

Course Name : Security in Computer Networks							
Course Code	Course Type	Regular Semester	Lecture (hours/week)	Seminar (hours/week)	Lab. (hours/week)	Credits	ECTS
CMP 409	B	Fall	3.00	1.00	0.00	3.50	6.00
Lecturer		Artur Koci, PhD					
Assistant		Erjola Osmani, Msc					
Course language		Albanian					
Course level		Master					
Description		Techniques for achieving security in multi-user computer systems and distributed computer systems: Basics of cryptography, network security applications and system security, conventional encryption and message confidentiality, public-key cryptography and message authentication, authentication applications. Electronic mail, IP, web, and network management security. Intruders, viruses, and firewalls.					
Objectives		The course will provide an introduction to applied cryptography, including plaintext, ciphertext, symmetric cryptography, asymmetric cryptography, and digital signatures.					
Core Concepts		Encryption algorithms, cryptography, hash functions					
Course Outline							
Week	Topic						
1	Introduction and Computer Security Concepts						
2	Cryptography - Symmetric Encryption and Message Confidentiality						
3	Public-Key Cryptography and Message Authentication						
4	Part II: Network Security Applications - Key Distribution and User Authentication						
5	Network Access Control and Cloud Security						
6	Transport-Level Security						
7	Wireless Network Security						
8	Midterm Exam						
9	Electronic Mail Security						
10	IP Security						
11	Part III: System Security - Malicious Software						
12	Intruders						
13	Firewalls						
14	Network Management Security						
15	Legal and Ethical Issues						
16	Final Exam						

Prerequisites	The student must attend the course at a minimum rate of 75%.			
Literature	• Core Textbook: William Stallings, Network Security Essentials: Applications and Standards, 6th Edition. Pearson. 2017. ISBN-13: 9780134527338.			
References	• Charlie Kaufman, Radia Perlman, and Mike Speciner, Network Security: PRIVATE Communication in a PUBLIC World, Prentice Hall, ISBN 0-13-046019-2			
Course Evaluation				
In-term Studies		Quantity	Percentage	
Midterms		1	25	
Quizzes		0	0	
Projects		1	20	
Term Projects		0	0	
Laboratory		0	0	
Class Participation		1	10	
Total in-term evaluation percent			55	
Final exam percent			45	
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	2	28
Duties		1	20	20
Midterms		1	10	10
Final Exam		1	28	28
Other		0	0	0
Total Work Load				150
Total Work Load / 25 (hours)				6.00
ECTS				6.00