

Subject card

Subject name and code	Programmer's Workshop, PG_00198504						
Field of study	Informatics						
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		
Mode of study	part-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		Polish		
Semester of study	1		ECTS credits		3.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Division of Combinatorial Optimisation -> Institute of Informatics -> Faculty of Mathematics, Physics and Informatics -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		mgr Michał Zakrzewski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	20.0	0.0	0.0	20
	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	20		0.0		55.0	75
Subject objectives	Develop practical skills necessary for effective work in Unix/Linux systems environments. Techniques for managing files and directories using the terminal, as well as basic system operations, will be taught. A module dedicated to writing scripts in Linux shell will enable the automation of frequently repetitive tasks. The course will also cover skills related to the version control system git, including creating and managing branches, committing changes, and pulling updates from a remote repository.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[INFOL3_W04] knows and understands advanced concepts in the field of software engineering, software specifications, validation and verification, and tools supporting the software development process	The student is familiar with concepts related to the basic Linux terminal commands. The student understands the principles of creating and executing Bash scripts. The student has a basic understanding of the Git version control system, including creating and deleting repositories, adding, removing, and committing changes, as well as resolving merge conflicts. The student understands the concept and syntax of regular expressions and is able to use them for processing text files.	[SW4] test/exam - oral or written [SW5] implementation of a problem task
	[INFOL3_U06] is able to select and apply appropriate IT methods and tools to solve complex problems, is able to use acquired knowledge by appropriately selecting sources and information derived from them, and perform evaluation, critical analysis, and synthesis of this information	The student is able to select appropriate tools and methods to solve problems related to the Linux operating system, Bash scripting, and the Git version control system. The student can independently use technical documentation and other sources of information, critically evaluate their content, and apply the acquired knowledge to solve practical tasks.	[SU4] test/exam - oral or written [SU5] implementation of a problem task
Subject contents	1. Introduction to the Linux operating system: history of the Linux operating system and basic commands in the Linux terminal 2. Using the terminal in Linux: working with the console, managing files and directories, redirecting input/output streams, creating and editing files in the terminal 3. Basic git command usage: introduction to the git version control system, creating a git repository, basic operations on a git repository (adding, deleting, cloning), committing changes in a git repository, resolving conflicts in a git repository 4. Regular expressions: introduction to regular expressions, syntax and rules for writing regular expressions, using regular expressions in the Linux terminal, application of regular expressions 5. Operations on text files: processing text files in the Linux terminal, filtering the contents of text files, sorting and merging text files 6. Writing scripts in Bash: introduction to Bash, variables and constants in Bash, loops and conditions in Bash, functions in Bash, and user interaction in Bash 7. Branches in the git version control system: introduction to branches in the git version control system, creating and deleting branches in a git repository, working with branches in a git repository, merging branches in a git repository, resolving conflicts when merging branches in a git repository, retrieving and updating changes from a git repository		
Prerequisites and co-requisites	No prerequisites required.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Theoretical examination with closed-ended questions	51.0%	50.0%
	Practical examination with open-ended questions	51.0%	50.0%
Recommended reading	Basic literature	• S. Chacon, B. Straub, Pro Git, Wydawnictwo Apress, 2014. • W. E. Shotts, The Linux Command Line: A Complete Introduction, 2nd ed. San Francisco, CA: No Starch Press, 2019. • Ł. Sosna, Linux. Komendy i polecenia, Wydawnictwo Helion, 2023. • M. G. Sobell, Linux. Programowanie w powłoce. Praktyczny przewodnik, Wydawnictwo Helion, 2013.	
	Supplementary literature	• D. J. Barrett, Efficient Linux at the Command Line: Boost Your Command-Line Skills, O'Reilly Media, 2022. • R. Blum and C. Bresnahan, Linux Command Line and Shell Scripting Bible, 3rd ed. Hoboken, NJ: John Wiley & Sons, 2015.	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Empty		
Work placement	Not applicable		

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