



Fee

**50,00 €**

Final exam only

# Course technical sheet

Python – Training Course (Data Science, Machine Learning, Web & Automation)

Course code

**PYTHON\_LA**

Test duration

**60 min**

Passing score

**70%**

Issued

**27/05/2026**

## Executive summary

The Python – Training Course (Data Science, Machine Learning, Web & Automation) provides a comprehensive education on Python 3.x, focusing on key professional application areas. Participants will gain hands-on skills in managing virtual environments and dependencies, writing automated tests with pytest, and manipulating data using libraries such as NumPy and pandas. Advanced topics in machine learning with scikit-learn, web development with Flask and Django, and automation using scripting, APIs, and job scheduling are covered. The teaching approach combines theory, practical exercises, and case studies, emphasizing development best practices according to PEP 8 style guidelines. The course is designed for programmers, analysts, and IT professionals seeking to integrate Python into their projects to enhance efficiency and analytical capabilities. At the end, a certification exam assesses the acquired skills. This training is suitable for those aiming to deepen language proficiency across diverse application fields, improving technical knowledge and operational abilities for professional work.

## Certification process

- Registration or login to the Academy platform.
- Completion of the final course examination only. Any training or preparation may be completed externally or through other channels.
- The test questions refer to the objectives, skills and topics described in this technical sheet.
- Assessment of the result, possible validation and certificate issuance according to the rules applicable to the course.

## Important note

On Academy, candidates take only the final course examination. Any training or preparation activity may be delivered externally or through other channels. The test questions refer to the topics described in this technical sheet and in the course syllabus summary.

## Syllabus summary

Python 3.x (Python Software Foundation) + PEP 8 (style guide) + development best practices: virtual environments and dependency management (venv/poetry), testing (pytest), data handling (NumPy/pandas), machine learning (scikit-learn), web development (Flask/Django) and automation (scripting, APIs, job scheduling)

## Learning Objectives

- Understand and apply core features of Python 3.x
- Manage virtual environments and dependencies using venv and poetry

### Certification Bodies Management systems

IFZA Business Park - Building A2 - Nadd Hessa - Dubai Silicon Oasis  
United Arab Emirates  
Phone: +971 502475030  
Email: info@certificatowz.org  
VAT/Tax ID: 104216397000003

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- Develop testable software with pytest and testing best practices
- Use scientific libraries like NumPy and pandas for data handling
- Implement basic machine learning models with scikit-learn
- Design web applications using Flask and Django
- Automate processes through scripting, APIs, and job scheduling

### Skills Acquired

- Writing Python code conforming to PEP 8 standards
- Building and maintaining isolated development environments
- Creating unit tests and handling exceptions
- Analyzing and manipulating complex datasets
- Creating and validating predictive models
- Developing RESTful web services
- Scripting for automation and task management

### Target Audience

- Beginner to intermediate Python programmers
- Early-career data analysts and data scientists
- Web developers interested in Python frameworks
- IT technicians and engineers aiming to automate tasks

### Prerequisites

- Basic programming knowledge
- Familiarity with operating systems and command line

### Syllabus

- Introduction to Python 3.x and environment setup
- Dependency management and virtual environments
- Testing with pytest: unit tests and fixtures
- Data manipulation with NumPy and pandas
- Machine learning fundamentals with scikit-learn
- Web development with Flask: routing, APIs, middleware
- Django deep dive: models and views
- Automation: scripting, APIs, job scheduling

### Teaching Methodology

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- Lectures and theoretical explanations
- Individual and group practical exercises
- Real-world case study analysis

### Evaluation Method

- Final test requiring at least 70% to pass
- Multiple choice questions and practical cases

### Duration

- 60 minutes

### Certification

- Certificate of attendance with final evaluation (certification fee 50 euros)

### Expected Outcomes

- Ability to use Python for data science, machine learning, web development, and automation
- Knowledge of main Python ecosystem libraries and tools
- Skills to write clean, tested, and maintainable code