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 Zadeh
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:	Upon successful completion of this course, students will be able to: 1- Recognize the importance of database systems across various sectors and the methodologies used in effective database design. 2- Employ tools such as Entity-Relationship Diagrams (ERD) and normalization techniques to design robust and efficient databases. 3- Develop skills in manipulating and querying databases efficiently. 4- Practice hands-on experiences with DBMS tools, fostering the ability to create, manage, and manipulate real-world databases. 5- Combine theoretical concepts with practical skills through a conducting project, emphasizing the design and development of effective database systems.
Course Description (Course overview):	This course covers the fundamental knowledge of Database Systems. The main objectives of this course are to introduce design methodologies for databases, verify their design correctness, and use SQL queries. Through this course, students will learn to use SQL statements for Data Definition Language and Data Manipulation Language, with a focus on the SQL Select 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	Practice the techniques of logical database creation, utilizing tools such as ERD and standard normalization methods.
2	Recognize the importance of different types of keys in designing a relational database.
3	Design a database from its logical design using the relevant tools learned.
4	Develop simple and sophisticated SQL queries to retrieve information from databases via a specific DBMS.
5	Develop skills in crafting SQL queries for data manipulation (DML) within a chosen DBMS.

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES

(Blank : no contribution, I: Introduction, P: Profecient, 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):	-
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	16-20/11/2025	Midterm Exam
7	2	23-27/11/2025	SQL Data Manipulation Language
8	2	30/11-04/12/2025	SQL Query
9	2	07-11/12/2025	Union and Joins
10	2	14-18/12/2025	SQL Operations and Aggregate Functions
11	2	21-25/12/2025	Conditions in SQL
12	2	04-08/01/2026	Review

	13 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	13	2	26
Practical Hours	13	2	13
Final Exam	1	20	20
Quiz	3	10	30
Project	1	20	20
Midterm Exam	1	20	20
Laboratory	1	10	10
Total Workload			**139**
ECTS Credit (Total workload/25)			**6**

Peer review

Signature:	Signature:	Signature:
Name:	Name:	Name:
Lecturer	Head of Department	Dean