Python Programming Language

Course description

Basic Information

Field of study : Analytical Computer Science

Path : -

Organizational unit : Faculty of Mathematics and Computer Science

Education level : first-cycle

Form of studies : full-time studies

Study profile : general academic

Status : optional

Education cycle : 2022/23

Course code : UJ.WMIIANS.140.03344.22

Languages of instruction : Polish

Disciplines : Computer Science

ISCED classification : 0613 Software and applications development and analysis

USOS code : WMI.TCS.JPP.S

Course coordinator

Krzysztof Turowski

Course instructors

Krzysztof Turowski

Term Semester 3	Verification method of learning outcomes grade credit Form of instruction and hours lecture: 15 laboratory classes: 15	Number of ECTS credits 3.0

Learning outcomes for the course

Code	Outcomes in terms of	Directional learning outcomes	Verification methods

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Knowledge – Student knows and understands:			
W1	student knows the basic elements and data structures of the Python language (listed in the Syllabus Content field), which enable creating advanced programs and applications in this language.	IAN_K1_W04, IAN_K1_W05	written credit, project
Skills – Student can:			
U1	student can implement applications and programs in Python.	IAN_K1_U03, IAN_K1_U05, IAN_K1_U08	written credit, project

ECTS credits balance

Form of student activity	Average number of hours* dedicated to completed activity types	
lecture	15	
laboratory classes	15	
project preparation	15	
independent solving of computer tasks	30	
exam preparation	13	
exam participation	2	
Total student workload	Number of hours 90	ECTS credits 3.0

* hour (lesson) means 45 minutes

Program content

No.	Program content	Learning outcomes for the course

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1.	The following elements of the Python language will be discussed in class: - basic language syntax (control instructions), - basic Python data structures (lists, tuples, sets, dictionaries), - classes, metaclasses, attribute lookup in objects and classes, - descriptors, - decorators, - code organization in modules, - errors and exceptions, - generators and list comprehensions, - selected elements of standard libraries, network programming libraries. Additionally, the Django framework for creating web applications based on Python will be discussed in class.	W1, U1

Extended information

Teaching methods:

conventional lecture, multimedia presentation lecture, laboratory classes

Type of classes	Credit forms	Course credit conditions
lecture	written credit	positive grade from the exam, preceded by admission to it based on a positive grade from laboratories
laboratory classes	project	implementing programs using the discussed Python language elements, developing a final project

Prerequisites and additional requirements

completed Object-Oriented Programming course

Literature

Required

1. Python language documentation available at https://docs.python.org/