



Ministry of Higher Education and Scientific Research
Lebanese French University – Erbil
College of Engineering and Computer Science
Department of Information Technology



Advance Database I

Third Stage – First Semester

Asst. Lect. Farah Qasim Ahmed

Academic Year: 2022-2023

Course Book



S. No.	Information	Details
1.	Course Name	Advanced Database I
2.	Course Code	
3.	Lecturer In-charge	Asst. Lect. Farah Qasim Ahmed
4.	College/Department	Engineering and Computer Science / Computer Engineering
5.	Contact Information	Email: frhalyousuf@lfu.edu.krd P.N.: 07508192428
6.	Time (in hours) per Week	Theory: 2 hours Practical: 2 hours
7.	Office Hours	
8.	Teacher's Academic Profile	https://staff.lfu.edu.krd/faculty/frhalyousuf
9.	Academic Title	Assistant Lecturer
10.	Keywords	<ul style="list-style-type: none">• Database• ER Diagram• Functional Dependency• Functions / Triggers
11.	Course Overview: This course introduces database design and creation. Emphasis is on Database users, E-R Diagram, data integrity, Keys and Functional Dependency. Upon completion, students should be able to design and implement normalized database structures by creating simple database tables, queries, reports, and forms	



12.	<p>Aims & Objective:</p> <ol style="list-style-type: none"> 1. To understand the basic concept of database system. 2. To study the physical and logical database designs, database modelling, relational, hierarchical, and network models. 3. To understand and use data manipulation language to query, update, and manage a database. 4. To develop an understanding of essential DBMS concepts such as: database security, integrity, concurrency. 5. To design and build a simple database system and demonstrate competence with the fundamental tasks involved with modelling, designing, and implementing a DBMS.
13.	<p>Course Requirement:</p> <ul style="list-style-type: none"> • Student should know basic concepts of DBMS • All students should attend lectures carefully. • All students should attend on Classroom Tests, Discussions, their Assignments, and Examinations such as Mid-term and Final.
14.	<p>Teaching and Learning Method:</p> <ul style="list-style-type: none"> • PPT Presentations • Practice Sessions using SQL Server • White Board / Moodle • Groups/ Team Work
15.	<p>Assessment Scheme:</p> <ul style="list-style-type: none"> ▪ 25 % Mid-term Examination ▪ 15 % Assignments and Quizzes ▪ 60 % Final Examination
16.	<p>Students Learning Outcome:</p> <p>At the end of this course the student will be able to:</p> <ul style="list-style-type: none"> ▪ Understand the basic concept of Database. ▪ Identification of Keys. ▪ Understands the concept of E-R Diagram. ▪ Understand the role of functional dependency. ▪ Decomposition of Database.
17.	<p>Course Reading List and References Database System Concepts, Seventh Edition (Silberschatz, A., Korth, H.F. and Sudarshan, S)</p>
18.	<p>Course Content</p>



Course Content

Week	Lecture Date	No. of Hours	Topics
1.	Week 1	4	Introduction to the course, Introduction to Database (DDL/DML)
2.	Week 2	4	Structure of Relational Databases, Database Schema (Reviews)
3.	Week 3	4	Keys, Diagrams, Relational Query Languages (Review)
4.	Week 4	4	Set operations

5.	Week 5	4	Aggregation Functions.
6.	Week 6	4	Nested Subqueries
7.	Week 7	4	Nested Subqueries
8.	Week 8	4	Join Expressions
9.	Week 9	4	Views
10.	Week 10	4	Transactions, Integrity Constrains
11.	Week 11	4	Authorization
12.	Week 12	4	Functions
13.	Week 13	4	Procedures
14.	Week 14	4	Triggers
15.	Week 15		Final Examination



19.	Examinations: Writing Queries, Correcting Queries, True/ False, Reasoning, Matching, Explanations.
20.	Course Policy: <ul style="list-style-type: none">• Attendance: No more than 2 absent with excuse allowed• Participation: Participation in any class activity or discussion will be evaluated as an extra point.• missing homework: 1 missed HW with excuse is allowed• missed exams: Missed exam will transfer degree to final exam, and if final exam missed will consider as Zero if no written excuse provided earlier.• food in class: Tea and coffee allowed during class for the first 10 minutes only.
21.	Note: <ul style="list-style-type: none">▪ NONE