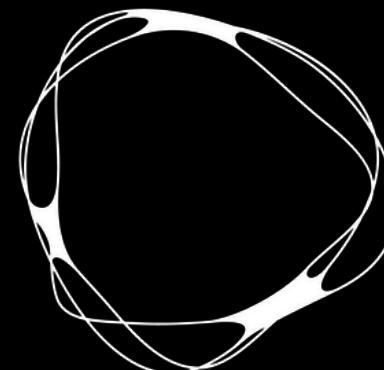


Introduction

Python Course 2025



STADS

Students' Association for
Data Analytics & Statistics

Organization

- ↗ **About me & you**
- ↗ **Motivation**
- ↗ **Course Structure**
- ↗ **Website, GitHub, w3schools**
- ↗ **Plan for Today**



About me

About me



Julian Maurus

pythonkurs@stads.de



Master Business Informatics



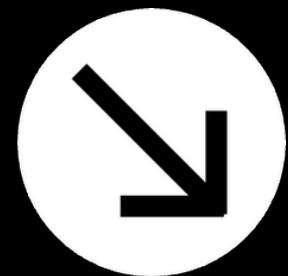
***Interests: Automations, Web-Development,
Data Science***



***Learned Python while working on various
topics and tasks***



About you



Bachelor vs. Master?



Certificate vs. Schlüsselqualifikation?

Programming Experience?

Study Program?



Motivation

What is Python?

- ↗ Popular programming language
- ↗ Created by Guido van Rossum, and released in 1991
- ↗ Used a lot for mathematics & data science
- ↗ Can also be used for web and software development

Why Python?

- ↗ Can handle big data and perform complex mathematics
- ↗ Simple syntax similar to English language (readability)
 - New lines instead of semicolons
 - Indentation instead of parentheses

```
for (int i = 0; i < 100; i++) {  
    printf("%i\n", i);  
}
```

```
for i in range(100):  
    print(i)
```



Course Structure



What? When? Where?



Course Dates

- 8 sessions: starting 23.09.2025, once a week on Tuesdays, 19:00–20:30
- Location: Lecture Hall A001 (B6) (may change later)
- Participation also possible online via Zoom – link in Portal²
- All information will be provided via email and on the website



Course Outline

1

Python Basics

2

3

4

5

6

7

8

Syntax, Variables, Data Types, Input/Output

Booleans, Operators, Data Structures

Conditions, Loops, Functions, Classes

Dimensions

- ↗ Scientific Computation (*numpy*)
- ↗ Data Analysis (*pandas*)
- ↗ Visualization (*matplotlib, plotly*)

Tutorials

Projects



Course Structure



Introduction

- Python Tutorial
- w3schools
- Work on your own
- Finished after 3 weeks



Hands-on

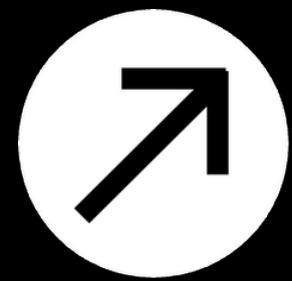
- Coding projects
- Mostly Data Analysis
- Apply/Combine material
- Will get more and larger



Exam



- Exam Date: Tuesday, 25.11.2025, 19:00-20:30
- Alternative date: during the make-up exam week starting 31.01.2026
- Duration: 45 min
- Requirement: Participation in at least 4 out of 8 in-person sessions (attendance will be checked)



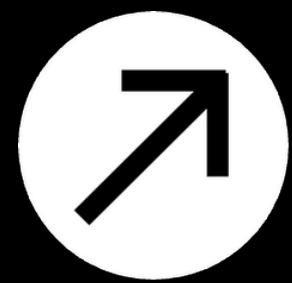
Exam



Format

- Short conceptual questions on Python basics
- Small coding exercises
- Simple data handling/programming tasks
- Mix of theory and practice

Note: Exact content and task types are provisional and may change depending on the course progress.



