Advanced Python 3 Programming

:

Course ID#: 1411-902-03-W

21 Hrs

Course Content

Course Description:

In this Python training course, students already familiar with Python programming will learn advanced Python techniques such as Jupyter Notebook, the Collections module, mapping and filtering, lamba functions, advanced sorting, working with regular expressions in Python, working with databases, CSV files, JSON and XM, writing object-oriented code, testing and debugging and learning about Unicode and text encoding. This advanced Python course is taught using Python 3, however, differences between Python 2 and Python 3 are noted.

Target Student:

Students already familiar with Python programming.

Prerequisites:

Basic Python programming experience. In particular, you should be very comfortable with: working with strings, lists, tuples and dictionaries; loops and conditionals; and writing your own functions. Some exposure to HTML, XML, JSON, and SQL would be useful.

Topics:

Jupyter Notebook

- Getting Started with Jupyter Notebook
- Creating Your First Jupyter Notebook
- Jupyter Notebook Modes
- Useful Shortcut Keys
- Markdown
- Magic Commands
- Getting Help

Advanced Python Concepts

- Advanced List Comprehensions
- Collections Module
- Mapping and Filtering
- Lambda Functions
- Advanced Sorting
- Unpacking Sequences in Function Calls
- Modules and Packages

Regular Expressions

- Regular Expression Syntax
- Python's Handling of Regular Expressions

Working with Data

- Databases
- CSV
- Getting Data from the Web
- HTML
- XML
- JSON

:

Advanced Python 3 Programming

Course ID#: 1411-902-03-W

21 Hrs

Classes and Objects

- Creating Classes
- Attributes, Methods and Properties
- Extending Classes
- Documenting Classes
- Static, Class, Abstract Methods
- Decorator

Testing and Debugging

- Creating Simulations
- Testing for Performance
- The unittest Module

Unicode and Encoding

- Encoding and Decoding Files in Python
- Converting a File from cp1252 to UTF-8