University of Gdańsk

Subject card

Subject name and code	Programmer's Workshop, PG_00204155						
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 Subject group related to practical vocational preparation			
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	4.0			
Learning profile	practical		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	30.0	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		0.0		70.0	100
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
[INFPL3_K02] is ready to recognize the importance of knowledge in solving cognitive problems and practical and seeking opinions experts in case of difficulties with independent problem solving	The student is able to precisely formulate questions that will help deepen their understanding of a given topic or identify missing elements in reasoning. Is ready to use technical documentation, professional literature and expert sources	[SK4] test/exam - oral or written [SK5] implementation of a problem task
[INFPL3_W04] knows and understands advanced issues in programming, algorithms and computational complexity, programming languages and paradigms, as well as the complex relationships between these areas	The student knows the concepts related to basic Linux terminal commands. The student knows the principles of creating and executing scripts in Bash. The student knows the basics of using the version control system git, such as creating and deleting repositories, adding, deleting and committing changes, and resolving conflicts. The student knows the concept and syntax of regular expressions and the ability to use them to process text files.	[SW4] test/exam - oral or written [SW5] implementation of a problem task
[INFPL3_W08] knows and understands facts and methods to an advanced degree in the field of the use of software development, maintenance and test tools and environments; apply this knowledge to create efficient, scalable and secure applications	The student knows the concepts related to basic Linux terminal commands. The student knows the principles of creating and executing scripts in Bash. The student knows the basics of using the version control system git, such as creating and deleting repositories, adding, deleting and committing changes, and resolving conflicts. The student knows the concept and syntax of regular expressions and the ability to use them to process text files.	[SW4] test/exam - oral or written [SW5] implementation of a problem task
[INFPL3_U03] is able to cooperate with other people within teamwork, including being able to manage his/her time, make commitments, communicate using various techniques in the professional environment, including the use of dedicated tools; is able to present different opinions and alternative technical solutions in the project team, explaining their basis, consequences and impact on the project implementation	The student is able to use basic Linux shell commands. The student can write and run simple scripts in Bash using an editor. The student is capable of creating and managing repositories. The student can work effectively in a team of IT professionals, manage their time, take commitments and meet deadlines, and communicate using various techniques in a professional environment, including using dedicated tools.	[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
Solving practical tasks	51.0%	40.0%
Test	51.0%	60.0%

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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