MODULE DESCRIPTION

Module code	full-time studies:	**Z-ZIP1-E-721**
	part-time studies:	**Z-ZIPN1-E-721**
Module name	**Computer networks and network applications**	
Module name in Polish	**Sieci komputerowe i aplikacje sieciowe**	
Valid from academic year	**2019/2020**	

MODULE PLACEMENT IN THE SYLLABUS

Field of study	**MANAGEMENT AND PRODUCTION ENGINEERING**
Level of education	**1st degree**
Studies profile	**General**
Form and method of conducting classes	**Full-time and Part-time**
Specialisation	**Computer Science for Management and Modelling**
Unit conducting the module	**Department of Computer Science Technologies**
Module co-ordinator	**Małgorzata Lucińska, PhD**
Approved by:	**Dariusz Bojczuk, PhD, DSc**

MODULE OVERVIEW

Type of subject / group of subjects	**Specialist subject**
Module status	**Non-compulsory**
Language of conducting classes	**English**
Module placement in the syllabus - semester	**Semester VII**
Initial requirements	**No requirements**
Examination (YES/NO)	**NO**
Number of ECTS credit points	**2**

Method of conducting classes		Lecture	Classes	Laboratory	Project	Other
Per semester	full-time studies:	**15**		**15**		
	part-time studies:	**9**		**9**		

TEACHING RESULTS AND THE METHODS OF ASSESSING TEACHING RESULTS

Category	Symbol	Learning outcomes	Assignations to the directional learning outcomes
Knowledge	W01	A student has knowledge of the types of computer networks and the OSI model of the network communication process, including detailed knowledge of network protocols 2-4 network layers.	ZIP1_W04
	W02	Has knowledge of network configuration, including interfaces of network devices, i.e. routers and switches.	ZIP1_W05
	W03	Has a basic knowledge of the configuration of network servers and network services such as DHCP, DNS and the configuration of web service applications, SFTP.	ZIP1_W04
Skills	U01	Can configure the network layer in the network client computer, i.e. in OS. Windows, and can configure network interfaces on active devices.	ZIP1_U01
	U02	Can install and perform basic configuration of services for Windows Server.	ZIP1_U01
	U03	He can install and perform basic configuration of web sites, SFTP.	ZIP1_U01
Social competences	K01	The student understands the need for constant replenishment of knowledge in the area of computer networks and understands the need to care for security in computer networks.	ZIP1_K01

TEACHING CONTENTS

Method of conducting classes	Teaching contents
Lecture	Types of computer networks, OSI model, network communication processes. Network protocols; selected network support programs in Windows environment. Selected issues of local network configuration - division into subnetworks. Communication in wide area networks (WAN) Examples of routing protocols. Configuration of routers and switches - on the example of CISCO devices.
Laboratory	Configuration and operation of a computer network client in Windows environment, network service programs in Windows operating system. Familiarization with network listening programs. Network operation on a client computer. Networking in Windows environment, FTP and DNS service servers. LAN configuration (computer-to-computer connections, switch-based networking). Configuration of connections between LANs. WAN configuration (interfaces and static routing). Configuration of routing protocols.

METODS OF ASSESSING TEACHING RESULTS

Symbol	Methods of checking the learning outcomes *(select X)*					
	Oral exam	Written exam	Test	Project	Statement	Other
W01			X			
W02			X			
W03			X			
U01					X	
U02					X	
U04					X	
K01						X

FORM AND CONDITIONS OF PASSING

Form of classes	Form of credit	Passing conditions
Lecture	Credit with grade	Obtaining at least 50% of test points during the class.
Laboratory	Credit with grade	Positive evaluation of the reports on the performance of laboratory activities.

STUDENT WORKLOAD

		Balance of ECTS points										
No.	Type of student's activity	Student's workload										Unit
		full-time					part-time					
1.	Participation in the activities	Lc	C	Lb	P	O	Lc	C	Lb	P	O	h
		15		15			9		9			
2.	Other (consultation, exam)	2		2			2		2			h
3.	**Number of hours of a student's assisted work**	**34**					**22**					h
4.	**Number of ECTS credit points which are allocated for assisted work**	**1,4**					**0,9**					ECTS
5.	**Number of hours of a student's unassisted work**	**16**					**28**					h
6.	**Number of ECTS credit points which a student receives for unassisted work**	**0,6**					**1,1**					ECTS
7.	**Work input connected with practical classes**	**25**					**25**					h
8.	**Number of ECTS credit points which a student receives for practical classes**	**1,0**					**1,0**					ECTS
9.	**Total number of hours of a student's work**	**50**					**50**					h
10.	**Punkty ECTS za moduł** *1 ECTS=25 hours*	**2**										ECTS

LITERATURE

1. Kurose J., Ross K. (2017), *Computer Networking. A top-down approach*. Pearson Education, Inc.
2. Tannenbaum A., Wetherall D. (2013), *Computer networks*, Pearson Education, Inc.