TISHK INTERNATIONAL UNIVERSITY
FACULTY OF SCIENCE
DEPARTMENT OF INFORMATION TECHNOLOGY,
2020-2021 Fall
Course Information for IT 215 DATABASE SYSTEMS I

Course Name:	DATABASE SYSTEMS I

Code	Course type	Regular Semester	Theoretical	Practical	Credits	ECTS
IT 215	2	3	2	2	3	3.2

Name of Lecturer(s) - With Academic Title:	Wisam Abdulazeez Qader – Asst. Lecturer
Teaching Assistant(s):	
Course Language:	English
Course Type:	Non-area Elective
Office Hours	
Contact	Email: wisam.abdulaziz@tiu.edu.iq Tel:
Teacher's academic profile (Biography):	B.Sc. in Software Engineering and M.Sc. in Software Engineering at Salahaddin University – Hawler.
Course Objectives:	The main objectives of this course are: Design methodology for databases and verifying their relations, design correctness and using queries to get needed, calculated data from database. These include data independence, integrity, security, performance, database design principles, and database administration. Develop the logical design of the database using data modeling concepts such as entity-relationship diagrams.
Course Description (Course overview):	The primary goal of this class is to learn principles and practices of database management and database design. Over the course of the semester we will discuss the database relational database design, normalization, reports and other interfaces to database data, and documentation.

COURSE CONTENT

Week	Hour	Date	Topic
1			Introduction to Database and Database Management System (DBMS)
2			Difference between DBMS and File System
3			Levels of Abstraction, Data Models, Relational Databases and Database Schema
4			Keys, Database Design Process and Normalization
5			Relationships
6			SQL Queries (part 1)
7			SQL Queries (part 2)
8			Midterm Exam

9			Data Manipulation Language (DML)
10			SQL Operations and Aggregate Functions
11			Joins
12			SQL Operators
13			ER Diagram
14			Designing a database from the point of zero
15			Practical Project
16			Final
17			Final

COURSE/STUDENT LEARNING OUTCOMES

1 Design methodology for databases

2 Describe relationship in databases

3 Using constraints and integrities efficiently

4 Analyze database requirements and determine the entities involved in the system and their relationships

5 Building user-friendly interface for the database

MIN 100 WORDS

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES
(Blank: no contribution, I: Introduction, P: Proficient, A: Advanced)

	Program Learning Outcomes	**Cont.**
1	An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution	**I**
2	An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs	**I**
3	An ability to function effectively on teams to accomplish a common goal	**I**
4	An understanding of professional, ethical, legal, security, social, and economic issues and responsibilities	
5	An ability to analyze the local and global impact of computing on individuals, organizations, and society	
6	An ability to use current techniques, skills, and tools necessary for computing practice	**I**
7	An ability to use and apply current technical concepts and practices in the core information technologies of human computer interaction, information management, programming, networking, web systems and technologies	
8	An ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems	
9	An ability to effectively integrate IT-based solutions into the user environment	
10	An ability apply problem solving skills, core IT concepts, best practices and standards to information technologies	**P**

11	An ability to identify and evaluate organizational requirements and current and emerging technologies	**P**
12	An ability to select, design, integrate and administer IT-based solutions into the organizational environment	

Prerequisites (Course Reading List and References):	There is no prerequisites required for this course.
Student's obligation (Special Requirements):	Installing DB environment, Attending courses on time, Submitting projects on time. Studying for the course each week.

Weekly Laboratory/Practice Plan:

Week	Hour	Date	Topics
1	2		MS Office Access Interface
2	2		Types of attributes (columns) and Building relations (tables)
3	2		Keys and Relationships
4	2		Constraints
5	2		Forms and Reports
6	2		SQL Queries (part 1)
7	2		SQL Queries (part 2)
8	2		Midterm Exam
9	2		Data Manipulation Language (DML)
10	2		SQL Operations and Aggregate Functions
11	2		Joins
12	2		SQL Operators
13	2		Designing a database from the point of zero (part 1)
14	2		Designing a database from the point of zero (part 1)
15	2		Practical Project
16	2		Final Exam
17	2		Final Exam

Course Book/Textbook:	Database System Concepts, 6th edition, Abraham Silberschatz - Microsoft Access 2013 Step by Step, Joyce Cox, Joan Lambert
Other Course Materials/References:	
Teaching Methods (Forms of Teaching):	Lectures, Practical Sessions, Exercises, Presentation, Project, Assignments, Case Studies, Demonstrations

COURSE EVALUATION CRITERIA		
Method	**Quantity**	**Percentage (%)**
Quiz	2	5
Lab Work	10	1
Project	1	20
Midterm Exam(s)	1	20
Final Exam	1	40
Total		**100**

Examinations: (Please select at least 3 types of question below)

✔ Essay Questions-classical ✔ True-False ✔ Fill in the Blanks ✔ Multiple Choices ✔ Short Answers ✔ Matching

Extra Notes:

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD			
Activities	**Quantity**	**Duration (Hour)**	**Total Work Load**
Course Duration (Including the exam week: 16x Total course hours)	1	53	53
Hours for off-the-classroom study (Pre-study, practice)	1	16	16
Assignments Mid-terms	1	9	9
Final examination	1	2	2
Other			0
Total Workload			**80**
ECTS Credit (Total workload/25)			**3.2**

Peer review

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