

## **ATC-PYTHON-PROGRAMMING2: Python Programming II**

Course Code: ATC-PYTHON-PROGRAMMING2  
Duration: 5 days  
Instructor-led Training (ILT) | Virtual Instructor-led Training (VILT)

### **OVERVIEW**

In this course, you'll build upon your basic Python skills, learning more advanced topics such as object-oriented programming patterns, development of graphical user interfaces, data management, threading, unit testing, and creating and installing packages and executable applications.

### **SKILLS COVERED**

- Set up Python and develop a simple application.
- Declare and perform operations on simple data types, including strings, numbers, and dates.
- Declare and perform operations on data structures, including lists, ranges, tuples, dictionaries, and sets.
- Write conditional statements and loops.
- Define and use functions, classes, and modules.
- Manage files and directories through code.
- Deal with exceptions.
- Create object-oriented Python applications.
- Design and create a GUI.
- Store data in a database from Python applications.
- Communicate using client/server network protocols.
- Manage multiple processes with threading.
- Implement unit testing.
- Package an application for distribution.

### **WHO SHOULD ATTEND?**

None.

### **PREREQUISITES**

This course can be useful to those that are new to programming. To ensure your success in the course, you should have at least a foundational knowledge of personal computer use.

To ensure your success in this course, you should have experience with object-oriented programming and basic Python 2.7 or 3.x programming knowledge.

### **MODULES**

**Module 1: Setting Up Python and Developing a Simple Application**

**Module 2: Processing Simple Data Types**

**Module 3: Processing Data Structures**

**Module 4: Writing Conditional Statements and Loops in Python**

**Module 5: Structuring Code for Reuse**

**Module 6: Writing Code to Process Files and Directories**

**Module 7: Dealing with Exceptions**

**Module 8: Using Object-Oriented Python**

**Module 9: Creating a GUI**

**Module 10: Using Databases**

**Module 11: Network Programming**

**Module 12: Managing Multiple Processes with Threading**

**Module 13: Implementing Unit Testing**

**Module 14: Packaging an Application for  
Distribution**

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