



Subject card

Subject name and code	Programming Elements, PG_00044761						
Field of study	Engineering Management						
Date of commencement of studies	October 2022	Academic year of realisation of subject				2022/2023	
Education level	first-cycle studies	Subject group				Obligatory subject group in the field of study Subject group related to scientific research 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	2	ECTS credits				3.0	
Learning profile	general academic profile	Assessment form				assessment	
Conducting unit	Department of Informatics in Management -> Faculty of Management and Economics						
Name and surname of lecturer (lecturers)	Subject supervisor		mgr Jaromir Durkiewicz				
	Teachers		mgr Jaromir Durkiewicz				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	16.0	0.0	0.0	16
	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	16		6.0		53.0	75
Subject objectives	<p>The course is intended to introduce students to the domain of computer programming. Emphasis is put on the practical skills.</p> <p>The students work in the laboratory and at home. Teacher systematically introduces new concepts, to be applied and grounded via practical exercises.</p> <p>The course is taught in Python language, which - thanks to its clear structure and rich ecosystem - is widely used in science and business.</p>						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	[K6_U09] obtains data for analysis and interpretation of results using information technology		The student can write a simple program, choose the appropriate data structures.			[SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment	
	[K6_W05] knows the statistical and IT methods and tools that enable the acquisition and presentation of data on the organisation's resources, including technical resources		The student can choose technology relevant to given situation.			[SW3] Assessment of knowledge contained in written work and projects	

Subject contents	Fundamental programming concepts realized in Python: <ul style="list-style-type: none"> <li>• user input &amp; output,</li> <li>• names, variables, values,</li> <li>• datatypes and structures,</li> <li>• conditionals,</li> <li>• iteration,</li> <li>• functions,</li> <li>• recursion,</li> <li>• introduction to object-oriented programming,</li> <li>• algorithms, etc.</li> </ul>		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Final test	60.0%	100.0%
Recommended reading	Basic literature	<ol style="list-style-type: none"> <li>1. A.Hodorowicz, ECDL S10. Podstawy programowania w języku Python, WN PWN, Warszawa 2019.</li> <li>2. M.Sysło, Algorytmy, Helion, Gliwice 2016.</li> <li>3. Zed A. Shaw, Python. Proste wprowadzenie do fascynującego świata programowania, 2018.</li> <li>4. P.Wróblewski, Algorytmy, struktury danych i techniki programowania, wyd. Helion, Gliwice 1997.</li> <li>5. M.Kubale, Łagodne wprowadzenie do analizy algorytmów, wyd. PG, Gdańsk 2021.</li> </ol>	
	Supplementary literature	<ol style="list-style-type: none"> <li>1. M.Lutz, Python. Wprowadzenie, wyd IV, Helion, Gliwice 2010.</li> <li>2. M.Lutz, Python. Leksykon kieszonkowy, wyd V, Helion, Gliwice 2014.</li> <li>3. Zed A. Shaw, Learn Python 3 the Hard Way: A Very Simple Introduction to the Terrifyingly Beautiful World of Computers and Code</li> </ol>	
	eResources addresses	Adresy na platformie eNauczanie: Elementy programowania, ZIE, 2023 - NSTAC - Moodle ID: 28642 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=28642">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=28642</a>	
Example issues/ example questions/ tasks being completed	What are key elements of computational thinking?  Write a program that displays 10 stars on the screen. Use the loop instruction.  Write a program that will calculate how many primes are in the range		
Work placement	Not applicable		

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