

Master Degree Data Science

Pre-course Programming

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 pre-course 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 pre-course 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 pre-course 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.

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