WSB University								
Field of study: Computer Science								
Module / course: Shell scripting languages								
Educational profile: practical								
Education cycle: I cycle studies								
Number of hours per semester	1		2		3		4	
	I	II	III	IV	V	VI	VII	
Full time studies (L/C/lab/pr/e)				16				
Part-time studies (L/C/lab/pr/e)								
LANGUAGE OF CLASSES	**English**							
LECTURER	Aleksander Dawid prof. of WSB University							
FORM OF CLASSES	**Lecture**							
COURSE OBJECTIVES	We will learn the shell scripting languages of Windows (batch, PowerShell) and Linux (bash, sh, ksh) operating systems. We will get acquainted with programming in general-purpose cross-platform scripting languages such as Perl or Python.							

References to course objectives:		**Description of educational results**	**Verification of educational results**
Field of study	**PRK**		
Knowledge			
INF_W04	**P6S_WG**	The student has an ordered, theoretically founded knowledge covering issues related to the script code interpreter. Syntax of the most common shell scripting languages. The student knows what the shell languages are used for.	Test of knowledge of Windows and Linux shell scripting languages.
Abilities			
INF_U14	**P6S_UW**	The student is able to formulate a specification of simple tasks improving the work of a computer system administrator, which can be performed in shell scripting languages.	Solving real problems with the automation of the operating system management process during the laboratory classes.
INF_U01	**P6S_UW**	The student is able to obtain information from various sources on the automation of tasks in the operating system with the use of shell scripting languages.	Ability to analyze existing shell scripts.
Social competences			
INF_K01	**P6S_KK**	The student is ready to critically assess his knowledge and received content on the achievements of computer science, recognize the importance of knowledge in solving cognitive and practical problems, and consult experts in the event of difficulties with independent solution of the problem.	Competence test

Students' workload (in didactic hours 1h did.=45 minutes)**	
Full- time	**Part-time**

Participation in lectures = Participation in classes = 4 Preparation to classes = 32 Preparation to lectures = Preparation to an examination = Project tasks = e-learning =12 Credit/examination =2 others (indicate which) = **TOTAL: 50** **ECTS points: 2** **Including practical classes:**	Participation in lectures = Participation in classes = Preparation to classes = Preparation to lectures = Preparation to an examination = Project tasks = e-learning = Credit/examination = others (indicate which) = **TOTAL:** **ECTS points:** **Including practical classes:**

PREREQUISITES	Mathematics
COURSE CONTENT (Division to contact classes and e-learning)	**Contact classes: MS Teams** 1. Operating system shell. (2h) 2. Interpreter and compiler. (0.5h) 3. Shell script as an administration tool. (1.5h) 4. Linux – bash, csh, dash. (3h) 5. Windows – PowerShell, batch (3h) 6. Perl – administration. (3h) 7. Python – powerfull scripting language. (3h) Supplementary materials in the form of presentations.
LITERATURE (compulsory reading)	1. A. Bertram, Powershell For Sysadmins, No Starch Press,US, 2020. 2. C. Bresnahan, Linux Command Line and Shell Scripting Bible, John Wiley & Sons, 2020. 3. L. Wall, T. Christiansen, J. Orwant, Programming Perl (3rd Edition), O'Reilly Media, Inc, USA, 2000.
OPTIONAL LITERATURE	1. L. Holmes, Windows PowerShell Pocket Reference, O'Reilly Media, Inc, USA, 2012. 2. M. Lutz, Learning Python, 5th Edition, O'Reilly Media, Inc, USA, 2013. 3. C. Severance, Python for Everybody: Exploring Data in Python 3, USA 2019.
Publications related to the theme of the module	[1] Aleksander Dawid, GPU-based parallel algorithm of interaction induced light scattering simulations in fluids, T*ask Quarterly,* 1(23) (2019) p. 5-17 [2] Aleksander Dawid, PSR-based research of feature extraction from one-second EEG signals: a neural network study, *SN Applied Sciences, 1(12) (2019) p. 1536*
TEACHING METHODS (Division to contact classes and e-learning)	**Contact classes:** Encouraging lecture material analysis. Self-solving problems posed by the teacher at the laboratories. **E-learning:** Knowledge checking test.
TEACHING AIDS	Computer, MS Teams
PROJECT (if implemented in the framework of a classes module)	
FORM AND CONDITIONS OF ASSESSMENT	The condition of obtaining a credit is to obtain a positive grade in all forms of credit provided for in the curriculum, taking into account the quantitative criteria of grading specified in the Framework Student Evaluation System at the WSB University.

** L-lecture, C- classes lab- laboratory, pro- project, e- e-learning*