

TISHK INTERNATIONAL UNIVERSITY
FACULTY OF APPLIED SCIENCE
Department of INFORMATION TECHNOLOGY,
2025-2026 Fall
Course Information for IT 215 DATABASE SYSTEMS I

Course Name:	DATABASE SYSTEMS I				
Code	Regular Semester	Theoretical	Practical	Credits	ECTS
IT 215	3	2	2	3	6
Name of Lecturer(s):	soma solaiman				
Teaching Assistant:	Hemn Mekael, Mohammad Kamal				
Course Language:	English				
Course Type:	Main				
Office Hours	Wednesday (9:00 AM - 10:50 AM)				
Contact Email:	soma.solaiman@tiu.edu.iq				
	Tel:07517173610				
Teacher's academic profile:	IT Engineering				
Course Objectives:	1- Equip students with foundational knowledge on the importance of database systems across various sectors and the methodologies used in effective database design. 2- Cultivate skills in employing tools such as Entity-Relationship Diagrams (ERD) and normalization techniques to design robust and efficient databases. 3- Provide comprehensive understanding and application of SQL, enabling students to efficiently manipulate and query databases. 4- Engage students in hands-on experiences with DBMS tools, fostering the ability to create, manage, and manipulate real-world databases. 5- Ensure students amalgamate theoretical concepts with practical skills through a conducting project, emphasizing the design and development of effective database systems.				
Course Description (Course overview):	This course introduces Databases. A database is an organized collection of data. The data are typically organized to model relevant aspects of reality in a way that supports processes requiring this information; For example, modeling the availability of rooms in hotels in a way that supports finding a hotel with vacancies. The main objectives of this course are: Design methodology for databases and verifying their design correctness, and using queries.				

COURSE CONTENT

Week	Hour	Date	Topic
1	2	05-09/10/2025	Introduction to Database and DBMS
2	2	12-16/10/2025	Data Models and Database Schema (Relational Model)
3	2	19-23/10/2025	Entity-Relationship Diagram
4	2	26-30/10/2025	Database Relation Keys
5	2	02-06/11/2025	Normalization and Normal Forms
6	2	09-13/11/2025	Structures Query Language (SQL), SQL Data Definition Language (DDL)
7	2	16-20/11/2025	Midterm Exam
8	2	23-27/11/2025	SQL Data Manipulation Language (DML) - Part 1
9	2	30/11-04/12/2025	SQL Data Manipulation Language (DML) - Part 2
10	2	07-11/12/2025	SQL Query
11	2	14-18/12/2025	Union and Joins
12	2	21-25/12/2025	Aggregate Functions and Grouping
13	2	28/12-01/01/2026	Conditions in SQL
14	2	04-08/01/2026	Project Presentation

15 2 11-15/01/2026 Final Exam

COURSE/STUDENT LEARNING OUTCOMES

- 1 Master the techniques of logical database creation, utilizing tools such as ERD and standard normalization methods.
- 2 Understand the importance of different types of keys in designing a relational database.
- 3 Derive a physical design for a database from its logical design using relevant tools learned.
- 4 Gain proficiency in developing simple and sophisticated SQL queries to retrieve information from databases via a specific DBMS.
- 5 Acquire expertise in crafting SQL queries for data manipulation (DML) within a chosen DBMS.

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES

(Blank : no contribution, I: Introduction, P: Proficient, A: Advanced)

Program Learning Outcomes

		Cont.
1	Analyze a problem, and identify the computing requirements appropriate to its solution	P
2	Design, implement, and evaluate computer-based systems, process, component, or program to meet desired needs	P
3	Function effectively in teams to accomplish a common goal	I
4	Identify professional, ethical, legal, security, social, and economic issues and responsibilities	
5	Analyze the local and global impact of computing on individuals, organizations, and society	
6	Use current techniques, skills, and tools necessary for computing practice	I
7	Apply current technical concepts and practices in the core information technologies of human computer interaction, information management, programming, networking, web systems and technologies	
8	Identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems	
9	Effectively integrate it-based solutions into the user environment	
10	Apply problem solving skills, core it concepts, best practices and standards to information technologies	P
11	Identify and evaluate organizational requirements and current and emerging technologies	P
12	Design and integrate it-based solutions into the organizational environment	

Prerequisites (Course Reading List and References):

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Student's obligation (Special Requirements):

Attending courses on time, submitting projects on time, and following all lectures.

Weekly Laboratory/Practice Plan:

Week	Hour	Date	Topics
1	2	05-09/10/2025	Introduction to MS Access and MySQL
2	2	12-16/10/2025	Creating Tables in Access
3	2	19-23/10/2025	Creating Forms in Access
4	2	26-30/10/2025	Creating Reports in Access
5	2	02-06/11/2025	Creating Queries in Access
6	2	09-13/11/2025	Creating Database and Tables in MySQL
7	2	16-20/11/2025	Midterm Exam
8	2	23-27/11/2025	SQL Data Manipulation Language
9	2	30/11-04/12/2025	SQL Query
10	2	07-11/12/2025	Union and Joins
11	2	14-18/12/2025	SQL Operations and Aggregate Functions
12	2	21-25/12/2025	Conditions in SQL

	13	2	28/12-01/01/2026	Project Presentation
	14	2	04-08/01/2026	Review
	15	2	11-15/01/2026	Final Exam
Course Book/Textbook:	Connolly, T., Begg, C. Database Systems: A Practical Approach to Design, Implementation, and Management. 6th Edition, Pearson Education International, 2015.			
Other Course Materials/References:	1. Databases Illuminated (3rd Edition), by Catherine M. Ricardo and Susan D. Urban. 2. Database System Concepts (6th Edition), by Abraham Silberschatz, Henry F. Korth and S. Sudarshan.			
Teaching Methods (Forms of Teaching):	Lectures, Practical sessions, Exercises, Presentation, Project, Assignments, , ,			
COURSE EVALUATION CRITERIA				
Method			Quantity	Percentage (%)
Quiz			3	5
Project			1	15
Midterm Exam			1	20
Laboratory			1	10
Final Exam			1	40
Total				100
Examinations: Essay Questions, Fill in the Blanks, Multiple Choices, Apply Questions, ,				
Extra Notes:				
ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD				
Activities		Quantity	Workload Hours for 1 quantity*	Total Workload
Theoretical Hours		15	2	30
Practical Hours		15	2	15
Final Exam		1	20	20
Quiz		3	10	30
Project		1	20	20
Midterm Exam		1	20	20
Laboratory		1	5	5
Total Workload				140
ECTS Credit (Total workload/25)				6

Peer review

Signature:

Name:

Lecturer

Signature:

Name:

Head of Department

Signature:

Name:

Dean