

ANALYSIS OF ALGORITHMS

1	Course Title:	ANALYSIS OF ALGORITHMS	
2	Course Code:	BMB3003	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	3	
6	Semester:	5	
7	ECTS Credits Allocated:	6.00	
8	Theoretical (hour/week):	4.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:		
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. PINAR KIRCI	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	Bilgisayar Müh. Bölüm Binası, 1. kat, oda 3 Tel.:+90 (224) 275 52 63 email: metinbilgin at uludag.edu.tr	
17	Website:		
18	Objective of the Course:	The necessary information is taught to recommend mathematical models to these derste computation problems. Algorithms, paradigms and data structures for solving computational problems are described.	
19	Contribution of the Course to Professional Development:	Engineering Science: 70%; Engineering Design: 30%	
20	Learning Outcomes:		
		1	Learn the concept of complexity and related notations
		2	Learn sorting and tree algorithms
		3	Learn divide conquest algorithms
		4	Learn graph algorithms
		5	Learn P,NP concepts and approximate algorithm solving
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		10	
21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	
1	Introduction		
2	Asymptotic Complexity		
3	Brute Force Algorithms		
4	Divide and Conquer		
5	Recurrence Equations		

6	Sorting Algorithms	
7	Sorting Algorithms	
8	Dynamic Programming	
9	Dynamic Programming	
10	Greedy Algoritihm	
11	Graphs	
12	Searching Algoritihms	
13	Data Compression	
14	NP Theory	

22	Textbooks, References and/or Other Materials:	Cormen, Thomas, Charles Leiserson, Ronald Rivest, and Clifford Stein. Introduction to Algorithms. 3rd ed. MIT Press, 2009. ISBN: 9780262033848. Miller, Bradley, and David Ranum. Problem Solving with Algorithms and Data Structures Using Python. 2nd ed. Franklin, Beedle & Associates, 2011. ISBN: 9781590282571.
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23	Assesment
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TERM LEARNING ACTIVITIES		NUMBE R	WEIGHT		
Midterm Exam		1	25.00		
Quiz		0	0.00		
Activites		Number		Duration (hour)	Total Work Load (hour)
Total					
Theoretical	4	100.00	4.00	56.00	
Practicals/Labs	0	0.00	0.00	0.00	
Self study and preperation	14	5.00	70.00		
Contribution of Final Exam to Success Grade		60.00			
Homeworks	2	24.00	48.00		
Total Projects	0	0.00	0.00	0.00	
Field Studies	0	0.00	0.00	0.00	
Midterm exams	1	2.00	2.00		
24 TECTS / WORK LOAD TABLE					
Others	0	0.00	0.00	0.00	
Final Exams	1	2.00	2.00		
Total Work Load				180.00	
Total work load/ 30 hr				5.93	
ECTS Credit of the Course				6.00	

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	4	4	4	4	4	4	2	2	2	2	2	2	0	0	0	0
ÖK2	4	4	4	4	4	4	2	2	2	2	2	2	0	0	0	0
ÖK3	4	4	4	4	4	4	2	2	2	2	2	2	0	0	0	0
ÖK4	4	4	4	4	4	4	2	2	2	2	2	2	0	0	0	0

ÖK5	4	4	4	4	4	4	2	2	2	2	2	2	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contrib ution Level:	1 very low		2 low		3 Medium		4 High		5 Very High							