TISHK INTERNATIONAL UNIVERSITY
FACULTY OF APPLIED SCIENCE
Department of INFORMATION TECHNOLOGY,
2025-2026 Spring
Course Information for IT 216 DATABASE SYSTEMS II

Course Name:	DATABASE SYSTEMS II

Code	Regular Semester	Theoretical	Practical	Credits	ECTS
IT 216	4	2	2	3	6

Name of Lecturer(s):	soma solaiman
Teaching Assistant:	Hemn Mikael
Course Language:	English
Course Type:	Main
Office Hours	Thursday (9:00-11:00)
Contact Email:	soma.solaiman@tiu.edu.iq Tel:07517173610
Teacher's academic profile:	IT Engineering
Course Objectives:	This course covers the advanced structures in SQL for managing relational database systems. Through this course, students will be able to define and implement trigger statements and subprograms such as functions and stored procedures, in relational databases. Additionally, the concept of users and their privileges will be covered in this course, and students will be able to use SQL statements to create and manage users by granting or taking back privileges from each user or role.
Course Description (Course overview):	This course is the 2nd part of the Database Systems. Normalization - Denormalization, SQL, Aggregate Functions. Joining Tables, Indexing and Optimization.

COURSE CONTENT

Week	Hour	Date	Topic
1	2	31/01/2026-05/02/2026	MySQL Data Types and Basic Operations
2	2	07/02/2026-12/02/2026	MySQL constraints, Cascades
3	2	14/02/2026-19/02/2026	Views, DML operations Conditions
4	2	21/02/2026-26/02/2026	Built-in Functions in MySQL
5	2	28/02/2026-05/03/2026	User-defined Functions in MySQL - Part1
6	2	07/03/2026-12/03/2026	User-defined Functions in MySQL - Part2
7	2	28/03/2026-02/04/2026	Stored Procedures - Part1
8	2	04/04/2026-09/04/2026	Stored Procedures - Part2
9	2	11/04/2026-16/04/2026	Triggers - Log of Records
10	2	18/04/2026-23/04/2026	Triggers - Data Validation - Part1
11	2	25/04/2026-30/04/2026	Midterm Exam

12	2	02/05/2026-07/05/2026	Triggers - Data Validation - Part2
13	2	09/05/2026-14/05/2026	Users, Roles and Privileges
14	2	16/05/2026-21/05/2026	Final Project Presentation and Discussion
15	2	23/05/2026-28/05/2026	Final Project Presentation and Discussion
16	2	30/05/2026-04/06/2026	Revision
17	2	06/06/2026-11/06/2026	Final Exam

COURSE/STUDENT LEARNING OUTCOMES

1	Outline the purpose of using MySQL
2	Define the database and table's integrity constraints using MySQL
3	Create Views and implement conditional statements
4	Implement the users and authorization on views and tables
5	Develop subprograms (functions and stored procedures) and implement triggers

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	I
2	Design, implement, and evaluate computer-based systems, process, component, or program to meet desired needs	I
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	I
6	Use current techniques, skills, and tools necessary for computing practice	
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):	NA
Student's obligation (Special Requirements):	Attending Lectures and Lab regularly, Solving Assignments and submitting project on time.

Weekly Laboratory/Practice Plan:

Week	**Hour**	**Date**	**Topics**
1	2	31/01/2026-05/02/2026	MySQL Data Types and Basic Operations.
2	2	07/02/2026-12/02/2026	MySQL constraints, Cascades
3	2	14/02/2026-19/02/2026	Views, DML operations Conditions
4	2	21/02/2026-26/02/2026	Built-in Functions in MysQL

5	2	28/02/2026-05/03/2026	User-defined Functions in MySQL - Part1
6	2	07/03/2026-12/03/2026	User-defined Functions in MySQL - Part1
7	2	28/03/2026-02/04/2026	Stored Procedures - Part1
8	2	04/04/2026-09/04/2026	Stored Procedures - Part2
9	2	11/04/2026-16/04/2026	Triggers - Log of Records
10	2	18/04/2026-23/04/2026	Triggers - Data Validation - Part1
11	2	25/04/2026-30/04/2026	Midterm Exam
12	2	02/05/2026-07/05/2026	Triggers - Data Validation - Part2
13	2	09/05/2026-14/05/2026	Users, Roles and Privileges
14	2	16/05/2026-21/05/2026	Final Project Presentation and Discussion
15	2	23/05/2026-28/05/2026	Final Project Presentation and Discussion
16	2	30/05/2026-04/06/2026	Revision
17	2	06/06/2026-11/06/2026	Final Exam

Course Book/Textbook:	• Domdouzis, K. (2021). Concise Guide to Databases: A Practical Introduction. Springer Nature. • Pratt, P. J., & Last, M. Z. (2014). Concepts of database management. Cengage Learning. • Korth, H. F., & Silberschatz, A. (2010). Database system concepts 6th Edition. Chapter, 11, 510. • Tahaghoghi, S. M., & Williams, H. E. (2006). Learning MySQL: Get a Handle on Your Data. " O'Reilly Media, Inc.".
Other Course Materials/References:	Lecture notes
Teaching Methods (Forms of Teaching):	Lectures, Practical sessions, Presentation, Project, , ,

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: 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	17	2	34
Practical Hours	17	2	17
Final Exam	1	20	20
Quiz	3	15	45
Project	1	15	15
Midterm Exam	1	20	20
Laboratory	1	10	10
Total Workload			**161**
ECTS Credit (Total workload/25)			**6**

Peer review

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