification

— (Bachelor)

**Course Title:** Database Lab

**Course Code:** IT323

**Program:** Information Technology

**Department:** Information Technology

**College:** College of Computer and Information

**Institution:** Majmaah University

**Version:** 3

**Last Revision Date:** 22 September 2022



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## A. General information about the course:

### 1. Course Identification

1. Credit hours: 2(0,4,0 )

#### 2. Course type

- A.  University  College  Department  Track  Others
- B.  Required  Elective

3. Level/year at which this course is offered: ( Level 6/3<sup>rd</sup> Year)

#### 4. Course general Description:

The course deals with the advanced topics of databases (i.e., Oracle). This course covers the following topics: Selection of DBMS, Architecture of the chosen DBMS, DB creation, Indexing, Integrity Constraints triggers and assertions, Security management, Installation issues, Performance Management, Tuning, DB Backups, and Recovery issues. Other features of the DBMS: Integration with web technologies, DB connectivity tools, Data distribution, fragmentation, and replication issues.

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

IS 231- Fundamentals of database

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

#### 7. Course Main Objective(s):

1. Identify the proper selection of a DBMS.
2. Understand the architecture of the chosen DBMS, DB creation, Indexing, Integrity Constraints triggers, and assertions.
3. Understand security management, Installation issues, performance management, Tuning, DB Backups, and Recovery issues.
4. Learn the features of the DBMS: Integration with web technologies, DB connectivity tools.
5. Identify data distribution, fragmentation, and replication issues

### 2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	100
2	E-learning		
3	Hybrid <ul style="list-style-type: none"> <li>• Traditional classroom</li> <li>• E-learning</li> </ul>		



No	Mode of Instruction	Contact Hours	Percentage
4	Distance learning		

### 3. Contact Hours (based on the academic semester)

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

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

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
<b>1.0</b>	<b>Knowledge and understanding</b>			
1.1	CLO4: Manage Web technologies	K1	Lab Delivery	Quiz2, Final Exam
1.2	CLO5: Manage Database Storage structures, Oracle Net Services and Server connectivity options	K1	Lab Delivery	Quiz2, Final Exam
...				
<b>2.0</b>	<b>Skills</b>			
2.1	CLO1: Knowledge of Oracle Database components and Architecture, Oracle instance and their subcomponents	S1	Lab Delivery	Quiz1, Midterm Exam
2.2	CLO2: Knowledge of User Management and Security Issues	S1	Lab Delivery	Assignment1, Midterm Exam, Final Exam





Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
2.3	CLO3: Implement Backup/Recovery options	S2	Lab Delivery	Quiz2, Assignment 2, Final Exam
<b>3.0</b>	<b>Values, autonomy, and responsibility</b>			
3.1				
3.2				
...				

### C. Course Content

No	List of Topics	Contact Hours
1.	Introduction	4
2.	Selection of DBMS, Architecture of the chosen DBMS	4
3.	DB creation, Indexing	4
4.	Integrity Constraints triggers and assertions.	4
5.	Security management, Installation issues	4
6	Performance Management	4
7	Tuning	4
8	Other features of the DBMS: Integration with web technologies	4
9	DB Backups, and Recovery issues	8
10	DB connectivity tools, Data distribution	8
11	Fragmentation, and replication issues	8
12	Management issues of the DBA activity	4
<b>Total</b>		<b>60</b>

### D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quizzes	Week 5,12	20%
2.	Midterm Exam	Week 7	20%
3.	Assignments	Week 5,9	20%
4.	Final Exam	Week 16	40%

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

### E. Learning Resources and Facilities

#### 1. References and Learning Resources





<b>Essential References</b>	"OCA: Oracle Database11g Administration I", By John Watson, McGraw Hill, 2008.
<b>Supportive References</b>	OCP: Oracle Database11g Administration II", By <b>Bob Bryla</b> , McGraw Hill, 2008. Oracle® Database Backup and Recovery User's Guide 11g.
<b>Electronic Materials</b>	<ul style="list-style-type: none"> <li>• Web References and downloads: http://lms.mu.edu.sa</li> <li>• https://apex.oracle.com/en/</li> <li>• Oracle.com</li> <li>• College Computer Laboratory for Practical Implementation</li> </ul>
<b>Other Learning Materials</b>	Oracle 11g

## 2. Required Facilities and equipment

Items	Resources
<b>facilities</b> (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Laboratory- Capacity for 20 students to be seated.
<b>Technology equipment</b> (projector, smart board, software)	PC - Smart board - Computers in the Lab room, Oracle 11g
<b>Other equipment</b> (depending on the nature of the specialty)	Internet Connection

## F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	CLO Survey
Effectiveness of Students assessment	Instructor	Quizzes, Midexam, Assignments, Final Exam, and Indirect Survey
Quality of learning resources	Convener, instructors, HOD	Regular follow ups
The extent to which CLOs have been achieved	Instructor, TA	Performance in the exam for a particular CLO(s)
Other		

**Assessors** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods** (Direct, Indirect)

## G. Specification Approval

<b>COUNCIL /COMMITTEE</b>	
<b>REFERENCE NO.</b>	





DATE

