

1.3. Module/ course form

To be completed by Course Team	Module name : NETWORK SECURITY MANAGEMENT					Module code:	
	Course name: Network security management					Course code:	
	Faculty: Institute of Applied Informatics						
	Field of study: Informatics						
	Mode of study : Full-time			Learning profile: Practical		Speciality:	
	Year/ semester:			Module/ course status: mandatory		Module/ course language: Polish/English	
	Type of classes	lecture	lessons	lab	project	tutorial	other (please specify)
	Course load	15		30			

Module/ course coordinator	Katarzyna Wasielewska, PhD
Lecturer	Katarzyna Wasielewska, PhD
Module/ course objectives	The main goals of this module are: <ul style="list-style-type: none"> - to meet basic security problems in computer networks, - to find out how we can increase security level - to learn how we can verify potential threats - to secure the computer network
Entry requirements	Passed modules: Computer networks, Routing and switching

LEARNING OUTCOME		
Nr	LEARNING OUTCOME DESCRIPTION	Learning outcome reference
	Knowledge	
1	Knows the types of threats occurring in computer networks	K_W16, K_W17, K_W18
2	Knows ways to prevent network security threats	K_W16, K_W17, K_W18
3	Knows the basics of ICT networks, including security aspects	K_W08
	Skills	
4	Identifies possible threats in a computer network	K_U10, K_U14
5	Uses selected methods and hardware and software measures increasing the level of network security	K_U10, K_U14
6	Develops a security policy	K_U03

7	Performs tasks related to the maintenance of network devices that perform security-related tasks	K_U22
	Social competence	
8	Effectively communicates with supervisors and colleagues to jointly ensure the security of information resources in a computer network	K_K04

CURRICULUM CONTENTS	
Lecture	
<ol style="list-style-type: none"> 1. Modern threats in computer networks 2. Basics of network security 3. Threats on the computer network 4. The magic cube of cyber security 5. Malwares 6. Basics of cryptography 7. Access control 8. Data integrity, digital signature, digital certificates 9. Database integrity 10. High availability systems (2x) 11. System and device security 12. Cyber security domains 13. How to secure the wired and wireless LAN? 14. Test 	
Laboratory	
<ol style="list-style-type: none"> 1. IOS user security 2. Role-based access control mechanism 3. Identification and configuration of privilege levels 5. Access control lists 6. Logging, time synchronization 7. AAA configuration 8. SSH configuration 9. VPN configuration 10. Radius configuration 11. Network security policy 	

Basic literature	CCNA Security, J. Stuppi, O Santos, Cisco Press, 2017
Additional literature	

Teaching methods	Lecture, excercises in the laboratory	
	Assessment method	Learning outcome number
	Lecture - test	01, 02, 03
	Laboratory – test and work in the class	04, 05, 07, 08
	Homework	06

Form and terms of an exam	<p>Laboratory: activity, work with tasks; test. One absence is allowed.</p> <p>Lecture: test</p> <p>The requirement of passing the course is to obtain a positive grade first for the laboratory and then for the lecture. The cumulative final grade of the subject consists in 50% of the lecture grade and 50% of the laboratory grade</p>
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STUDENT WORKLOAD		
	Number of hours	
	In all	including practical
Participation in lectures	15	0
Independent study of lecture topics	5	0
Participation in tutorials, labs, projects and seminars	30	30
Independent preparation for tutorials*	40	40
Preparation of projects/essays/etc.*		
Preparation/ independent study for exams	10	
Participation during consultation hours	2	2
Other – exam		
TOTAL student workload in hours	102	72
Number of ECTS credit per course unit	4 ECTS	
Number of ECTS points assigned to the scientific discipline	Technical informatics and telecommunications 4 ECTS	
Number of ECTS credit associated with practical classes	2,8 ECTS	
Number of ECTS for classes that require direct participation of professors	1,8 ECTS	