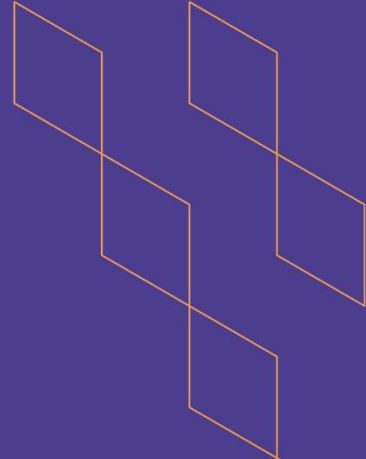




T-104
2022

Course Specification



Course Title: Database 2
Course Code: ITXXXX
Program: Information Technology
Department: Information Technology
College: Computer Science and Information Technology
Institution: Albaha University
Version: <i>Course Specification Version Number</i>
Last Revision Date: <i>Pick Revision Date.</i>



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A. General information about the course:

Course Identification	
1. Credit hours:	3 Hours
2. Course type	
a.	University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Track <input type="checkbox"/> Others <input type="checkbox"/>
b.	Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
3. Level/year at which this course is offered: 9 th Level / 3 rd Year	
4. Course general Description	
Lecture: The objective of this course is to study advanced topics in the domain of databases. Topics include Complex Data Types, Transactions, Integrity Constraints, SQL Data Types and Schemas, Index Definition in SQL, Accessing SQL from a Programming Language, Application Development, Functions and Procedures, and Triggers.	
Lab: The lab is designed to provide students with hands-on experiments. Additionally, students will learn how to use SQL to create Transactions and Indexes in SQL. How to access SQL from a Programming Language. Creating Functions, Procedures, and Triggers.	
5. Pre-requirements for this course (if any): Database I	
6. Co- requirements for this course (if any): None	
7. Course Main Objective(s)	
The main objective for this course is to teach students how to:	
<ul style="list-style-type: none"> • Describe the database complex datatypes. • Describe the general concept of database programming. • Use SQL transactions and indexes. • Use SQL from a programming language. • Write SQL functions, procedures, and triggers. • Communicate concepts and techniques in oral presentation. • Participate in groups collaboratively. 	

1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	44	100%
2.	E-learning		
3.	Hybrid <ul style="list-style-type: none"> • Traditional classroom • E-learning 		
4.	Distance learning		





2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	22
2.	Laboratory/Studio	22
3.	Field	
4.	Tutorial	
5.	Others (specify)	
	Total	44





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	Describe the database complex datatypes.	K1	Lectures	Midterm Exam
1.2	Describe the general concept of database programming.	K1	Lectures	Midterm Exam Final Exam
2.0	Skills			
2.1	Use SQL transactions and indexes.	S1	Lectures Assignments Lab	Homework Midterm Exam Lab Work Project Final Exam
2.2	Use SQL from a programming language.	S1	Lectures Assignments Lab	Homework Lab Work Project Final Exam
2.3	Write SQL functions, procedures, and triggers.	S1	Lectures Assignments Lab	Homework Lab Work Final Exam
2.4	Communicate concepts and techniques in oral presentation.	S6	Project	Presentation
3.0	Values, autonomy, and responsibility			
3.1	Participate in groups collaboratively.	V1	Team-based learning	Presentation

C. Course Content

No	List of Topics	Contact Hours
Lectures		
1.	Complex Data Types	2
2.	Transactions, Integrity Constraints, SQL Data Types and Schemas	4
3.	Index Definition in SQL	2
4.	Accessing SQL from a Programming Language	4
5.	Application Development	2
6.	Functions and Procedures	4



7.	Triggers	4
Total		22
Labs		
1.	Transactions in SQL.	4
2.	Indexes in SQL.	4
3.	Program General Concept in SQL.	2
4.	Accessing SQL from a Programming Language.	6
5.	Functions and Procedures.	4
6.	Triggers.	2
Total		22

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Homework	Every two Weeks	10%
2.	Lab Work	Every two Weeks	10%
3.	Midterm Exam	Week 6	20%
4.	Project	Week 10	20%
5.	Final Exam	Week 12	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

Essential References	<ol style="list-style-type: none"> 1. Database System Concepts Publisher: McGraw-Hill Author: Abraham Silberschatz, Henry Korth, S. Sudarshan Edition Number: 7 2. Expert Oracle PL/SQL By (author) Ron Hardman , By (author) Michael Mclaughlin. By ORACLE Corporation 3. Database Systems: The Complete Book Publisher: Pearson Prentice Hall Author: Hector Garcia-Molina, Jeffrey D. Ullman, Jennifer Widom Edition Number: 2 ISBN: 0131873253 4. Database Management Systems Publisher: McGraw-Hill Author: Raghu-Ramakrishnan, Johannes Gehrke Edition Number: 3 ISBN: 0072465638 5. "Database Management Systems," (3rd Ed.) by Raghu Ramakrishnan and Johannes Gehrke
Supportive References	<ul style="list-style-type: none"> • Information Systems Curriculum 2010 – http://www.acm.org/education/curricula/IS%202010%20ACM%20final.pdf • Computer Science Curriculum 2013 – http://cs2013.org • ACM (Association for Computer Machinery) Curricula Recommendations - http://www.acm.org/education/curricula-recommendations
Electronic Materials	<ul style="list-style-type: none"> • Access to the Saudi Digital Library (SDL). • Using the learning management system of the university – Rafid System (https://lms.bu.edu.sa/). • ACM (Association for Computer Machinery) web site - http://www.acm.org/
Other Learning Materials	None

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	A classroom or lecture hall with whiteboard for 25 students.
Technology equipment (projector, smart board, software)	<ul style="list-style-type: none"> • A digital image projection system with connection to desktop computer or laptop computer. • High-speed Internet connection. • An instructor computer station.
Other equipment (depending on the nature of the specialty)	A laboratory with: <ul style="list-style-type: none"> • Microsoft Access • Oracle Database Express Edition (11g Release 2)





F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students Peer Reviewer Program Leader	Indirect: Survey Direct: Peer Review Direct: Class Visits
Effectiveness of students assessment	Exams Evaluation Committee Students	Direct: Exam Review Indirect: Survey
Quality of learning resources	Faculty Students	Indirect: Survey Indirect: Survey
The extent to which CLOs have been achieved	Faculty	Direct: Exams
Other		

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

Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	

