Introduction to scripting language - course description

General information

Course name	Introduction to scripting language
Course ID	13.2-WF-FizP-ISL-S18
Faculty	Faculty of Physics and Astronomy
Field of study	Physics
Education profile	academic
Level of studies	First-cycle studies leading to Bachelor's degree
Beginning semester	winter term 2018/2019

Course information

Semester	2
ECTS credits to win	2
Course type	obligatory
Teaching language	english
Author of syllabus	• dr Marcin Kośmider

Classes forms

The class form	Hours per semester (full-time)	Hours per week (full-time)	Hours per semester (part-time)	Hours per week (part-time)	Form of assignment
Laboratory	30	2	-	-	Exam

Aim of the course

This course is designed for students without or with a little programming experience. During this course you will learn fundamentals of programming with a strong focus on techniques using in Python. The examples and problems discussed in this course are taken from broad range areas as text processing, scientific programming, databases.

Prerequisites

Basic computer skills

Scope

1. Python language characteristic, history

2. Language syntax, PEP-8 coding standard

3. Assignment operator, dynamic typing, mathematical and logical operators

4. Loops and conditions

5. Strings, lists, tuples and dictionaries, elements of OOP programming

6. Functions

7. Exceptions

8. Modules

9. Input/Output operations

10. virtual environment

Teaching methods

computer lab, project, group work, discussion, brainstorming

Learning outcomes and methods of theirs verification

Outcome description	Outcome symbols	Methods of verification	The class form
Student knows the basics of Python language and can write a simple program using the basic mechanisms of this language. He can run and debug a self-written code	• K1A_W04 • K1A_W09 • K1A_U04	• a check work • a discussion • activity during the classes • an observation and evaluation of activities during the classes • an observation and evaluation of the student's practical skills • an ongoing monitoring during classes	• Laboratory

Outcome description	Outcome symbols	Methods of verification	The class form
Student can choose and install the appropriate software and modules	• K1A_W04 • K1A_W09 • K1A_U04	• a discussion • an ongoing monitoring during classes	• Laboratory
Student can write a program to analyze a small amount of data and a program that performs a simple simulation.	• K1A_W04 • K1A_W09 • K1A_U03 • K1A_U04	• activity during the classes • an observation and evaluation of the student's practical skills • an ongoing monitoring during classes	• Laboratory

Assignment conditions

Minimum 50% of points from tests and passing the semester program. Final mark counted as weighted average - 60% test score, 40% evaluation of the final project.

Recommended reading

Python 3. Proste wprowadzenie do fascynującego świata programowania, Zed. A. Shawn, Helion 2018

https://wiki.python.org/moin/BeginnersGuide

Further reading

Internet

Notes

Modified by dr hab. Piotr Lubiński, prof. UZ (last modification: 22-08-2018 11:06)