

Subject Outline

Basic Programming

GKNB_MSTA055

Person Responsible for Subject: Pál Pusztai

Form of Examining: continued report

Semester: 2023/24/2

Number of Lessons Per Week: 1/1/0

Number of Lessons Per Semester 0/0/0

LEARNING OBJECTIVES

The goal of the course is to introduce a modern, dynamically typed programming language (Python), and to teach the programming approach and techniques needed to use the language efficiently.

CONTENT OF SUBJECT

- Creating own functions. Defining and calling a function. Docstring. Positional and keyword arguments. Lambda expressions.
- Modules and packages. Elements of the standard library: datetime, time, random, collections, copy, gzip, pickle.
- Exception handling. Debugging.
- File handling: writing and reading textfiles and binary files.
- The numpy modul: arrays and subarrays, functions, array operations, broadcasting.
- Data analysis with pandas modul: DataFrame and Series objects, select and groupby.

SYSTEM OF ASSESSMENT AND EVALUATION

The course ends with a test, where the students solve simple programming problems in Python. The available time is 90 minutes. Scoring: 0-7:1 (fail), 8-10:2 (pass), 11-13:3 (satisfactory), 14-16:4 (good), 17-20:5 (excellent).

COMPULSORY LITERATURE

- Mark Pilgrim: Dive into Python 3 (<http://www.diveintopython3.net/>).
- Zed A .Shaw: Learn Python 3 the Hard Way, Addison-Wesley, ISBN: 9780321884916.