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**PHOENIX TS**

# Advanced Python 3 Programming Training

This advanced training addresses the programming language's more complicated features such as high level data structures, constructing GUIs, network and CGI programming.

## Course Overview

Our 2-day, instructor-led Advanced Python 3 Programming Training course, students already familiar with Python programming will learn the following:

- Advanced Python techniques such as Jupyter Notebook, the Collections module
- Mapping and filtering, lambda functions, advanced sorting
- Working with regular expressions in Python
- Working with databases, CSV files, JSON and XM
- Writing object-oriented code, testing and debugging
- Unicode and text encoding.

Students should be familiar with Python programming. This knowledge can be developed in the [Introduction to Python 3 Programming Training](#) course.

## Course Outline

### Advanced Python Concepts

- Lambda functions
- Advanced list comprehensions
- Exercise - rolling 5 dice
- Collections module
- Exercise - creating a defaultdict
- Exercise - creating a OrderedDict



- Exercise - creating a counter
- Exercise - working with a deque
- Mapping and filtering
- Mutable and immutable built-in objects
- Sorting
- Exercise - converting list.sort() to sorted (iterable)
- Unpacking sequences in functions calls
- Exercise - converting a string to a datetime.date object
- Modules and packages

## Working With Data

- Relational databases
- Exercise - querying a SQLite database
- Exercise - inserting file data into a database
- CSV
- Exercise - comparing data in a CSV file
- Getting data from the web
- Exercise - requests and beautiful soup
- JSON
- Exercise - using JSON to print course data

## Testing And Debugging

- Testing for performance
- The unittest module
- Exercise - fixing functions

## Classes And Objects

- Attributes
- Behaviors
- Classes vs objects
- Attributes and methods
- Exercise - adding a roll() method to die
- Private attributes
- Properties
- Exercise - properties
- Documenting classes
- Exercise - documenting the die class
- Inheritance



- Exercise - extending the die class
- Exercise - extending the roll() method
- Static methods
- Class attributes and methods
- Abstract classes and methods
- Understanding decorators

## Advanced Python 3 Programming Training FAQs

### Who should take Advanced Python 3 Programming Training?

Programmers seeking to advance their Python programming skills and basic programmers who want to learn how to incorporate the language into frameworks, software and other programs.



### Price Match Guarantee

We'll match any competitor's price quote. Call us at 240-667-7757.

### This **Advanced Python 3 Programming Training** class includes:

- 2 days instructor-led training
- Advanced Python 3 Programming Training book
- Notepad, pen and highlighter
- Variety of bagels, fruits, doughnuts and cereal available at the start of class\*
- Tea, coffee and soda available throughout the day\*
- Freshly baked cookies every afternoon\*



**PhoenixTS**

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*\*denotes this benefit is only available at participating locations*