

PROGRAMMING I (37C00400, 6 ECTS)

SYLLABUS

Version 2 (03.10.2023)

| Instructor's contact information | Course information |
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| <p>Teacher in charge: Yuting Jiang, Doctoral researcher yuting.jiang@aalto.fi Aalto BIZ, Ekonominaukio 1, V214 Office Hours via Zoom (to be agreed via email) https://www.aalto.fi/en/people/yuting-jiang</p> <p>Supporting teacher: Johanna Bragge, PhD, Principal University Lecturer johanna.bragge@aalto.fi https://www.aalto.fi/en/people/johanna-bragge</p> | <p>BSc level course in Information and Service Management (ISM) programme 2023, Period II Sessions in Zoom (NO compulsory attendance required, first lecture will be recorded) https://aalto.zoom.us/j/63264231398?pwd=MXlpR3ZiZEt2R3kvNnJzeHNqUUhpUT09</p> <p>Language of Instruction: English MyCourses page: https://mycourses.aalto.fi/course/view.php?id=40792 Zulip chat: URL to be announced in lecture slides</p> |

1. OVERVIEW

Programming I will be arranged as a MOOC (Massive Online Open Course), which utilizes modules 1-7 (Introduction to programming) of the **Python Programming MOOC 2023** course (<https://programming-23.mooc.fi/>) provided by the University of Helsinki. An Aalto BIZ-specific 2023 course link to the MOOC is used. The instructions how to set up the **VS Code programming environment** are given when the course starts (Wednesday, October 25, 2023 at 18.00 o'clock, the Zoom lecture will be recorded also). No previous experience from coding is needed – the exercises start from the basics.

The coding exercises should be completed in two batches: the first batch (parts 1-4) by **November 15** and the second batch (parts 5-7) by **December 11**, which is the night before the first exam. The exam is arranged by Aalto on December 12, 2023. Thus, there are two deadlines for the exercises, and 70% of each exercise module (i.e. the 7 parts) should be completed in order to proceed to the next module. It is advisable to aim for 100% as the skills you learn are needed in subsequent parts and exercises. You should reserve plenty of time for conducting the coding exercises (do them weekly, ca. 10-20 hours per week), as there's around 200 of them in total. The weight of the final exam is 50% of the grade. There are no compulsory lectures in the course, but online help sessions on Wednesdays will be arranged via Zoom, first one on Oct 25 at 18.00 o'clock (after the general introduction to the course). Also, a Zulip chat platform will be in use for Q&A and peer support during the course.

2. PREREQUISITES

No prerequisites.

3. LEARNING OUTCOMES

Students learn to understand the software development process. They are familiar with the core set of algorithms and data structures. They are able to program medium sized applications and master a modern programming language, Python. The following topics will be taught and rehearsed at the course:

Input/Output, variables, conditional statements, loops, strings, own functions, lists and other data structures, files, external libraries.

4. ASSESSMENT, GRADING AND EXAM FEEDBACK

1. Introductory lecture and weekly online support sessions via zoom, 12h (voluntary), link: <https://aalto.zoom.us/j/63264231398?pwd=MXlpR3ZjZEt2R3kvNnJzeHNqUUhpUT09>
2. Exercise *instructions* at <https://programming-23.mooc.fi/> (Parts 1-7, conducted via **VS Code** editor, not in the browser of the above MOOC site, see introductory slides for VS Code installation advice!) (50% of the grade, at least 100/201 points from the exercises must be earned)
3. Exam (50% of the grade, at least 15/30 points must be earned).

Feedback from the exam will be given via MyCourses announcements (generally) and via personal appointments to be agreed as needed.

5. SCHEDULE

| # | Date | Topic | Deadline |
|---|--------------------|--|-------------------------|
| 1 | 25.10. at 18-20 | Intro to the course (voluntary, the lecture will also be recorded) https://aalto.zoom.us/j/63264231398?pwd=MXlpR3ZjZEt2R3kvNnJzeHNqUUhpUT09 | |
| 2 | 1.11. at 18-20 | Online support session (voluntary), above zoom link for all sessions | |
| 3 | 8.11. at 18-20 | Online support session (voluntary) | |
| 4 | 15.11. at 18-20 | Online support session (voluntary) | |
| | 15.11. midnight | Deadline for submitting the programming exercises from parts 1-4 via VS Code environment's TestMyCode extension | 15.11. at 23.59 o'clock |
| 5 | 22.11. at 18-20 | Online support session (voluntary) | |
| 6 | 29.11. at 18-20 | Online support session (voluntary) | |
| 7 | 11.12. midnight | Deadline for submitting the programming exercises from parts 5-7 via VS Code environment's TestMyCode extension | 11.12. at 23.59 o'clock |
| 7 | 12.12. at 13-16 | EXAM at 13-16 o'clock (format to be announced later) | |
| | 12.2.2024 at 16-19 | Re-take exam at 16-19 o'clock | |

6. EXERCISES

The programming exercises (altogether 201) will be conducted in 7 parts under the following themes:

| | |
|---|--|
| 1 | Introduction, I/O, variables, conditional statements |
| 2 | More conditions, loops |
| 3 | More loops, strings |
| 4 | Own functions |
| 5 | Lists and other data structures |
| 6 | Files |
| 7 | External libraries |

The exercises are conducted and submitted using the **Visual Studio Code** editor, which needs a Python extension and a TestMyCode extension to check the exercises. The installations of all these to your own computer are instructed step-by-step in the MOOC page <https://www.mooc.fi/en/installation/vscode/> and also briefed at the first lecture / slide handouts.

7. COURSE BOOK AND MATERIALS

There is no course book – all material and **assignment instructions** can be found at <https://programming-23.mooc.fi/>

Instructions for setting up the programming environment are given in the first lecture slides.

The points you receive from conducting the exercises can be seen at: <https://tmc.mooc.fi/> and clicking your account email icon on top right, when logged in.

NOTE: Do not sign-up to the general programming MOOC course on the above page, but to the **Aalto BIZ-specific course instance created by us** (this is instructed in detail in the first lecture & in the slide handouts). *The Aalto teachers can see the points earned only from the Aalto BIZ course's exercises submitted via VS Code's TestMyCode (TMC) extension.*

8. COURSE WORKLOAD

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|---|-------------|
| Opening lecture | 2h |
| Weekly help sessions | 10h |
| Independent work with the programming exercises | 128h |
| Exam and preparing for exam | 20h |
| Total | 160h (6 cr) |

9. ETHICAL RULES

Guidance on usage of conversational AI tools such as ChatGPT and its plugins is given on introductory lecture + slides.

Aalto University Code of Academic Integrity and Handling Violations Thereof

See <https://www.aalto.fi/en/applications-instructions-and-guidelines/aalto-university-code-of-academic-integrity-and-handling-violations-thereof>

10. OTHER ISSUES

- Registration to course and to re-exam: Via Sisu. Course registration enrolls you automatically to the first exam (KT), but not to the re-take exam.