

Course title:	Programming in Python
Course title in Polish:	Programowanie w języku Python
Course for discipline:	Engineering

Semester:	4	Status of course:	faculty	Language:	english
Academic year:	2026/27	Catalog number:	135/2025/26		

Coordinator of course:	Adam Kiczko
Lecturer of course:	Adam Kiczko
Executing unit:	Institute of Environmental Engineering
Ordering unit:	Doctoral School SGGW
Assumptions, goals and description of the course:	The aim of the course is to familiarize students with the basics of scientific programming in Python. Main goals are to: introduce the language syntax, teaching how to perform basic calculations, presenting the most important libraries enabling statistical analyzes and solving basic engineering problems.
Didactic form, number of hours:	15 hours of computer laboratories
Teaching methods:	Problem solving
Limit of people in the group:	15

#### Learning outcomes

KNOWLEDGE - the graduate knows and understands:	SKILLS - the graduate is able to:	COMPETENCES - the graduate is ready to:
To the extent enabling to revise the existing paradigms in the field/discipline - the world achievements, gathering theoretical background as well as general and selected detailed issues	Carry out critical assessment of the scientific research findings and expert activities and their contribution to the knowledge development in the field/discipline	Critically evaluate the achievements in the field/discipline represented
Major general development trends in the field/discipline		Recognise knowledge in solving cognitive and practical problems characteristic for the area of research (field/discipline) and in an interdisciplinary aspect
		Support the ethos of scientific circles and conduct independent research
The method of verification of learning outcomes:	Project	
Form of documentation of achieved learning outcomes:	Archiving of project files	
Elements and weights of the final grade:	Project 100%	
Place of the course:	Computer laboratory	

#### Basic and supplementary literature

Asabeneh S. Yetayeh, (2023), 30-Days-Of-Python, on-line tutorial: <https://github.com/Asabeneh/30-Days-Of-Python>

Comments:	
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Estimated number of hours of work of the doctoral student necessary to achieve the assumed learning outcomes:	20
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#### Learning outcomes reference to the second degree characteristics of the National Qualification Framework (level 8) covering doctoral competences:

Symbol:	Learning outcomes:	8 level NQF
SD1_KW01	To the extent enabling to revise the existing paradigms in the field/discipline - the world achievements, gathering theoretical background as well as general and selected detailed issues	P8S_WG
SD1_KW02	Major general development trends in the field/discipline	P8S_WG
SD1_KU05	Carry out critical assessment of the scientific research findings and expert activities and their contribution to the knowledge development in the field/discipline	P8S_UW
SD1_KK01	Critically evaluate the achievements in the field/discipline represented	P8S_KK
SD1_KK03	Recognise knowledge in solving cognitive and practical problems characteristic for the area of research (field/discipline) and in an interdisciplinary aspect	P8S_KK
SD1_KK08	Support the ethos of scientific circles and conduct independent research	P8S_KR