



MFE-IT

Reference: MB-PY

Python Training Course – Introduction to Programming

From the Basics to Your First Programs

Duration: 4 Days | Hours: 28 h

Remote · Sessions guaranteed from 1 registrant · 60% hands-on practice

DESCRIPTION

This 'Python – Introduction to Programming' training course introduces you to the basics of Python and to programming itself, from setting up the environment to writing your first programs. You will learn the fundamentals of syntax, data structures, functions, error handling and object-oriented programming.

Through numerous practical exercises and guided workshops, you will develop useful and reusable Python scripts. Upon completion of the training, you will be autonomous in writing, testing and evolving simple Python programs adapted to your professional or personal projects.

LEARNING OBJECTIVES

By the end of this training course, participants will be able to:

- Understand the fundamentals of programming with Python, a versatile and easy-to-learn language
- Install and configure a suitable Python environment (interpreter, IDE, package manager)
- Master basic syntax, data types, operators and control structures (conditionals, loops)
- Learn to structure programs and write custom, reusable functions
- Discover object-oriented programming (OOP) in Python and design simple classes
- Develop and run useful Python scripts with error handling and best practices

PREREQUISITES

- No specific technical prerequisites: basic computer skills (files, navigation) are sufficient
- A computer with Windows, macOS or Linux and administrator access to install Python

Because each participant is unique, a personalised interview is systematically organised in advance with our expert to design a training programme perfectly aligned with their objectives, level and professional challenges.

TARGET AUDIENCE

- Absolute beginners in programming wishing to learn Python
- IT or business staff who need to automate tasks or process data
- Professionals wishing to acquire a first skill in software development

DETAILED PROGRAMME

The training alternates between theoretical input and hands-on practice (approximately 60% of the time). Modules are built around practical exercises based on real-world business use cases.

Module 1 – Introduction to Python and Setup

- Overview of the Python language: interpreted and multi-paradigm
- Installing Python and an IDE (VS Code, PyCharm) or notebooks
- Using the Python interpreter and running your first script

Module 2 – Syntax, Variables and Basic Types

- Variables, naming conventions and assignment
- Primitive types: int, float, str, bool
- Arithmetic, comparison and logical operators

Module 3 – Control Structures

- Conditional statements (if, elif, else)
- Loops (for, while) and iteration management
- break, continue and loop patterns

Module 4 – Data Collections

- Lists, tuples, dictionaries and sets
- Creation, access, modification and iteration
- List comprehensions and built-in functions

Module 5 – Functions and Modularisation

- Writing functions with parameters and return values
- Variable scope and function documentation
- Modules, packages and the standard library

Module 6 – Error and Exception Handling

- try / except blocks and exception types
- Raising custom exceptions
- Defensive programming for robust scripts

Module 7 – Object-Oriented Programming (OOP)

- Defining simple classes, attributes and methods
- Constructors, encapsulation and special methods
- Inheritance and basic polymorphism

Module 8 – Input/Output and Files

- Reading and writing text files
- Working with CSV and JSON data
- File path management with pathlib

Module 9 – Practical Workshops and Mini-Projects

- Interactive scripts: calculations, text processing, file handling
- Final mini-project combining all concepts
- Best practices: PEP 8 and code readability

TEACHING METHODS

Format and Delivery

The training is delivered remotely via an interactive virtual classroom. It can also be delivered on-site, with content customised to match the needs of your professional project. The theory/practice split is approximately 40%/60%.

MFE-IT Ultra-Personalised Format

Each session accommodates between 1 and 3 participants, ensuring highly individualised support. A preliminary interview allows us to tailor the content to each participant's profile. Inter-company sessions are guaranteed from just 1 registrant (except in cases of force majeure).

Skills Assessment

Throughout the training, the trainer assesses participant progress through multiple-choice questions, role-playing exercises and hands-on work. At the end, a certificate of achievement is issued to each participant.

Post-Training Support

For one month following the training, each participant can contact MFE-IT trainers with questions about implementing acquired knowledge. A response is provided by email or telephone within 48 working hours.

Accessibility

MFE-IT is committed to welcoming people with disabilities. Contact: contact@mfe-it.com.

PRACTICAL INFORMATION

Trainer Resources

- Structured demonstrations aligned with the detailed programme
- Exercise briefs and solutions throughout the training
- A ready-to-use technical environment for practical workshops
- Trainer validation of acquired knowledge at the end of each workshop
- Digital reference documents

Certification and Validation

At the end of the training, a certificate is sent by email specifying the objectives, nature, duration and assessment results. A completion certificate can also be provided on request.

Benefits for Participants

- Train from your workplace or home, with no travel required
- Benefit from an expert trainer-consultant on the subject
- Enjoy an ultra-personalised format (1 to 3 participants)
- Continue training even in the event of unforeseen circumstances

Benefits for the Organisation

- Optimise the training budget by reducing travel and accommodation costs
- Offer quality training to all employees, regardless of location
- Reduce absence time linked to travel
- Support team upskilling in all contexts