

Course title	Code	semester	T+U	credit	ECTS
Algorithm Analysis and Design		5	3+0	3	4
Prerequisite Courses	None				
Language of the Course	English				
Type of Course	Compulsory				
Course Coordinator					
Instructors					
Course Assistants					
The aim of lesson	The aim of this course is to enable students to learn programming languages using modern design methods. designing, your analysis to be done And designed your languages modern to have knowledge and skills about implementation using development tools.				
Course Learning Outcomes	<p>At the end of this course, the student;</p> <ol style="list-style-type: none"> 1. Adequate knowledge of algorithm analysis; Gain sufficient knowledge about NP theory and ability to analyze sequential and recursive algorithms with theoretical and experimental methods. 2. Gain sufficient knowledge about algorithm design techniques and algorithmic solutions to basic problems. 3. Ability to use design techniques to model and solve problems; Gains the ability to adapt basic algorithms to complex problems. 4. Gains the ability to use the necessary tools for algorithm design and development. 				
Course Content	algorithm design concepts And algorithm complexity analysis information, recursive equations unravel And to prove, level And growth to the speed formal And heuristic introduction, brute force approach, divide and conquer approach, dynamic programming, greedy approach, graph algorithms and NP theory.				
Weeks	Topics				
one	Theoretical Background				
2	Efficiency, Analysis and Growth Rate				
3	recursion				
4	Divide and Rule				
5	Sorting Algorithms				
6	Search Algorithms				
7	Search Algorithms				
8	Graph Algorithms				
9	Graph Algorithms II				
10	Network Stream Algorithms				
11th	Dynamic Programming I				
12	Dynamic Programming II				
13	Greedy Approach				
14	NP Theory				
General Competencies					
Designs algorithms that can be used to solve general engineering problems encountered in daily life and examines their efficiency.					
resources					
Thomas, HC & Charles, EL & Ronald, L. & Stein, C., (2001). <i>Introduction to Algorithms</i> , MIT Press, Second Edition.					
Evaluation System					
The dates, days and hours of the Midterm Exam, Quiz, Final Exam and Evaluations will be announced later, according to the decision of the Faculty Administrative Board.					

WITH PROGRAM LEARNING OUTCOMES											
COURSE LEARNING OUTCOMES RELATIONSHIP											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
LO1	5	5	5	5	4	4	one	2	2	one	one
LO2	5	5	4	4	4	3	one	2	2	one	one
LO3	5	5	5	4	4	4	one	2	2	one	one
LO4	5	4	5	4	5	4	one	2	2	one	one
LO: Learning Outcomes OP: Program Outcomes											
Contribution	1 Very Low		2 Low		3 Medium		4 High		5 Very High		

Relation of Program Outcomes and Related Course

Lesson	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
Algorithm Analysis	5	5	5	4	4	4	one	2	2	one	one