اعتماد
NCAAA

T4
2020

Course Specifications

Course Title:	Database Programming
Course Code:	CP42
Program:	Diploma in Programming and Computer Sciences
Department:	Technology department
College:	Applied College
Institution:	Taif University

Table of Contents

A. Course Identification

1. Credit hours:	**4**

2. Course type

a.	University	☐	College	☐	Department	✓	Others	☐
b.		Required	✓		Elective	☐		

3. Level/year at which this course is offered: Second Year Fourth Level
4. Pre-requisites for this course (if any): CP33-Database Design
5. Co-requisites for this course (if any)**:** None

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	6	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other (Lab)**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	30
2	**Laboratory/Studio**	30
3	**Tutorial**	
4	**Others** (specify)	
	Total	60

B. Course Objectives and Learning Outcomes

1. Course Description This course presents an introduction to database programming, with the emphasis on Structured Query Language (SQL), and database implementation. .
2. Course Main Objective Students at the end of this course are able to : • Define simple database queries using SQL. • Build a SELECT statement to retrieve data from an Oracle Database table and use the WHERE and the ORDER BY clauses to the SELECT statement to filter query results (Manipulating, restricting, and sorting data). • Describe the different types of joins and their features • Use joins to retrieve data from multiple tables • Use self joins • Use the TO_CHAR, TO_NUMBER, and TO_DATE conversion functions

- Apply general functions and conditional expressions in a SELECT statement.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Understanding the DDL, DML and TCL and the SQL SELECT Statement	K1
1.2	Describe the different types of joins and their features.	K2
1.3	Understand how Retrieving Data Using Select, Restricting Data Using Where and sorting data using Order By	K1
2	**Skills :**	
2.1	Implement database using SQL queries.	S1
2.2	Using Conversion Functions and Conditional Expressions to restrict and sort data in SQL query.	S1
3	**Values:**	

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Oracle Application Express and the Structured Query Language (SQL)	6
2	Introduction to DDL: Using DDL Statements to Create and Manage Tables • Describe data types that are available for columns • Create a simple table • Create constraints for tables • Describe how schema objects work • Execute a basic SELECT statement	6
4	Using Data Manipulation Language (DML) and Transaction Control Language (TCL) • Use DML to manage data in tables • Use TCL to manage transactions	6
5	Retrieving Data Using Select, Restricting Data Using Where and sorting data using Order By: • Build a SELECT statement to retrieve data from an Oracle Database table • Use the WHERE clause to the SELECT statement to filter query results. • Use the Order By statement to sort query results.	6
6	Defining Table Joins • Describe the different types of joins and their features • Use joins to retrieve data from multiple tables • Use self joins	6
7	Using Single-Row Functions to Customize Output • Use some Types of Functions That Are Available in SQL	6

	• Character Functions • Date Functions • Use Character, Number, Date, and Analytical (PERCENTILE_CONT, STDDEV, LAG, LEAD) Functions in SELECT Statements • Numerical Functions • Date Functions		
8	Using Conversion Functions and Conditional Expressions • Use the TO_CHAR, TO_NUMBER, and TO_DATE conversion functions • Apply general functions and conditional expressions in a SELECT statement	6	
9	Managing Schema Objects • Manage constraints • Create and maintain indexes including invisible indexes and multiple indexes on the same columns • Drop columns and set column UNUSED • Perform flashback operations • Create and use external tables	6	
10	Review	6	
Total		60	

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Understanding the DDL, DML and TCL and the SQL SELECT Statement	K1	1.1
1.2	Describe the different types of joins and their features.	K2	1.2
1.3	Understand how Retrieving Data Using Select, Restricting Data Using Where and sorting data using Order By	K1	1.3
2.0	**Skills**		
2.1	Implement database using SQL queries.	Lectures Labs Project	Direct Assessment Quizzes / Homework Project / Exams Indirect Assessment Course Exit Survey
2.2	Using Conversion Functions and Conditional Expressions to restrict and sort data in SQL query.	Lectures Labs Project	Direct Assessment Quizzes / Homework Project / Exams

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
			Indirect Assessment Course Exit Survey
3.0	Values		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Mid-Term	6	20%
2	Home Works/ Attendance / Evaluation/project/quizzes	During semester	10%
3	Lab Exam	10	20%
5	Final Examination	12	50%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

✓ Providing a guide for each group of students, and distributing student lists electronically to faculty members.
✓ There is an academic advising guide that defines the role of the faculty member in the academic advising process.
✓ The program supervisor is available throughout the year to answer student inquiries.
✓ Availability of full information about the program and its members and ways to communicate with them.
✓ Use the Learning Management System (Black Board) to communicate with students
❖ Student Handbook, Deanship of Student Affairs.
  https://www.tu.edu.sa/Attachments/893d1c33-3156-44d7-b4b8-e203d4cca737_.pdf
❖ Student Handbook at Taif University.
  https://www.tu.edu.sa/Attachments/41dc8a24-22b7-4ae1-9b31-3608de8bcf8b_.pdf

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	**Title:** Study Guide For 1Z0-006: Oracle Certification Prep: Oracle Database Foundations **Author:** Matthew Morris **Publisher**: ODBPress, 2015
Essential References Materials	**OCA Oracle Database SQL Exam Guide (Exam 1Z0-071), 1st Edition 1259585492 · 9781259585494 By Steve O'Hearn, Published: August 2, 2017**
Electronic Materials	❖ Database Design, 2nd Edition, Adrienne Watt, et al.
Other Learning Materials	❖ Oracle Academy

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	❖ Classroom with 50 chairs ❖ Lab with 25 chairs
Technology Resources (AV, data show, Smart Board, software, etc.)	❖ Availability of a Data Show ❖ Oracle Express software ❖ Provides a smart board. ❖ Provide a whiteboard and colored whiteboard pens.
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	❖ Null

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching methods	▪ Students ▪ Course coordinator	❖ Questionnaire - indirect.
Learning Resources	▪ Students ▪ Course coordinator	❖ Statistical data - indirect.
The extent to which the learning outcomes of the course have been achieved	▪ Program Leaders ▪ Course coordinator	❖ Feedback from Faculty members -Direct.
Student calendar	Students	❖ Student opinion poll questionnaire about faculty members - indirect. ❖ Student survey questionnaire. - not directly.
Services	▪ Students ▪ faculty members	❖ Self-calendar for the program -Direct. ❖ Performance appraisal committee in the department -Direct. ❖ Review the program report -Direct.
Evaluation of the learning outcomes of the course	▪ Program Leaders ▪ Course coordinator	❖ Correction and grade examination by an independent committee for a sample of student work - Direct. ❖ Review and analysis of results - Direct.

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes,Quality oflearning resources, etc.)
Evaluators (Students,Faculty, Program Leaders,PeerReviewer, Others (specify)
Assessment Methods(Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	