



Subject card

Subject name and code	Network Operating Systems, PG_00048056						
Field of study	Informatics, Electronics and Telecommunications						
Date of commencement of studies	February 2024	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	Full-time studies	Mode of delivery			at the university		
Year of study	1	Language of instruction			Polish		
Semester of study	1	ECTS credits			2.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department of Computer Communications -> Faculty of Electronics, Telecommunications and Informatics						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Wojciech Gumiński					
	Teachers	dr inż. Wojciech Gumiński					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	0.0	0.0	30
	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	30		4.0		16.0	50
Subject objectives	The main objective of the course is to provide students with the operation, construction and configuration of network operating systems.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[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.	Student classifies network services. Student determines the configuration of network services.	[SW1] Assessment of factual knowledge
	[K7_W42] Knows and understands, to an increased extent, the principles and trends in the analysis and design of local and distributed IT systems and the basics of computer modeling and computerization of complex cognitive and decision-making processes.	Student lists the tasks of network operating systems. Student compares the network operating systems.	[SW1] Assessment of factual knowledge
	[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	Student get knowledge of administration of directory services.	[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	Student will get practical experiences in configuring network sharing of servers resources.	[SU1] Assessment of task fulfilment
	[K7_U42] can solve engineering and research problems including design, assessment and maintenance of information systems and applications, using experimental methods and management techniques	Student will get practical experience in administration of application servers.	[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	Student will get practical experiences in configuring network sharing of servers resources.	[SU1] Assessment of task fulfilment

Subject contents	<ol style="list-style-type: none"> 1. Network operating systems classification 2. Network operating systems tasks 3. TCP/IP software in NOS structure 4. Internet protocol - IP 5. Transmission Control Protocol - TCP state diagram 6. Network communication using sockets 7. Network services 8. Network services configuration in Windows Server, Linux and Netware 9. Novell Directory Services - eDirectory 10. Windows domain 11. Active Directory 12. Remote access 13. Network shares and network printing 14. Security of network operating systems 15. Network operating systems administration tools 														
Prerequisites and co-requisites															
Assessment methods and criteria	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Subject passing criteria</th> <th style="width: 30%;">Passing threshold</th> <th style="width: 30%;">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td>Activity/presence</td> <td>0.0%</td> <td>10.0%</td> </tr> <tr> <td>Practical exercise</td> <td>50.0%</td> <td>40.0%</td> </tr> <tr> <td>Midterm colloquium</td> <td>50.0%</td> <td>50.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Activity/presence	0.0%	10.0%	Practical exercise	50.0%	40.0%	Midterm colloquium	50.0%	50.0%
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Recommended reading	<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 40%;">Basic literature</td> <td colspan="2">Kirch O., Linux - podręcznik administratora sieci, O'Reilly 2000. Morimoto M., Windows Serwer 2003. Księga eksperta., Helion 2004.</td> </tr> <tr> <td>Supplementary literature</td> <td colspan="2">Moncur M., Netware 5: administracja i konfiguracja systemu, Mikom 1999. A. Tanenbaum, Modern Operating Systems. A. Tananbaum, Computer Networks.</td> </tr> <tr> <td>eResources addresses</td> <td colspan="2">Adresy na platformie eNauczanie: Sieciowe systemy operacyjne 2024 - Moodle ID: 33391 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=33391</td> </tr> </tbody> </table>			Basic literature	Kirch O., Linux - podręcznik administratora sieci, O'Reilly 2000. Morimoto M., Windows Serwer 2003. Księga eksperta., Helion 2004.		Supplementary literature	Moncur M., Netware 5: administracja i konfiguracja systemu, Mikom 1999. A. Tanenbaum, Modern Operating Systems. A. Tananbaum, Computer Networks.		eResources addresses	Adresy na platformie eNauczanie: Sieciowe systemy operacyjne 2024 - Moodle ID: 33391 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=33391				
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Example issues/ example questions/ tasks being completed	<p>Configuration of servers for DHCP, DNS, HTTP, FTP services and ProxyHTTP as application server.</p> <p>Configuration of Group Policies Objects in Active Directory.</p>														
Work placement	Not applicable														