GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Operation Systems (Unix, Linux), PG_00048122
Field of study	Electronics and Telecommunications

Date of commencement of studies	October 2022	Academic year of realisation of subject	2024/2025
Education level	first-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	3	Language of instruction	Polish
Semester of study	5	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: mgr inż. Olga Błaszkiewicz; 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	2.0	18.0	50

Subject objectives	The main objective of the course is to provide students with the operation, construction and configuration of Unix and Linux operating systems.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W04] knows and understands, to an advanced extent, the principles, methods and techniques of programming and the principles of computer software development or programming devices or controllers using microprocessors or programmable elements or systems specific to the field of study, and organisation of systems using computers or such devices	Student lists the tasks of the operating system. Student describes the construction of the file system. Student manages privileges in the system.	[SW1] Assessment of factual knowledge
[K6_U04] can apply knowledge of programming methods and techniques as well as select and apply appropriate programming methods and tools in computer software development or programming devices or controllers using microprocessors or programmable elements or systems specific to the field of study	Student uses the operating system commands. Student uses the pipeline processing. Student creates the shell scripts.	[SU1] Assessment of task fulfilment

Subject contents	1. Operating system goals and definition. 2. Linux features. 3. File and file attributes. 4. File system. Directory tree structure. 5. Ext File system. I-node structure and its elements. 6. Hard and symbolic links. Creating, mounting and dynamic file system modyfication. 7. Standard input/output. Redirections. Pipeline processing. 8. Shell taska and properties. 9. Basic shell commands. 10. Text manipulating programs. 11. Process model. Process management. 12. Resources and system security. 13. Shell script writing guidelines. 14. Operating system installation, configuration and administration. 15. Final test.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Midterm colloquium	50.0%	40.0%
	Practical exercise	50.0%	60.0%
Recommended reading	Basic literature	Silberschatz A., Podstawy systemów operacyjnych, WNT 1999 Tanenbaum A. S., Modern Operating Systems, Prentice Hall 2008	
	Supplementary literature	Lecture notes	
	eResources addresses	Adresy na platformie eNauczanie: Systemy operacyjne Unix, Linux 2024 - Moodle ID: 38090 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=38090	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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