MARMARA UNIVERSITY - Faculty of Engineering

Computer Engineering

SYLLABUS

2021-2022 Fall Semester | **Level of Course :** First Cycle

Course Code	Course Title	Type of Course	Weekly Course Hours T	A	L	Credits	ECTS Credits	Campus / Weekly Time & Classroom Schedule
CSE3055	**Database Systems**	Compulsory	3	0	2	7	7	Wed 10.30-12.30 Online, Fri 15.00-16.00 Online; Lab 1: Tue 16.00-18.00 Online; Lab 2: Thu 16.00-18.00 Online.
Prerequisite	CSE2025 Data Structures	**Prerequisite to**				CSE3044 Software Enginering		

Course Lecturer	Assoc.Prof.Dr. Mustafa AĞAOĞLU	**Office Hours Schedule**	Mon 09.00-10.00; Wed 09.00-10.00.
E-mail	agaoglum@gmail.com		
Phone		**Office / Room No**	M2-221
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Course Objectives		This couse aims to introduce the basic concepts of database design to the students. Besides teaching database theory in the lectures, MS SQL Server will be used in the lab. Students will develop a working database system as term project.
Recommended or Required Reading	1.	Modern Database Management; 11th Edition; J.A. Hoffer, R. Venkataraman, H. Topi; Prentice Hall; 2013.
	2.	Fundamentals of Database Systems; 6th Edition; R. Elmasri, S.B. Navathe; Addison Wesley; 2011.
Learning Outcomes	1.	Implement SQL: Data definition, constraints, schema, queries and operations in SQL.
	2.	Implement the relational database design and data modeling using entity-relationship (ER) model.
	3.	Understand database concepts, applications, data models, schemas and instances.
	4.	Understand the concepts of constraints and relational algebra operations.
	5.	Build, design and tune databases using database management system software package.

Planned Learning Activities and Teaching Methods	Presentation	**Mode of Delivery**	Face-to-face

WEEK	Date	Course Contents	Reference No - Section
Week 1	1- Homeworks are mostly due Monday. 2- Quizzes will probably on Thursday. 3- Quiz weeks are tentative.	Introduction & The Database Environment and Development Process	1-Ch.01
Week 2		Modeling Data in the Organization	1-Ch.02
Week 3		The Enhanced E-R Model + HW#1	1-Ch.03
Week 4		Logical Database Design and the Relational Model + HW#2 + Quiz#1	1-Ch.04
Week 5		Introduction to SQL + HW#3	1-Ch.06
Week 6		SQL Statements + HW#4 + Quiz#2	1-Ch.06
Week 7		Advanced SQL + HW#5	1-Ch.07
Week 8		Midterm Exam	
Week 9		Physical Database Implementation	
Week 10		Functional Dependency and Normalization + HW#6	1-Ch.04
Week 11		Physical Database Design and Performance & Index + HW#7 + Quiz#3	1-Ch.05
Week 12		Stored Procedures and Triggers + HW#8	
Week 13		Database Application Development + HW#9	1-Ch.08
Week 14		Data Warehousing + HW#10 + Quiz#4	1-Ch.09
Week 15		Data and Database Administration	1-Ch.11
Week 16		Study week	

Week 17		Final Exam				
Assessment Methods and Criteria (TENTATIVE)		**Assessment Method (Tentative)**	**Quantity**	**Date**	**Weight in Total (%)**	**Weight in Semester Evaluation (%)**
		Final Exam	1		40,00	0
		Semester Evaluation			60,00	100
		Midterm Exam	1		18,00	30,0
		Quiz	4		8,00	13,3
		Pop-quiz	14		10,00	16,7
		Project - Step 1: Proposal	1		1,00	1,7
		Project - Step 2: Req. Ana. & EER	1		2,00	3,3
		Project - Step 3: Database Imp.	1		8,00	13,3
		Project - Step 4: Web Interface	1		3,00	5,0
		Homework	10		10,00	16,7

*** *ECTS Credit Calculation* ***

Language of Instruction: English

Evaluation Tool	**Hour/Quantity**	**Student Workload Hours**		**Evaluation Tool**	**Quantity**	**Student Workload Hours**
Theoretical hours	3,0	42,0		Quiz & preparation	4	12,0
Applied hours	0,0	0,0		Homework	10	10,0
Laboratory	2,0	28,0		Project	4	35,0
Pre-class self study	0,2	2,8		Research and presentation	0	
Post-class self study	0,5	7,0		Seminar	0	
Post-application self study	0,2	2,8		Field study	0	
Exam preparation & Midterm	1	15,0		Atelier	0	
Exam preparation & Final	1	20,0		Other	0	
				GENERAL TOTAL :	25,9	174,6

Recommended ECTS Credit (Total Hours / 25) : 7