Course Syllabus

Semmelweis University Faculty of Medicine, Faculty of Dentistry, Faculty of Pharmacy, Faculty of Health Sciences, Faculty of Health and Public Administration, András Pető Faculty

Course Name (Hungarian): Bevezetés a Python programozási nyelv alapjaiba **Course Name (English):** Introduction to The Basics of The Python Programming Language **Course Name (German):** Einführung in die Grundlagen der Programmiersprache Python **Course Code in the Neptun System:**	**Credit Value:** 2 credits

Course Classification:	**Cource Form (credit %)**	**Type of Classes:**		**Assessment Method:**	**Semester Offered (frequency):**
		Theory:	**Practice:**		
elective	**theory–practice:** 50 / 50	14	14	practical grade	springs

Prerequisites (Prior Requirements):

- minimum 2 finished semesters

OR

- participation in single-degree program or MSc/MA

The course cannot be registered if the student has completed any of the following courses:

- Introduction to the Basics of the Python Programming Language Introduction into the Python (EMKEATK002_1M)

OR

- Introduction to Information Technologies (2) – Programming (EUSZAK006_2M)

OR

- Introduction to Information Technologies (3) – Programming (EUSZAK057_3M)

Course Instructor and Department:

Dr. Tóth, Zoltán, PhD, associate professor, Semmelweis University EKK Institute of Digital Health Sciences

Lecturer:

Dr. Tóth, Zoltán, PhD, associate professor, Semmelweis University EKK Institute of Digital Health Sciences

Goal of The Course:

The aim of the subject is to learn about computer algorithmization and the general methods of approaching simpler problems with computers, to learn how to handle typical data structures and implement basic algorithms, to understand the imperative programming approach and the basics of object-oriented programming.

Student enrollment requirements for launching the course: minimum 5 students – maximum 20 students

Professional Competencies and Competency Elements:

A student who completes the course:

- Open to following the development of computer technology and striving to further develop their IT knowledge.
- Able to independently solve user-level IT tasks.
- Able to produce simpler data structures, algorithms and programs necessary for performing their tasks.

Detailed Course Topics:

1. Fundamentals of programming. Methods of describing algorithms (flowchart, block diagram, pseudocode, programming language). Simple and complex algorithms.
2. Fundamentals of programming. Fundamentals of the Python language, language features. Arithmetic and logical operations, writing logical conditions.
3. Basic elements of algorithms (sequence, branching, cycle). Concept of programming theorems.
4. Data structures (array, list, queue, stack).
5. Cycles and iterators I.
6. Cycles and iterators II.
7. Mid-Term
8. Functions and procedures I.
9. Functions and procedures II.
10. Fundamentals of object-oriented programming I.
11. Fundamentals of object-oriented programming II.
12. Using external libraries I.
13. Using external libraries II.
14. Presenting and defending individual semester work

Developed The Course Syllabus:

Dr. Tóth, Zoltán, PhD, associate professor, Semmelweis University EKK Institute of Digital Health Sciences

Requirements:

Requirements for attendance and the possibility of making up missed classes, as well as the method of justification in case of absence:
Attendance is mandatory for at least 75% of the practical sessions. There is no possibility for make-up classes.

Signature condition:

Satisfactory completion of the mid-term test and the semester assignment, as well as fulfillment of the attendance requirements.

Method of grading:

Grade calculation: (MT * 0.5) + (Individual semester work * 0.5)

Final garde on a 5-levels scale.

Grade	Low Limit [%]	High Limit [%]
fail (1)	0,00	49,99
pass (2)	50,00	64,99
satisfactory (3)	65,00	79,99
good (4)	80,00	89,99
excellent (5)	90,00	100,00

Replacement and consultation options:
Replacement opportunities are available in the first week of the exam period.

Number, topic, and schedule of mid-semester assessments (reports, mid-term tests), and possibilities for their make-up and improvement:

- 1 individual assignment, submission deadline by the end of week 13, presentation in week 14;
- 1 replacement for the individual assignment, submission deadline by the end of week 14, presentation in the
- 1st week of the exam period;
- 1 mid-term test in week 8;
- 1 replacement mid-term test in the 1st week of the exam period;

The use of artificial intelligence solutions during the course is part of the training program.

The use of artificial intelligence during assessments is prohibited.

Required and recommended literature (notes, textbooks, specialist literature, aids)

- Lecture notes and presentations are available to students in electronic form.
- Mark Summerfield: Python 3 Programming - A Comprehensive Introduction to the Python Language, Kiskapu Publishing, Budapest, 2009

Date of the last modification: 2025.