

Subject card

Subject name and code	Operating Systems, PG_00178046						
Field of study	Informatics and Econometrics						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study 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		7.0		
Learning profile	academic		Assessment form		credit		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Przemysław Jatkiewicz				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	60.0	0.0	0.0	75
	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	75		4.0		96.0	175
Subject objectives	Familiarising students with operating systems and the roles they can play in a company's IT infrastructure.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[liEL3_W08] Has advanced knowledge and understanding of the possibilities and dilemmas of using informatics and statistics tools and their importance in the context of changing needs		The student understands the structure and application of operating systems.		[SW4] test/exam - oral or written		
	[liEL3_U12] Can design and implement IT systems to enhance business operations and effectively utilize modern ICT technologies for management and business communication		The student is able to install and configure Linux and Windows operating systems.		[SU5] implementation of a problem task		
	[liEL3_U02] Can select or construct econometrics, informatics or statistics tools and apply them to describe and solve economic and social problems		The student is able to select and configure network services in Windows and Linux.		[SU5] implementation of a problem task		

Subject contents	Lecture: History, role and tasks of an operating system, classification of operating systems, concepts: resource, process, thread, file systems, installation, configuration and management of Linux, Linux shell commands, Linux directory services, Apache, openLDAP, SAMBA, installation and configuration of Windows, Windows server roles, network configuration, desktop configuration, device drivers, Windows shell commands, Windows directory services, AD Domain Services, AD Certificate Services, AD Lightweight Directory Services, AD Rights Management Services, AD Federation Services, shell scripts, batch files, PowerShell scripts, Bash scripts. Laboratory classes: Creating virtual machines, installing Ubuntu server LTS, installing SSH, creating, deleting, renaming files and directories, managing user accounts, managing file and directory permissions, hard and soft links, PAM modules, installing and managing OpenLDAP and SAMBA, LAMP server, Nginx application server, installing Windows Server, configuring drivers, networks, desktop, preparing the domain environment, adding objects to the domain, managing access to resources, security policies, DHCP service, DNS service, IIS application server, creating a bat batch file, creating a PowerShell script, creating a Bash script.		
Prerequisites and co-requisites	None		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Test exam	51.0%	50.0%
	Linux task implementation	51.0%	25.0%
	Windows task implementation	51.0%	25.0%
Recommended reading	Basic literature	Original script	
	Supplementary literature	Unix i Linux. Przewodnik Administratora. Evi Nemeth, Garth Snyder, Trent R. Hein , Ben Whaley , Dan Mackin. Helion	
		Biblia Windows Server. Podręcznik Administratora. Krzysztof Wołk, Wydawnictwo Psychosock	
		PowerShell dla administratorów systemów. Prosta automatyzacja zadań. Adam Bertram, Helion	
		Bash. Leksykon kieszonkowy. Przewodnik dla użytkowników i administratorów systemów. Arnold Robbins. Helion	
	eResources addresses		
Example issues/ example questions/ tasks being completed	List the tasks of the DNS server. Start the DHCP server and reserve an IP address for the specified client.		
Work placement	Not applicable		

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