Institute of Cyber-physical Systems						
Name of the subject:	Code of the subject:	Credits:	Weekly hours:			
				lec	sem	lab
Introduction to Next Generation firewalls	NKWINGHBNF	4	full-time	2	0	2
Responsible person for the subject: Dr. Kail Eszter			Classification:			
Subject lecturer(s): Dr. Leitold Ferenc, Szabó Patrik László, Dr. Kail Eszter						
Prerequisites:	Complex exam, IT Security					
Way of the assessment:	Mid-term grade					

Course description	
Goal:	To learn basic concepts and develop skills necessary to administer IT security fundamental tasks with Check Point products.
Course description:	This course provides a thorough introduction to the foundational and advanced aspects of Check Point Quantum's Three-Tier Architecture, focusing on practical deployment and management of security systems. The curriculum is structured to enhance understanding and application of fundamental network security and Check Point technologies in various security scenarios. The course covers topics as the Check Point Three-tier Architecture, the role and deployment of the Gateway, Security Manager, secure communication, Policy management, Advanced security features, NAT configuration, VPN implementation, operational monitoring and maintenance. Throughout the course, students will engage in practical exercises to enhance understanding and ensure they can apply knowledge effectively in a virtual lab environment.

Lecture schedule	
Education week	Topic
1.	Firewall generations, architecture, purpose and operation
2.	Introduction to Check Point Quantum Three-Tier Architecture, Security Management
3.	Check Point Gateway and Server deployment, Lab setup
4.	Check point Security administration, secure internal communication, administrators and permissions, collaboration
5.	Check Point licensing, license monitoring, reporting
6.	Introduction to Security policy management, Firewall, Apllication and URL filtering, Content Awareness, identity Awareness
7.	Policy layers
8.	Introduction to private adresses, Network Address Translation and Port Address Translation
9.	Check Point NAT configuration, manual and automatic NAT, Check Point NAT services
10.	Application Control and URL Filtering, autonomous Threat Prevention capabilities
11.	Intorduction to Virtual private Network (VPN) implementations, tunneling techniques
12.	Monitoring operations and maintenance
13.	Test
14.	Replacement test

Mid-term requirements	
Conditions for obtaining a mid-term grade/signature	Participation at lessons is mandatory. Successful final grade cannot be assigned to students who missed more than 30% of lessons. At the end of the semester the students are required to complete the test successfully.

Assessment schedule	
Education week	Topic
13.	Check Point Security Administration test and practical exam
14.	Check Point Security Administration test and practical exam
Method used to calculate the *mid-term grade* Students must achieve at least 50% on both the theoretical test and the practical test.	
Type of the replacement	
Type of the replacement of written test/mid-term grade/signature	Test can be retaken during the first 10 days of the exam period
Type of the exam (to be filled out only for subjects with exams)	
Calculation of the exam mark (to be filled only for subjects with exams)	
Final grade calculation methods:	

Achieved result	**Grade**
89%-100%	excellent (5)
76%-88<%	good (4)
63%-75<%	average (3)
51%-62<%	satisfactory (2)
0%-50<%	failed (1)

References	
Obligatory:	**lecture presentations in moodle** **official Check Point CCSA curriculum**
Recommended:	**https://www.checkpoint.com/mind/self-study-resources/**
Other references:	