



PYTHON PROGRAMMING

Course ID : PYTHON-L1



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Duration: 3 Days

(18 Hours) 09:00 AM – 04:00 PM



Price: 11,900 THB

* (excluding VAT 7%)

* Eligible for 200% tax deduction



Training Schedule

www.9experttraining.com

Category: Development

The Python Programming course introduces the essential programming concepts related to computer operations, along with the syntax and structure of the Python language. It is designed for students, engineers, software developers, and anyone interested in learning Python or exploring software development. Whether participants have prior experience with other programming languages or are complete beginners, this course provides a solid foundation in Python programming including Python 3.x syntax,

programming logic, and key paradigms such as Object-Oriented Programming (OOP) and Functional Programming allowing learners to apply their skills effectively in real-world scenarios.

Objectives

1. Understand the fundamental principles of programming and computer operations.
2. Build a strong foundational in essential software development concepts.
3. Develop proficiency in Python's syntax and programming structures.
4. Individuals aiming to use Python for future work in data science.

Target Audience

1. Students, engineers, software developers, and individuals interested in learning programming.
2. Learners who want to build a solid foundation in programming using Python.
3. Individuals preparing to use Python in data science or related fields.

Prerequisites

1. Basic computer literacy is required.
2. Participants should demonstrate a willingness and eagerness to learn.

System Requirements

1. x86 64-bit CPU (Intel / AMD architecture)
2. Minimum 4GB RAM (8GB or more recommended)
3. At least 50GB of available disk space
4. Supported Operating Systems: Windows 10+, macOS X 10.6+, or Ubuntu 16.10+
5. Latest version of Python for Windows
6. Visual Studio Code (VS Code)
7. MySQL database system

TRAINING TOPICS



DAY 1 Morning Session

9:00 AM – 12:00 PM

1. Introduction to Programming

- Key concepts of programming
- Overview of the Python programming language
- Installing and setting up Python
- Getting started with IDLE
- Installing and accessing Google Colab
- Working with Google Colab for basic operations
- Installing Microsoft Visual Studio Code (VS Code)
- Introduction to basic VS Code usage



DAY 1 Afternoon Session

1:00 PM – 4:00 PM

2. Python Syntax and Core Grammar

- Operators and expressions
- Variables
- Variable naming rules and best practices
- Basic data types

3. Working with Strings

- Creating and using string variables

4. Conditional Statements

- if ... else
- if ... elif ... else

5. Looping Statements

- For loops
- While loops
- Using break and continue

DAY 2 Morning Session

9:00 AM – 12:00 PM

6. Python Data Structures

- List and list comprehensions
- Tuples
- Dictionaries
- Sets

7. Working with Functions

- Creating and using functions effectively

8. Variable Scope

- Understanding global and local variables

9. Error Handling and Debugging

- Identifying bugs and debugging techniques
- Common error types
- Handling exceptions in Python

DAY 2 Afternoon Session

1:00 PM – 4:00 PM

10. Working with Modules

- Exploring the Python Standard Library
- Installing and utilizing external modules
- Understanding the differences between Python, Miniconda, and Anaconda

11. Building a QR Code Generator

- Creating and customizing QR codes

12. Program Scheduling (Job Scheduling)

- Automating tasks using scheduling tools

DAY 3 Morning Session

9:00 AM – 12:00 PM

13. Working with Files

- Reading and writing text files
- Handling JSON (JavaScript Object Notation) data
- Working with Excel files

14. Database Connectivity in Python

- Connecting to SQLite databases
- Working with MySQL
- Integrating with Microsoft SQL Server Express Edition

15. Introduction to Data Science Libraries

- NumPy for numerical computing
- Pandas for data manipulation
- Matplotlib for data visualization
- Plotly for interactive visualizations

 **DAY 3** Afternoon Session

1:00 PM – 4:00 PM

16. Image Scraping

- Extracting images from websites programmatically

17. Web Browser Automation with Selenium

- Overview of Selenium
- Automating browser interactions
- Automating data entry and form submission

18. Web Scraping with BeautifulSoup

- Understanding website structure and HTML
- Extracting data using BeautifulSoup

19. API Development with Python

- API fundamentals
 - HTTP protocol basics
 - Using the Requests module and interpreting status codes
 - Authorization concepts: bearer tokens and rate limits
- Retrieving data from public web APIs
 - Examples: gold price, gas price
- Introduction to FastAPI
- Building APIs using Python

20. Configuration Management with ConfigParser

21. Unit Testing in Python

22. Creating Virtual Environments with venv

23. Artificial Intelligence (AI) with Python

- Implementing face detection
- Implementing object detection



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