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 2025	Academic year of realisation of subject	2027/2028
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 -> Wydziały Politechniki Gdańskiej		
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	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_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
[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

<table>
<tr><td>Subject contents</td><td>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.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td></td></tr>
<tr><td>Assessment methods and criteria</td><td><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Practical exercise</td><td>50.0%</td><td>60.0%</td></tr>
<tr><td>Midterm colloquium</td><td>50.0%</td><td>40.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>Silberschatz A., Podstawy systemów operacyjnych, WNT 1999

Tanenbaum A. S., Modern Operating Systems, Prentice Hall 2008</td></tr>
<tr><td>Supplementary literature</td><td>Lecture notes</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td></td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
</table>

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