

BEGINNER LEVEL · SOFTWARE DEVELOPMENT · PYTHON

Dive Deep into Python

Full course syllabus - every module, video lesson, reading and assignment, from your first variable to object-oriented programming, file handling and exceptions.



Board Infinity

Instructor · Offered on Coursera

4

Modules

76

Video lessons

19

Assignments

3 weeks

At 10 hours a week

INSIDE THE COURSE

01

Foundations of Python Programming

8 hours to complete

02

Python Programming Essentials

6 hours to complete

03

Python Data Structures and Functions

7 hours to complete

04

Python OOPs and File Handling

8 hours to complete

Enroll on Coursera

<https://www.coursera.org/learn/dive-deep-into-python>

From your first variable to your own classes.

Dive Deep into Python takes you from a foundational understanding of Python to its finer points. You start with core programming concepts - data types, operators and control flow - then move on to loops, strings, arrays and lists, and on to Python's data structures and functions.

The final module covers object-oriented programming - classes, objects, inheritance, polymorphism, encapsulation and abstraction - alongside file handling, directories and exception handling. That's 76 videos, 17 readings and 19 assignments in all. The course is at beginner level and starts from the foundations.

WHO IT'S FOR

Complete beginners

Writing code for the first time, starting from setup.

Students

Building a programming foundation for coursework and placements.

Developers in other languages

Picking up Python's syntax, data structures and OOP.

Aspiring data & ML learners

Getting the core Python that data science builds on.

WHAT YOU'LL LEARN

01

Understand core Python

Modules 1-2

Core concepts, data types, operators, control flow and the essentials of programming in Python

02

Work with data structures

Module 3

Lists, tuples, dictionaries and sets for effective data management and manipulation

03

Master object-oriented Python

Module 4

Design modular code with classes, inheritance, polymorphism and encapsulation

04

Handle files and errors

Module 4

File handling, directory management and robust error and exception handling

Four modules, from syntax to objects.

3 weeks to complete at 10 hours a week. Flexible schedule - learn at your own pace.

01

Foundations of Python Programming

Tools, syntax, variables, operators and control flow

8 hours

22 videos

BY THE END OF THIS MODULE YOU CAN

- ✓ Set up a Python IDE and use Kaggle and GitHub alongside it
- ✓ Write correctly indented code with comments, identifiers and keywords
- ✓ Use variables, type casting and arithmetic, comparison and bitwise operators
- ✓ Control program flow with input(), if, nested if-else and break

CONTENTS 22 videos (192 min) · 5 readings (130 min) · 5 assignments (120 min) · 1 plugin (15 min)

TOPICS

Programming Fundamentals

Data Types and Variables

Operators and Expressions

Python Statements

You'll leave with: your first working Python programs, and the syntax and logic that every later module builds on.

02

Python Programming Essentials

Loops, strings, arrays and lists

6 hours

15 videos

BY THE END OF THIS MODULE YOU CAN

- ✓ Repeat work with while and for loops
- ✓ Explain why strings are immutable and use concatenation and repetition
- ✓ Use built-in string functions, split and join, test cases and formatting
- ✓ Index, slice, loop over and modify arrays with built-in functions

CONTENTS 15 videos (174 min) · 3 readings (90 min) · 4 assignments (105 min)

TOPICS

Loops and Strings

String Manipulation and Operations

Array and List Operations

You'll leave with: the loops and string and array handling to work with real data in Python.

03

Python Data Structures and Functions

Lists, tuples, sets, dictionaries and functions

7 hours

19 videos

BY THE END OF THIS MODULE YOU CAN

- ✓ Work with lists and explain why they are mutable
- ✓ Index, slice and use built-in functions on tuples and sets
- ✓ Store and look up data with dictionaries and their methods
- ✓ Write functions, compose them, pass arguments and use lambda functions

CONTENTS 19 videos (205 min) · 4 readings (120 min) · 5 assignments (120 min)

TOPICS

Lists and Mutability

Tuples, Sets and Functions

Python Dictionaries

Lambda Expressions

You'll leave with: the data structures and reusable functions behind efficient, organised Python code.

04

Python OOPs and File Handling

Classes and objects, files, directories and exceptions

8 hours

20 videos

BY THE END OF THIS MODULE YOU CAN

- ✓ Create classes and objects, and return instances from functions
- ✓ Apply inheritance, polymorphism, encapsulation and abstraction
- ✓ Read files, use file modes, and make, rename, change and remove directories
- ✓ Tell errors from warnings and handle exceptions with try statements

CONTENTS 20 videos (239 min) · 5 readings (130 min) · 5 assignments (120 min)

TOPICS

OOPs and its Applications

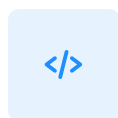
File Handling

Directory Operations

Exception Handling

You'll leave with: modular, object-oriented Python that reads and writes files and fails gracefully.

The tools you work in, and what you leave with.

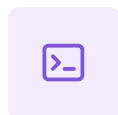


Python

Language

Syntax, data types, operators, control flow, data structures, functions and OOP.

In this course: All four modules, every concept shown on screen.

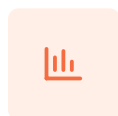


Python IDE

Editor

The development environment where you write, run and debug your code.

In this course: Set up at the start of Module 1.



Kaggle

Notebooks

Online notebooks and datasets for practising Python without a local setup.

In this course: Introduced in Module 1, and why it is required.



GitHub

Version control

Where code is stored, shared and tracked - and where your portfolio lives.

In this course: Introduced in Module 1, and why it is required.

SKILLS YOU LEAVE WITH

Programming foundations

- ✓ Computer programming
- ✓ Programming principles
- ✓ Python programming
- ✓ Algorithms

Data & structure

- ✓ Data structures
- ✓ Data storage
- ✓ Object-oriented programming
- ✓ Code reusability

Files & reliability

- ✓ File I/O
- ✓ File management
- ✓ Directory operations
- ✓ Exception handling

Finish with a shareable certificate.



Add it to LinkedIn

Add this credential to your LinkedIn profile, resume, or CV.



Share it anywhere

Share it on social media and in your performance review.



Earned, not attended

Awarded on completion of the practice and graded quizzes in all four modules.



A base for what's next

The Python foundation for data analysis, automation, web and machine learning.

ROLES THAT USE THESE SKILLS

[Python Developer](#)[Software Developer](#)[Data Analyst](#)[Automation Engineer](#)[Backend Developer](#)[QA / Test Engineer](#)

Board Infinity

Instructor · Offered on Coursera

Beginner level · Taught in English · 9 languages available · Flexible schedule

Ready to write your first Python program?

Enrollment, lessons, grading and the certificate all happen on Coursera.

[Enroll on Coursera](#)

Course page:
[coursera.org/learn/
dive-deep-into-python](https://coursera.org/learn/dive-deep-into-python)

Want a coach alongside the course?

Board Infinity 1:1 coaching is a separate, optional Board Infinity offering - it is not part of the Coursera course. Details: <https://www.boardinfinity.com/career-coaching/>

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