



## Subject card

Subject name and code	Configuration Management, PG_00047742						
Field of study	Informatics						
Date of commencement of studies	October 2022		Academic year of realisation of subject		2023/2024		
Education level	second-cycle studies		Subject group		Optional subject group Subject group related to scientific research in the field of study		
Mode of study	Part-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	3		ECTS credits		4.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Department of Computer Communications -> Faculty of Electronics, Telecommunications and Informatics						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Jacek Rak				
	Teachers		dr hab. inż. Jacek Rak				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	12.0	0.0	6.0	9.0	0.0	27
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	27		10.0		63.0	100
Subject objectives	The aim of the course is to enable students to acquire knowledge and skills in the field of configuration management in an IT project and network configuration management						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_U09] can carry out a critical analysis of the functioning of existing technical solutions and assess these solutions, as well as apply experience related to the maintenance of advanced technical systems, devices and facilities typical for the field of studies, gained in the professional engineering environment	<ul style="list-style-type: none"> <li>- the student is able to indicate the advantages and disadvantages of the given configuration of the communication network monitoring tool</li> <li>- student is able to indicate advantages and disadvantages of a given configuration of network devices with particular emphasis on the configuration of multi-hop information transmission in a heterogeneous environment</li> </ul>	[SU2] Assessment of ability to analyse information [SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment
	[K7_U06] can analyse the operation of components, circuits and systems related to the field of study; measure their parameters; examine technical specifications; interpret obtained results and draw conclusions	<ul style="list-style-type: none"> <li>- the student is able to assess the correctness of the configuration of a communication network monitoring tool</li> <li>- student is able to assess the correctness of advanced configuration of network devices with particular emphasis on the configuration of multi-hop information transmission in a heterogeneous environment</li> </ul>	[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment
	[K7_W03] Knows and understands, to an increased extent, the construction and operating principles of components and systems related to the field of study, including theories, methods and complex relationships between them and selected specific issues - appropriate for the curriculum.	<ul style="list-style-type: none"> <li>- Student explains the elements of the configuration management plan</li> <li>- Student presents ideas of network configuration and network management.</li> <li>- Student lists the features of SNMP, RMON, MIB network management protocols.</li> <li>- Student presents the design and functions of the network management center</li> </ul>	[SW1] Assessment of factual knowledge
	[K7_W41] Knows and understands, to an increased extent, the standards, production methods, life cycle and development trends of software as well as information systems and applications.	<ul style="list-style-type: none"> <li>- Student explains the principles / strategies of software evolution and maintenance</li> <li>- Student explains the evolutionary strategy of developing an IT system</li> <li>- Student explains the basic concepts and elements that are subject to configuration management</li> <li>- Student explains the change management process</li> <li>- Student identifies the assumptions of group communication protocols</li> <li>- Student explains the idea of managing project repositories</li> </ul>	[SW1] Assessment of factual knowledge
	[K7_U02] can perform tasks related to the field of study as well as formulate and solve problems applying recent knowledge of physics and other areas of science	<ul style="list-style-type: none"> <li>- the student is able to configure the tool for monitoring the communication network</li> <li>- the student is able to perform advanced configuration of network devices with particular emphasis on the configuration of multi-hop information transmission in a heterogeneous environment</li> </ul>	[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment

Subject contents	Lecture:		
	Software evolution and maintenance - basic definitions and motivations Evolution strategies; costs Software evolution process Strategies of software evolution Configuration management Basic concepts, motivations and scope Configuration management aspects Configuration management process Distributed software management - basics of group communications Project repository management Configuration management plan Configuration management system Configuration management system deployment Virtual work environments Network configuration Network management Network management protocols (SNMP, RMON, MIB) Scheme and functionality of network management centre		
	Laboratory:		
	Network monitoring tools Network service management in communication networks		
	Project:		
	Group tasks (in groups of 2-3 students) referring to configuration management		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	project pass	50.0%	37.5%
	lecture test	50.0%	37.5%
	laboratory pass	50.0%	25.0%
Recommended reading	Basic literature	Mette A., Hass J.: "Configuration management principles and practice" Solman M.: „Network and distributed sysytems management" Subramanian M.: „Network management Principles & Practice" RFC 1067, RFC 1155, RFC 1157, RFC 1213, RFC 1321 ( <a href="http://www.ietf.org/rfc/">www.ietf.org/rfc/</a> )	
	Supplementary literature	No requirements	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		