		Mathematics		C !	1 - 1:			
Course Code	Course Type	Regular Semester	Lecture (hours/we ek)	Seminar (hours/we ek)	Lab. (hours/we ek)	Credits	ECTS	
CMP 130	В	Spring	3.00	1.00	0.00	3.50	5.00	
	Lecturer Anjeza Pasku, PhD							
	Assistant							
Course language		Albanian						
Course level		Bachelor						
Description								
	Objectives							
Co	Core Concepts							
ourse Outlir	ne							
Week		Торіс						
1	Elements of mathematical logics: Propositional logics and connectives. Propositional Equivalences. Applications of propositional logics.							
2	Predicates and quantifiers. Rules of Interference. Proof methods and strategy.							
3	Sets. Sequences and recurrence relations.							
4	Algorithms, the growth of funcitons							
5	Number Theory: Divisibility and modular arithmetic. Prime numbers, greatest common divisor and least common multiple.The Euclidian Algorithm and Bezout identity.							
6	Solving congruences. Applications of congruences.							
7	Mathematical	Mathematical induction, strong induction and well-ordering.						
8	Midterm exam							
9	Recursive def	Recursive definitions and structural induction. Recursive algorithms.						
10	Relations and their properties. Representing relations. Equivalence relations.							
11	Partial orderings, Hasse diagrams, lexicographic order, topological sorting							
12	Counting, the basic of counting. The Pigeonhole principle. Permutations and combinations.							
13	Binomial coefficients and identities. Generalized permutations and combinations							
14	Advanced counting techniques. Applications of recurrence relations. Solving linear recurrence relations.							
15	Divide and conquer algorithms and recurrence relations							

Final Exam

	Prerequisites	The student must attend the course at a minimum rate of 75%.			
	Literature	Lecture Notes			
References		Discrete Mathematics and its Applications- Kenneth Rosen, 7-th Edition Discrete Mathematics-Richard Johsonbaugh, 6-th Edition			
Course Outcome					
1	Theoretical and practical training, sufficient for a successful and skillful profession of basic scientific knowledge in student practice.				
2	Skills and professional training in description, formulation, modeling and problem analysis, with consideration for appropriate analytical solutions in all necessary situations.				
3	Required techincal, academic and practical knowledge and confidence design and evaluation of mechanical systems with consideration for productivity, feasibility, and social and environmental aspects.				
4	Ability to design and run experiments, gather data, analyze and draw conclusions				

Course Evaluation

In-term Studies	Quantity	Percentage
Midterms	1	35
Quizzes	0	0
Projects	2	30
Term Projects	0	0
Laboratory	0	0
Class Participation	0	0
Total in-term evaluation percent		
Final exam percent		
Total		

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	2	0	0	
Midterms	1	9	9	
Final Exam	1	10	10	
Other	0	0	0	
Total Work Load				
Total Work Load / 25 (hours)				
ECTS				