Exam



Certificate

- Available for all
- Separate registration
- Enroll in ILIAS



Schlüsselqualifikation

- B.Sc. WiMa (and BWL?)
- Enroll in ILIAS
- Enroll in Portal² once activated
- No aids allowed
- Exam takes place in person

↗ Tools

↗ Recommended



Miniconda



Visual Studio Code



git



GitHub

↗ Auxiliary



Documentations



Cheatsheets



Stack Overflow



ChatGPT



GitHub Copilot

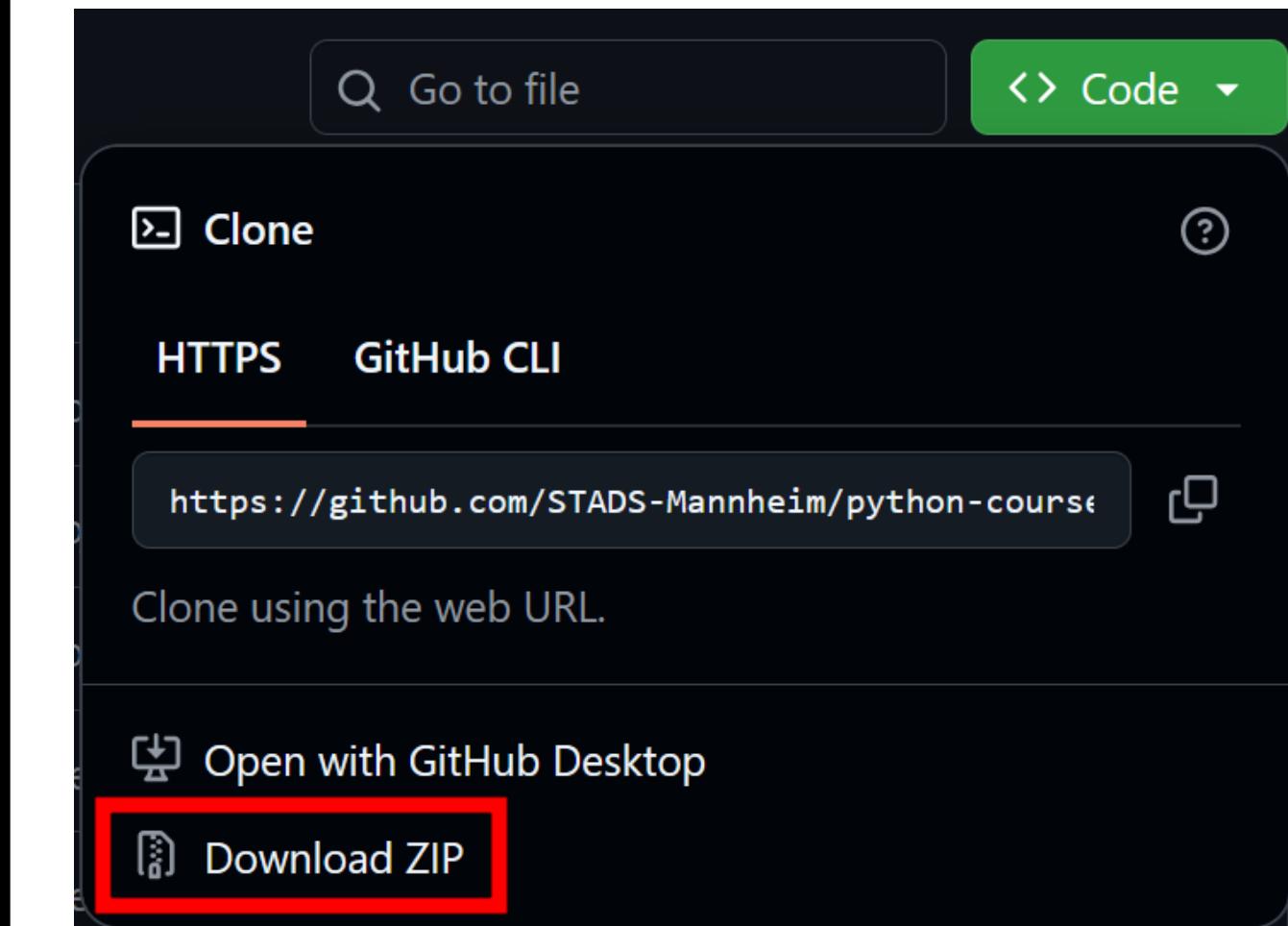
↗ Git / Github

↗ Variant 1

- Recommended
- Ensures materials stay up to date

```
$ cd stads-python-course  
$ git clone https://github.com/  
STADS-Mannheim/python-course-  
2025.git  
$ git pull
```

↗ Variant 2





Website, GitHub, w3schools



Plan for today

Plan for today



- ↗ w3schools Tutorial

50min

*Syntax, Comments, Variables, Data Types,
Numbers, Casting, Strings, User Input*

- ↗ Project 1: Band Name Generator

10min

Registration



Website



GitHub

