Course Name : Graph Theory and Algorithms								
Course Code	Course Type	Regular Semester	Lecture (hours/wee k)	Seminar (hours/wee k)	Lab. (hours/wee k)	Credits	ECTS	
CMP 226	D	Spring	2.00	0.00	2.00	3.00	6.00	
	Lecturer Edlir Spaho, MSc							
	Assistant							
Course language		Albanian						
Course level		Bachelor						
Description								
Objectives								
Co	ore Concepts	e Concepts						
Course Outlin	ne							
Week	Торіс							
1	The concept of graph and some accompanying notions							
2	Eulerian cycles							
3	Cycle and co-cycle spaces							
4	Stacks, their main properties							
5	Queues, their main properties							
6	Trees, edges with minimal weight							
7	Vertex Colorir	Vertex Coloring						
8	Semi Final Exam							
9	Matching							
10	Hamiltonian cycles							
11	Binary Trees							
12	Binary Stacks							
13	Balanced Trees							
14	Splay Trees							
15	General Review							

Final Exam

Prerequisites		The student must attend the course at a minimum rate of 75%.		
Literature		 Algoritme dhe struktura e të dhënave, Avni Rexhepi 2014 Cikël leksionesh Teori Grafesh, E. Cuni 2010 		
References		• J. A. Bondy and U. S. R. Murty: Graph theory with applications		
Course Outcome				
1	get acquainted with the basic elements of combinatorics - permutations, variations, combinations, partitions, compositions.			
2	get acquainted with the meaning of graph, types of graphs and apply this knowledge in solving various problems and apply them to programming.			
3		to get acquainted with the concept of roads and circuits and connectivity, in order to apply them to phenomena and problems in the field of computer science.		
4	get acquainted with the Euler and Hamiltonian Graph and their application in programming.			
5	get acquainted with the problem of the shortest path and its application in programming.			
6	get acquainted with isomorphic graphs.			
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Course Evaluation

In-term Studies		Quantity	Percentage
Midterms		1	30
Quizzes		0	0
Projects		1	30
Term Projects		0	0
Laboratory		0	0
Class Participation		0	0
Total in-term evaluation percent			60
Final exam percent			40
Total			100

ECTS Workload (Based on Student Workload)

Activities	Quantity	Duration (hours)	Total (hours)	
Course duration (Including the exam week: 16x Total hours of the course)	16	4	64	
Study hours outside the classroom (Preparation, Practice, etc.)	14	3	42	
Duties	1	15	15	
Midterms	1	10	10	
Final Exam	1	15	15	
Other	0	0	0	
Total Work Load				
Total Work Load / 25 (hours)				
ECTS				