Octomo
From People with People

Syllabus

6 Week Training: Collaborative Python Foundation

for aspiring data scientists, researcher, automation heroes, back-end engineers, and product managers

Goal:

A strong foundation in Python. By the end of this training, you will be able to code in Python, collaborate, and transfer your knowledge to build your own projects.

Estimated Time	Prerequisite	Scheduled Live Session
6 weeks / 10-12h per week	No programming experience required	12h live calls / 2h weekly live calls

Have a question?
Write Bastian at
bastian@octomo.org

Course Content: Python Programming

Training 1

Basic Data Structures - Lessons

The 'Print' Function, Variables, Stings I, String II, String III, Integers and Floats, The 'Type' Function, The 'Input' Function, String Formatting Options

Challenges

Letter Counter App, MPH to MPS Conversion App, Temperature Conversion App, Right Triangle Solver App, Multiplication / Exponent Table App

Training 2

Lists - Lessons

Lists, Changing and Adding Elements to Lists, Removing Elements from Lists, The 'Sorting' and 'Len' Functions in Lists, Tuples

Challenges

Grade Sorter App, Different Types of Lists Program, Grocery List App, Basketball Roster Program, Favorite Teachers Program

Training 3

For Loops - Lessons

Introduction, Loop through Elements, Loop through Range, Slicing, The 'Zip' Function

Challenges

Binary Hex Converter App, Quadratic Solver App, Factorial Calculator App, Fibonacci Calculator App. Average Calculator App

Training 4

Conditionals - Lessons

Boolean Values, If and Else, Elif, Nested If, Break, Continue and Pass

Challenges

Shipping Accounts Program, Coin Toss App, Voter Registration App, Guess My Number App, Rock Paper Scissors Program

Training 5

Dictionaries - Lessons — Dictionaries, Looping Dictionaries, Nested Dictionaries

Challenges — Quiz Thesaurus App, Database Admin Program, Yes or No Polling Program, Frequency Analysis Program, Code Breaker App

Training 6

While Loops - Lessons — While Loops, Modulo Division, More with While Loops

Challenges — Quiz Factor Generator App, Even Odd Number Sorter App, Prime Number App, Guess My Word App, Powerball Simulator App

Training 7

Functions - Lessons — What is a Functions?, Your Own Functions, Return Values, Local and Global

Challenges — Python Dice App, Python Calculator App, Bank Deposit and Withdrawal App, Head to Head TicTacToe App, Loan Calculator App

Training 8

Classes - Lessons — Creating a Class, Defining Methods, Another Look at Classes I, Another Look at Classes II, Inheritance I, Inheritance II

Challenges — Python agachi Simulator App, Blackjack App, Pokemon Simulator App, Epidemic Outbreak Terminal App, Epidemic Outbreak

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A typical week at Octomo

A: Structured program to learn and solve coding challenges

+ **Relevant projects**: Learn to code by solving 40 relevant projects

+ **Understand and strengthen:** Practice with over 50 quizzes to build understanding and reinforce your knowledge

+ **Communicate and collaborate:** Learn pair programming by solving Codewars challenges

B: Meet twice per week at fixed times with your study group

+ **Personalized explanations:** Explain and get coding concepts explained for a personalized learning experience

+ **Different perspectives:** Share your own coding solutions and learn how others solved it. to learn from various perspectives

+ **Mutual help:** Provide and receive help if you are frustrated and unsure how to proceed

+ **Holding Accountability:** Hold and be held accountable by people you get to know

Learn from the finest

Mike Eramo
Total Students 92.162

I hold degrees in Music, Education, Physics, and Mathematics and I am passionate about teaching what I know to those around me in a way that is engaging, meaningful, and with purpose.

Julian F. Clausen
Chief of Editor
Co-Founder and VP of Learning @ Octomo

Bastian C. Kuelzer
Chief of Editor
Co-Founder @ Octomo

Our Python Training Program Includes:

Dedicated Study Group

+ Collaboration and discussions in live group sessions

+ Livelong study group with fitting peers

+ Pair Programming

Structured course curriculum

+ 40 projects

+ 28h of course content

+ 50 additional quizzes

Live-coaching*

+ Understand the real-world relevance of what you learn

+ Understand the why

+ Get access to best practices

*only for the coaching program

Frequently Asked Questions

General

Who is this program for?
For anyone who wants to enter the world of big data and analytics, this course gives you a sound comprehension of Python and Algorithms, the core tools for Data Scientists and any data related job. Finishing this course successfully equips you to move on to your own projects. There is no prior coding knowledge required.

Why should I enroll?
Python is the most important programming language for any data related job. Due to the increasing pace of how we can collect data, being able to manipulate and interpret data will be necessary in the near future for the job market. A sound understanding of the core concepts is a necessity to start building future proof competencies.

What jobs will this program prepare me for?
This is an introductory program that is not designed to prepare you for a specific job. As a graduate of this program, you will be proficient in the programming skills used in many data analysis and Data Science roles.

FAQ Extended

Program Overview

How do you decide what study group I'm in?
We select the study group based on shared goals, previous experience and the same life stage so that you are all on a similar level and progress as fast as possible and can enjoy your data journey together

How is the Python program structured?
This Python program is structured in a way that it supports fourty (40) projects. Students can complete this program on average within six (6) weeks, working 10h per week on it.

How long is the Python program?

Access to your program runs for two (2) months. Afterwards, you will have access to your study group on Discord and the possibility to work on future projects together. If you do not finish the program within two (2) months, you are free to continue learning with month to month payment.

What are the technical requirements for this program?
For this program, you will need a computer with a camera, microphone and access to a stable Internet.

Enrollment and Admission

Do I need to apply? What are the admission criteria?
We do believe in the power of small study groups, this also limits our capacity of how many people we can admit to our program. We will select participants based on their motivation and previous experience to ensure the high quality of balanced groups. During the sign-up process you will fill out a questionnaire about yourself. This helps us to put you in the right study group (no preparation required).

Can I switch my start date? Can I get a refund?
You can switch your start date before the first session with your study group has started. You will also receive a full refund if you cancel before the first study group session has begun.

Can I re-apply if I was not admitted?
Yes, you can.