Course Specification
(Bachelor)

Course Title:	Structured Query Language 1
Course Code:	291CIS-3
Program:	Programming and Database
Department:	Computer department
College:	Applied college
Institution:	Najran university
Version:	TP-153 2024
Last Revision Date:	3 October 2024

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A. General information about the course:

1. Course Identification

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: (3th)					
4. Course General Description:					
This course is about database SQL. It includes Retrieving Data, Restricting and Sorting Data, Using Single-Row Functions to Customize Output, Using Conversion Functions and Conditional Expressions, Reporting Aggregated Data Using Group Functions, Displaying Data from Multiple Tables, Using Subqueries to Solve Queries. This course is essential for obtaining the professional certificate Oracle Database SQL Certified Associate (Oracle Database SQL, Exam Number: 1Z0-071), and updated periodically according to the certificate exam.					
5. Pre-requirements for this course (if any)**:**					
173CIS-3					
6. Co-requisites for this course (if any)**:**					
None					
7. Course Main Objective(s):					
This course is intended to • Provide students with a good understanding of concepts and terminology related to the SQL. • Develop the programming skills and experience needed to write programs with SQL. 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		

No	Mode of Instruction	Contact Hours	Percentage
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		

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 PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Define the concepts related to the SQL	K1	Lecturers Labs	Exam Quiz Assignment
1.2	Describe the process of writing SQL programs	K2	Lecturers Labs	Exam Quiz Assignment
1.3	Describe the difference between all SQL commands	K3	Lecturers Labs	Exam Quiz Assignment
2.0	**Skills**			
2.1	Analysis (SQL) programs	S2	Lecturers Labs	Exam Quiz Assignment
2.2	Develop SQL programs.	S1	Lecturers Labs	Exam Presentation
...				

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
3.0	**Values, autonomy, and responsibility**			
3.1	Demonstrate projects and assignments in teamwork for designing and developing SQL programs	V3	Project Small group report	Presentation
3.2				
...				

C. Course Content

No	List of Topics	Contact Hours
1.	**Retrieving Data using the SQL SELECT Statement** • Using Column aliases • Using The SQL SELECT statement. • Using concatenation operator, literal character strings, alternative quote operator, and the DISTINCT keyword Using Arithmetic expressions and NULL values in the SELECT statement	6
2.	**Restricting and Sorting Data** • Restricting and Sorting Data • Applying Rules of precedence for operators in an expression • Limiting Rows Returned in a SQL Statement • Using Substitution Variables • Using the DEFINE and VERIFY commands. Sorting Data	7
3.	**Using Single-Row Functions to Customize Output** • Manipulating strings with character functions in SQL SELECT and WHERE clauses • Performing arithmetic with date data • Manipulating numbers with the ROUND, TRUNC and MOD functions Manipulating dates with the date function	8
4.	**Using Conversion Functions and Conditional Expressions** • Applying the NVL, NULLIF, and COALESCE functions to data • Understanding implicit and explicit data type conversion • Using the TO_CHAR, TO_NUMBER, and TO_DATE conversion functions Nesting multiple functions	9
5.	Mid Term Exam	1
6.	**Reporting Aggregated Data Using Group Functions**	8

	• Restricting Group Results • Creating Groups of Data Using Group Functions	
7.	**Displaying Data from Multiple Tables** • Using Self-joins • Using Various Types of Joins • Using Non equijoins • Using OUTER joins Understanding and Using Cartesian Products	8
8.	**Using Subqueries to Solve Queries** • Using Single Row Subqueries • Using Multiple Row Subqueries Update and delete rows using correlated subqueries	7
9.	**Training on Exam Number: 1Z0-071**	6
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 4 to 11	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	Steve O'Hean, Oracle Database SQL Exam Guide (Exam 1Z0-071), ISBN: 978-1-25-958461-9, 2017
Supportive References	Course at Udemy: Oracle Database 12c SQL Certified Associate 1Z0-071. https://www.udemy.com/course/oracle-database-12c-sql-certified-associate-1z0-071/
Electronic Materials	Learn and share SQL https://livesql.oracle.com/apex/f?p=590:1000:0
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classroom with a suitable size for students
Technology equipment (projector, smart board, software)	Whiteboard/projector
Other equipment (depending on the nature of the specialty)	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		

Assessors (Students, Faculty, Program Leaders, Peer Reviewers, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	