

SECURITY IN COMPUTER NETWORKS

1	Course Title:	SECURITY IN COMPUTER NETWORKS	
2	Course Code:	BM5119	
3	Type of Course:	Optional	
4	Level of Course:	Second Cycle	
5	Year of Study:	1	
6	Semester:	1	
7	ECTS Credits Allocated:	6.00	
8	Theoretical (hour/week):	3.00	
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:	Dr. Öğr. Üyesi CENGİZ TOĞAY	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	Tel: 02242942796 ctogay@uludag.edu.tr	
17	Website:		
18	Objective of the Course:	Cryptographic models, methods and protocols. Symmetrical and asymmetric encryption, self-extracting, signing, security certificates. Cryptanalysis. Acquisition and access control. Communication security. Threats and attacks. Intrusion detection methods. e-Commerce security. e-Government applications and security. Privacy, laws and standards.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	Adequate knowledge about confidentiality, integrity and authentication.
		2	Adequate knowledge of single and dual-key encryption systems and authentication mechanisms.
		3	Adequate knowledge about security platforms, tools and applications such as Kerberos, PGP, IPSEC.
		4	Adequate knowledge of network security issues, attacks and solutions.
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21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	
1	Introduction to computer networks		

2	Fundamental network protocols(TCP/IP, ARP, DNS vb.)	
3	Fundamental network protocols(TCP/IP, ARP, DNS vb.)	
4	Fundamental network protocols(TCP/IP, ARP, DNS vb.)	
5	Encryption algorithms(AES, DES, vb)	
6	Symmetric encryption algorithms(AES, DES, vb)	
7	Symmetric encryption algorithms(AES, DES, vb)	
8	Asymmetric encryption algorithms	
9	Asymmetric encryption algorithms	
10	Key exchange	
11	Wireless network security	
12	Wireless network security	
13	Firewall, IDS, IP	
14	Firewall, IDS, IP	
22	Textbooks, References and/or Other Materials:	Cryptography and Network Security Principles and Practices, 4th edition W. Stallings, ISBN 0-13-187316-4
23	Assesment	
TERM LEARNING ACTIVITIES		NUMBER
		WEIGHT
Midterm Exam	1	40.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	60.00
Total	2	100.00
Contribution of Term (Year) Learning Activities to Success Grade		40.00
Contribution of Final Exam to Success Grade		60.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		
24	ECTS / WORK LOAD TABLE	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	0	0.00	0.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	60.00	60.00
Others	0	0.00	0.00
Final Exams	1	80.00	80.00
Total Work Load			182.00
Total work load/ 30 hr			6.07
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	3	5	2	4	4	0	0	0	0	0	0	0	0	0	0
ÖK2	5	3	2	2	5	4	0	0	0	0	0	0	0	0	0	0
ÖK3	3	2	3	4	3	4	0	0	0	0	0	0	0	0	0	0
ÖK4	2	4	4	5	3	5	0	0	0	0	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	1 very low		2 low			3 Medium			4 High			5 Very High				