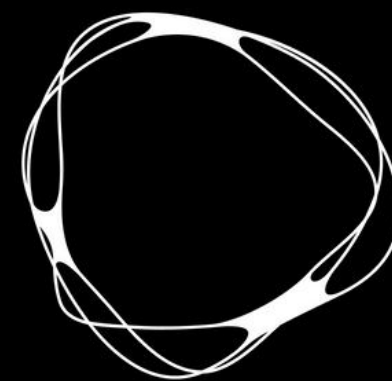


Introduction

Python Course 2024

**STADS**

Students' Association for
Data Analytics & Statistics

Organization

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



About me

About me

➤ *Moritz Grävinghoff*
pythonkurs@stads.de



➤ *Master Business Informatics*

➤ *Interests: Machine Learning, Computer Vision, NLP*

➤ *Learned Python by myself during bachelor thesis*

Bachelor vs. Master?

Study Program?

Programming Experience?

*Certificate vs.
Schlüsselqualifikation?*



About you



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?

Dates

- 8 Course Sessions: 24.09.-12.11., 19:00-20:30
- Q&A Session: 19.11., 19:00-20:30
- Exam: 26.11.

Hybrid (SN 163, Zoom)

Course Outline

Tutorials

Projects

1

Python Basics

Syntax, Variables, Data Types, Input/Output

2

Booleans, Operators, Data Structures


3

Conditions, Loops, Functions, Classes

4

Data Analysis

Dimensions

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

5

6

7

8

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

 *Date: 26.11.*
Duration: 45min

-  *Programming Exam*
- Prepare and use own device
 - Open book: Documentations, Google, ChatGPT, ...



Exam



Certificate

- For all
- At-home exam
- Send/Receive per email
- Separate registration



Schlüsselqualifikation





- B.Sc. WiMa
- Bring-your-laptop exam
- PrüfungsILIAS
- Enroll in ILIAS!



Tools








Recommended

-  Miniconda
-  Visual Studio Code
-  git
-  GitHub
-  GitHub Desktop



Auxiliary

-  Documentations
 -  Cheatsheets
 -  Stack Overflow
-
-  ChatGPT
 -  GitHub Copilot



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

