

Price: R7,800.00 excl. VAT
Duration: 4.5 days
Code: PYTHN

Python Programming

Description

Python is a popular programming language and is used by companies like Google and Facebook. It has many advantages: it is free, easy to learn, fast to learn and very versatile. This course will teach you how to read, write and understand Python scripts. You will learn good coding conventions, and be introduced to relevant resources and tools. The course will also provide an overview of object-oriented concepts in Python.

Objectives

After you have completed the Python Programming course, you will be able to:

- Read and understand Python scripts.
- Write simple to intermediate Python scripts using core components such as variables, operators, flow control structures and functions.
- Work with lists, dictionaries and sets.
- Improve the quality of your Python code by handling errors and exceptions.
- Understand and use Python's object-oriented features.

Intended Audience

You should attend the Python Programming course if:

- You are a programmer and you want to learn the Python language.
- You are a programmer and you need to support existing Python code.
- You are a system administrator with some programming background, and you want to write Python scripts.

Prerequisites

Before you attend the Python Programming course:

- You must already be a programmer and have experience in programming.

Course Contents

Overview

- Applications.
- Scripts.
- Interpretation.
- Platforms.
- Invocation.
- Structure.
- Data Types.
- Variables.
- Subroutines.
- Modules.
- Expressions.
- Output.
- Blocks.

Data Types, Lists, Dictionaries and Sets

- Numbers.
- Strings.
- String manipulation: string operations and string methods.
- Lists: List Notation, List Operations, Working with Lists.
- Tuples.
- Dictionary: Dictionary Notation, Dictionary Operations.
- Sets: Constructing Sets, Set Operations.

Python Statements

- Selection Statements.
- Iteration Statements.
- List Comprehension.
- Embedded Documentation (PyDoc).
- Regular Expressions: Patterns, Matching, Searching.
- File Handling & IO.
- Lambdas.
- Basic Debugging.

Functions

- Functions.
- Scoping.
- Passing Arguments.
- Returning Values.
- Exception Handling: Raising and Catch Exceptions, Custom Exceptions.
- Globals.
- Accessors.
- Closures.
- Basic OOP Concepts in Python.
- Custom Modules.

OO in Python

- Classes.
- Static Methods and Special Methods.
- Attributes and Class Members.
- Inheritance.
- Composition.
- Dynamic Class Structure.
- Class Dictionaries.
- Function Overloading.
- Method Specialization.
- Namespace Conventions.
- Class Organisation & Common Patterns.

Additional Topics

- System Library.

- Sockets and Threads.
- Processes.
- Fundamentals of TKinter GUIs.
- Basic Database Access.
- Portability Issues.
- Further Directions and Possibilities.

*** The lecturer reserves the right to modify the contents of the course to suit the needs of the delegates.*