MARMARA UNIVERSITY - Faculty of Engineering

Computer Science Engineering

SYLLABUS

2020-2021 Fall Semester

Course Code	Course Name	Course Type	Weekly Course Hours T	A	L	Credits	ECTS	Campus / Weekly Time & Classroom Schedule
CSE2023	Discrete Computational Structures	Compulsory	3	0	0	3	6	Wednesday 12:00-13:50 Thursday 13:00-13:50 Zoom Meeting ID: 939 0882 9206 Passcode: 654321
Prerequisite		**Prerequisite to**				CSE364		

Course Lecturer	Assoc. Prof.Dr. Ali Fuat ALKAYA	**Office Hours Schedule**	Wednesday 14:00-15:30
E-mail	falkaya@marmara.edu.tr		
Phone	(0216) 777 3532	**Office / Room No**	Zoom Meeting ID: 754 2298 5847, Passcode: 1357
Teaching Assistant(s)	Muhammed Avcil	**Phone**	(0216) 777 3545
E-mail	muhammed.avcil@marmara.edu.tr	**Office / Room No**	MB342

Course Objectives

Aim of the course is to provide necessary backgroung to the students to think logically and mathematically. In order to achieve this the focus is on mathematical reasoning and the different problem solving approaches. The course covers the following fundemental topics; mathematical reasoning, proof techniques, combinatorial analysis, discrete structures, algorithmic thinking, and applications and modeling.

Textbooks and/or References

1. Discrete Mathematics and Its Applications 7th edition, Kenneth H. Rosen, McGraw Hill
2. http://mimoza.marmara.edu.tr/~falkaya/cse223
3. www.canvas.net

WEEK	Date	TOPICS	Reference No - Section
Week 1	12.10.2020	Introduction to the Course and Logic	1.1-1.3
Week 2	19.10.2020	Quantifiers and Methods of Proofs	1.4-1.5
Week 3	26.10.2020	Methods of Proofs	1.6-1.8
Week 4	2.11.2020	Sets	2.1-2.2
Week 5	9.11.2020	Functions and Their Properties	2.3-2.5
Week 6	16.11.2020	Number Theory	4.1-4.5
Week 7	23.11.2020	Induction and Recursion	5.1,5.3,5.4
Week 8	7.12.2020	Counting Techniques	6.1-6.3
Week 9	14.12.2020	Recurrence Relations	8.1,8.2
Week 10	21.12.2020	Relations	9.1,9.3-9.5
Week 11	28.12.2020	Graph Theory	10.1-10.3
Week 12	4.01.2021	Edge Traversal and Vertex Traversal Problems	10.4-10.6
Week 13	11.01.2021	Trees	11.1-11.5
Week 14	18.01.2021	Algorithm Complexity	3.1-3.3

Evaluation Tools

Evaluation Tool	Quantity	Date	Weight in Total (%)	Weight in Semester Evaluation (%)
Final Exam	1		40	0
Final Make-up Exam (if exists)	1	--	40	0
Semester Evaluation			60	100
Midterm	1		30	50,0
Quizzes + Attendance	14	--	10	16,7
Project(s)	0	--	0	0,0
Homeworks	7	Biweekly	20	33,3
Laboratory	0	--	0	0,0
Other	0	--	0	0,0

*** *Lifelong Learning Programme (LLP)* *** | Language of Instruction: English

Evaluation Tool	Quantity	Student Workload Hours	Evaluation Tool	Quantity	Student Workload Hours
Theoretical Hours	3	42,0	Applied Hours	2	0,0
Midterm	1	6,0	Final	1	6,0
Quiz	0	0,0	Project	0	0,0
Laboratory	0	0,0	Homework	7	70,0
Atelier	0	0,0	Seminar	0	0,0
Field Study	0	0,0	Presentation	0	0,0
Other	0	0,0	Self Study	1	14,0
			TOTAL :	15	138,0

Recommended ECTS Credit (Total Hours / 25) : 6