

Skill Track • Curriculum

# Python Basics |

Hands-on introduction to **programming with Python**



## Why this course?

Learning Python made easy: As part of the digitalization, many processes in day-to-day work can be automated. On the one hand, this relieves employees and on the other, it increases productivity and capacities for strategic and conceptual tasks. Often, basic programming skills are already sufficient to make day-to-day work easier by automating processes.

With the Python Basics course you will gain the most important basics for programming with Python and a guideline for automating your own work processes by reading, processing and storing local data with selected libraries.

## Course content.

- > Learn and use the Python programming language
- > Use selected libraries to read, process and store local data
- > Final project to automate work processes

## At a glance.

Duration

**32 hours**

Type

**Online course**

Structure

**4 chapters + 1 final project**

Language

**German, English**

Level

**Beginner**

Completion

**Certificate of completion**

Prerequisites

**No previous knowledge or programming experience is required for the course.**

Target group

**The beginner's course is designed for anyone who wants to learn the Python programming language. Python is a general-purpose language that can be used for a variety of things, such as data analysis, software development, and web development.**

**The course provides the ideal starting point for getting started on these topics. The course is also suitable for career changers without programming experience.**





# Chapter overview.

## Chapter 1

### Data Types

In this chapter you'll get to know our programming environment - the Data Lab - and execute your first code commands. You will learn how to represent data or text in Python. Using a set of rules, you will learn how to create, assign and test data in **variables**.

You will then learn how to read out common **error messages** and practice how to use them productively in your daily work. You will also get to know basic **Python standard functions** such as `type()` or `str()` and then use them in practical examples.

After you've learned about the **if statement** and can use it to **condition** the flow of your code, you'll finish the chapter with the first part of a two-hour mini-project: You will program a user interface that reacts flexibly to the user's input.



## Chapter 2

### Flow Control

In the second chapter you will work out two essential operations to make your code even more flexible: You will learn about **lists and for loops**. Lists allow more flexibility in storing data and are essential for advanced programming.

You will learn how to create them, and how to change them in a targeted manner. You will use lists to extend the functionality of your user interface from the first chapter and complete the first mini-project.

After that, you will work with for-loops that allow you to automatically execute your code multiple times, taking you to the next level of programming.



## Chapter overview.

### Chapter 3

#### Functions, Modules and Methods

In the third chapter, you'll round out your programming skills in Python and learn advanced techniques. These include **functions and methods**. You'll learn to define functions on your own, so you can structure your code better. You will also combine individual programming elements such as conditions, loops and functions together within programs.

Using different methods, you will learn how to import Python modules correctly and how to ensure functionality as a whole. You will build on this by learning how to import and export data as a simple test.

A one-hour mini-project using telephone data will allow you to consolidate what you have learned in the chapter.

### Chapter 4

#### Python Applications

In the fourth chapter, recap what you learned in chapters 1-3, as well as learning some new skills. You will learn what **dictionaries** are, and how they can make your code more efficient. You will get to know **complex data structures** that you will need for your final project.

In a four-hour practical project to create a complex **user interface** to facilitate automated processing of customer inquiries, you will need to combine everything you learned in the previous chapters.



## About StackFuel.

We are your strategic learning partner, suitable for every career level and professional orientation.

Whether you're changing careers, an employee or a manager, our certified and state-supported training courses in data, AI and programming will keep you up to date with the latest technologies.

## Course schedule.



\*Sample course schedule for our Data Analyst course.

● Onboarding & offboarding ● Training contents ● Mentoring & support

## Training philosophy.



### Online & flexible

Do your course part-time or full-time and learn 100% online in your browser on your PC or laptop at home.



### Hands-on practice with real-life projects

In our Data Lab you will write your own algorithms with industrial data sets in interactive exercises and coding challenges.



### Mentoring & career coaching

Your personal mentoring team will accompany you with coaching, feedback, and weekly group webinars.



### Certified & eligible

As a certified training provider, you can get our courses fully subsidized by the job center and the employment agency.



## Facts.

**91%**  
completion  
rate

**80%**  
interactive  
exercises

**20%**  
expert videos  
& text lessons

**+150.000**  
learning hours in the Data Lab

**4,3 von 5**  
recommendation rate

## Sponsorship opportunities.

### Installments or part payment

Use our installments or part payment options to spread out the costs of your course over several months so you can remain financially flexible.

### Education voucher

With an [education voucher](#) (Bildungsgutschein in German), you can get your course financed up to 100% by the Jobcenter or the Employment Office, if you are currently out of work or looking for employment.

### Training opportunities act

If you are working, you can get your course partially or completely funded by your employer thanks to the [Training Opportunities Act](#) (Qualifizierungschancengesetz in German) - regardless of your qualifications, age or the size of the company.

### StackFuel scholarships

We regularly award various [scholarships](#) for our courses, to promote more diversity in the field of data. We want to encourage more people to take an interest in programming, and more women to work in data roles.

## Support & mentoring.

### Coaching

- > Assessment
- > Final project and evaluation
- > 1:1 project feedback consultation
- > Official certificate of completion

### Personal mentoring

- > Kick-off session
- > Webinars with other course participants
- > Support via email or phone
- > Online forum

### Career services

- > CV and application coaching
- > Talent pool and career intros
- > Data community
- > Career events



# Ready to enroll?

Get in touch with our **consultants**  
and build up the **skills** you need!

For Individuals



**Maria Schwenke**

Education Advisor

[Book free consultation](#)

For Businesses



**Ginesh Koottakara**

Head of Sales

[Book free demo](#)

August 2023

**Version:** 23/08/21

**Publisher:** StackFuel GmbH

**Web:** [www.stackfuel.com](http://www.stackfuel.com)

**Email:** [info@stackfuel.com](mailto:info@stackfuel.com)

**Phone:** +49 (0)30 544 533 420

Errors and omissions excepted.

© 2023 StackFuel GmbH