Course Outline | Python Programming Fundamentals

3 day(s)

Overview

This course offers a comprehensive journey through Python's foundational principles and its utility in practical scenarios like data handling, file management, and integration with spreadsheets and databases.

Prerequisites

No previous Python or other programming knowledge required.

Course Outline

Introduction to Python

- Overview
- Using Python
- Installation

Python Basics

- Variables and naming conventions
- Storing single values
- Working with numbers
- Working with text
- Date and time values
- Special values: True, False, None

Python Operators and Control Structures

- Expressions and operators
- The 'if' statement, 'else' and 'elif'
- 'for' loops, including range and enumerate functions
- 'while' loops
- Exception handling

Working with Collections

- Lists and tuples
- Sets and their operations (union, difference)
- Dictionaries and key-based lookup

Processing Data

- Converting between different data types
- Boolean operations

Writing and Structuring Code

- Functions: defining, calling, and scoping
- Modules and imports
- Comments, indentation, and multi-line code
- Object-Oriented Programming introduction

Practical Python Usage

- Using the 'print' statement
- File operations: reading and writing
- Working with spreadsheets
- Database interactions

Python's Ecosystem and Continued Learning

- Standard library exploration
- Discovering third-party libraries
- Paths for ongoing learning and staying updated