

Network Security					
Course Code	Student Workload	Credits (according to ECTS)	Semester	Frequency	Duration
CIF61028	90 hours	4.5	Sem. 5	each odd-semester	16 meetings
1	Types of courses <i>elective</i>	contact hours 63 hours	independent study 27 hours	class size 40 students	
2	Prerequisites for participation Completed Information Security.				
3	Learning outcomes Students are able to explain network security fundamental concept. Students are able to explain how network protocols work. Students are able to explain network protocols vulnerability: App & Transport Layer. Students are able to explain network protocols vulnerability: Network and Link Layer. Students are able to demonstrate the ability to implement App & Transport Layer security. Students are able to demonstrate the ability to implement Network Layer security. Students are able to demonstrate the ability to implement Link Layer security. Students are able to demonstrate the ability to implement SSL/TLS mechanism. Students are able to explain Firewall fundamentals. Students are able to demonstrate the ability to implement Firewall. Students are able to demonstrate the ability to implement Rule-based IDS/IPS. Students are able to demonstrate the ability to implement Anomaly-based IDS/IPS. Students are able to explain Virtual Private Network concept. Students are able to demonstrate the ability to implement cryptography for network security.				
4	Subject aims IF-PLO-3 Graduates are able to develop professional careers in the field of computer science based on quality aspects, data-based decision making, be responsible, and make continuous improvements. IF-PLO-7 Mastering the theoretical concept and principles of computer science, especially in the aspect of algorithms, programming, intelligent systems, information management, parallel and distributed computing, information security, human-computer interaction, software engineering, and fundamentals of computer systems and networks. IF-PLO-11				

	Graduates are able to plan, develop, manage, and analyze the computer network-based system and the services running on top of them by considering the network security aspects.
5	Teaching methods lectures, case study, class discussion, presentation
6	Assessment methods assignment, mid-term examination, end-term examination, project evaluation, practical-skill assessment
7	This module is used in the following degree programs as well
8	Responsibility for module
9	Other information Kizza, Joseph Migga. "Guide to Computer Network Security." (2015). Douligeris, Christos, and Dimitrios N. Serpanos. Network security: current status and future directions. John Wiley & Sons, 2007.