



PYTHON TRAINING

Mastering Python Course

Master advanced Python programming to build robust, efficient applications and automate complex tasks with expert-level skills.

DURATION

2 hours

LEVEL

Intermediate

FORMAT

Instructor-Led

- Globally Recognized Certification

- Expert-Led Hands-On Training

- Flexible Scheduling

Computer Pride | 1st Floor, ICEA Building, Kenyatta Avenue, Nairobi | www.computer-pride.co.ke

COURSE OVERVIEW

The "Mastering Python Course" from Computer Pride is meticulously designed for intermediate Python developers looking to elevate their coding prowess and tackle more complex challenges. This intensive 2-hour program moves beyond foundational syntax, diving deep into advanced Python concepts that are crucial for efficient, scalable, and robust application development. You'll explore powerful features like decorators, generators, context managers, and advanced object-oriented programming principles, learning how to leverage them for cleaner, more maintainable, and highly performant code.

This course is engineered to bridge the gap between basic Python scripting and professional-grade development. By focusing on practical application and best practices, participants will gain a nuanced understanding of Python's intermediate capabilities, equipping them with the skills to optimize existing codebases, build sophisticated applications, and significantly boost their productivity. Completing this course will not only deepen your technical expertise but also enhance your problem-solving abilities, making you a more valuable asset in any Python-driven development environment.

Duration	2 hours
Level	Intermediate
Vendor	Python

COURSE CURRICULUM

01 Module 1: Advanced Python Functions & Data Structures

- Understanding Closures and Decorators for code enhancement
- Working with Generators and Iterators for memory efficiency
- Advanced List, Dictionary, and Set Comprehensions
- Introduction to `collections` module (namedtuple, defaultdict, Counter)

02 Module 2: Object-Oriented Programming (OOP) Deep Dive

- Inheritance, Polymorphism, and Encapsulation principles
- Class Methods, Static Methods, and Instance Methods
- Understanding `\_\_init\_\_`, `\_\_str\_\_`, `\_\_repr\_\_` and other Dunder Methods
- Implementing custom context managers with `\_\_enter\_\_` and `\_\_exit\_\_`

03 Module 3: Error Handling, Debugging & File Operations

- Advanced Exception Handling (custom exceptions, finally clause)
- Effective Debugging Techniques (pdb, logging module)
- Working with various file formats (CSV, JSON parsing and creation)
- Introduction to data serialization and deserialization

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

- > **Junior Python Developer (focus on efficient code & OOP)**
- > **Data Analysis Assistant (scripting for data manipulation & automation)**

> Automation Script Developer (creating robust automation tools)

FREQUENTLY ASKED QUESTIONS

Q: What specific prior Python experience is necessary to benefit most from this 2-hour 'Mastering Python' course?

This course is designed for intermediate learners. You should have a solid grasp of Python fundamentals, including basic syntax, data types (lists, dictionaries, strings), control flow (if/else, loops), and defining simple functions. Prior exposure to basic object-oriented concepts would be beneficial but is not strictly required as we will cover them in depth.

Q: How will the practical exercises in this course enhance my ability to write production-ready Python code?

While the course is concise, it emphasizes hands-on application of advanced concepts through focused exercises. You will learn to implement decorators for reusable logic, apply context managers for resource management, and use robust error handling. These skills are critical for writing maintainable, efficient, and professional-grade Python code that stands up in real-world development environments.

Q: Beyond core syntax, what advanced Python features will I master to tackle complex real-world programming challenges?

This course will equip you with a mastery of features such as decorators and generators, which are essential for writing highly optimized and extensible code. You'll gain a deep understanding of advanced OOP principles to design flexible software architectures, and learn robust error handling and debugging techniques to build resilient applications capable of handling unexpected scenarios in complex projects.

ABOUT COMPUTER PRIDE



East Africa's Premier IT Training Center

With over 15 years of excellence, Computer Pride delivers globally recognized certification programs from leading technology vendors. Located on Kenyatta Avenue in Nairobi's CBD, our state-of-the-art facilities and expert instructors have empowered thousands of professionals across East Africa.

15+

Years of Excellence

10,000+

Professionals Trained

50+

Vendor Certifications

READY TO ENROL?

Take the next step in your technology career.

Location

Email

Phone

1st Flr, ICEA Building
Kenyatta Ave, Nairobi

info@computer-pride.co.ke

+254 705 900 900

www.computer-pride.co.ke