

Master Degree Data Science
Sommer Semester 2025

Precourse Programming

March 10 - 12, 2025

1. Target audience

Question: Who should attend the course?

You have no experience or just basic experience in Python programming? You haven't practiced programming for a while? You want to avoid software installation problems during the semester? Then this 3-day intensive precourse may be useful for you. We will make sure that everyone gets Python properly installed, we will discuss important Python programming concepts, and get used to coding.

Question: Do I need to participate?

No, participation is voluntary. You can do without the precourse if you are already familiar with the course contents, or if you are willing to make extra efforts during the semester.

Question: Will I get access to the course materials although I do not / cannot participate?

Yes. All students of the Master Degree Data Science will get access to the materials of the precourse via a dedicated Moodle page at the beginning of the regular courses. I highly recommend that you verify whether you are familiar with the covered topics.

2. Course contents

The course is about Python fundamentals. It does NOT cover data science specific aspects of Python.

1) Technical environment

- Installation of Python and Visual Studio Code
- Installing Python packages
- Managing virtual environments
- Usage of Python scripts
- Usage of Jupyter Notebooks
- Finding help

2) Python Foundations

- Built-in types: integer, float, boolean, string, list, tuple, dictionary, set
- Math, comparison and other important operators
- Functions
- Control flow statements: for, if, and while
- Iterables: range, enumerate, zip
- List and dictionary comprehensions

3. Dates, location, and practicalities

Dates:

- 10.03.2025, 14.00 – 17.00
- 11.03.2025, 09.00 – 16.00
- 12.03.2025, 09.00 – 16.00

Location:

- C12-3.04

The precourse is meant as a classroom course, where we see each other face-to-face. However, if you are not able to be present in Kiel for the precourse, you may also join the precourse via

<https://fh-kiel.zoom.us/j/66119352252?pwd=bVplWnUrc1ZoQXVPSytKUHI3ZnM4UT09>

Practicalities:

- Please bring your private laptop. You will install open source software and carry out all exercises on your laptop.
- As an enrolled student you have WLAN access on the campus. If you are not yet enrolled, I will provide you with access to the university's guest WLAN.

Best regards

Prof. Dr. Tillmann Schwörer