



PYTHON TRAINING

Advanced Python Course

Elevate your Python skills with advanced programming techniques. Master complex data structures, algorithms, and build robust applications.

DURATION

2 hours

LEVEL

Intermediate

FORMAT

Instructor-Led

-
- Globally Recognized Certification
 - Expert-Led Hands-On Training
 - Flexible Scheduling

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COURSE OVERVIEW

Unlock the full potential of Python with Computer Pride's Advanced Python Course. This intensive 2-hour program is meticulously designed for developers who have a foundational understanding of Python and are eager to elevate their coding skills. Dive deep into Python's most powerful features, exploring advanced language constructs, object-oriented programming paradigms, and foundational concepts of concurrent execution. You will gain insights into writing more efficient, robust, and maintainable Python code.

This course focuses on practical application, enabling you to master complex Python techniques that are critical for developing high-performance applications. By understanding topics like decorators, context managers, and asynchronous programming, you will enhance your problem-solving capabilities and learn to build sophisticated systems. The professional benefits include significant improvements in code quality, a deeper understanding of Python's internals, and the ability to tackle more challenging development tasks, ultimately accelerating your career growth in specialized IT roles.

Duration	2 hours
Level	Intermediate
Vendor	Python

COURSE CURRICULUM

01 Module 1: Advanced Language Constructs

- Understanding Decorators and their applications
- Working with Generators for memory-efficient iteration
- Implementing Context Managers using 'with' statements
- Deep dive into Iterators and the iterator protocol

02 Module 2: Advanced Object-Oriented Python

- Advanced Inheritance and Polymorphism techniques
- Exploring Python's Data Model (__dunder__ methods)
- Introduction to Metaclasses and their use cases
- Best practices for class design and encapsulation

03 Module 3: Concurrency Fundamentals

- Introduction to Threading for parallel execution
- Understanding Multiprocessing for CPU-bound tasks
- Basic concepts of Asynchronous Programming with Asyncio
- Identifying appropriate use cases for concurrency models

04 Module 4: Performance, Testing & Best Practices

- Basic Python code profiling and optimization techniques
- Introduction to Unit Testing with unittest and pytest
- Effective debugging strategies for complex Python applications
- Adhering to Pythonic code style (PEP 8) and linting

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

- > **Senior Python Developer**
- > **Backend Software Engineer (API Development)**
- > **DevOps Automation Specialist**

FREQUENTLY ASKED QUESTIONS

Q: What are the prerequisites for enrolling in this Advanced Python Course?

This course is designed for individuals who have a solid foundational understanding of Python programming, including basic syntax, data structures (lists, dictionaries, sets), functions, basic object-oriented concepts (classes and objects), and file I/O. Prior experience building small Python scripts is highly recommended to fully benefit from the advanced topics covered.

Q: How will this course help me build more robust and scalable Python applications?

By covering advanced topics like decorators for extending functionality, context managers for resource management, and concurrency fundamentals for handling multiple operations, this course equips you with the tools to write more resilient, efficient, and maintainable Python code. You'll learn design patterns and best practices that are crucial for developing applications that can scale and perform under demand.

Q: Does this course cover specific Python frameworks like Django or Flask, or advanced data science libraries?

While this course provides the advanced Python language skills necessary to excel in framework-based development (like Django or Flask) or data science, its primary focus is on deepening your understanding of core Python language features, advanced OOP, concurrency, and performance optimization techniques. It serves as a strong prerequisite for specialized courses in web development, data science, or machine learning with Python, rather than a deep dive into specific frameworks or libraries themselves.

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.

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