

# ADVANCED PYTHON PROGRAMMING

4 Days Classroom  
4 Days Live Online

Individual: \$2395.00

Group: \$2295.00

GSA: \$1796.25

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## COURSE OVERVIEW

Advanced Python Programming is a practical, hands-on Python training course that thoroughly explores intermediate to advanced level topics and skills, with a focus on enterprise development. Throughout the course, students will learn how to Leverage OS services, Code graphical interfaces for applications, create modules and run unit tests, define classes, interact with network services, query databases, process XML data, and much more. This comprehensive, practical course provides an in-depth exploration of working with the programming language, not an academic overview of syntax and grammar.

### COURSE OUTLINE

#### Part 1: Python refresher

1. Builtin data types
2. Lists and tuples
3. Dictionaries and sets
4. Program structure
5. Files and console I/O
6. If statement
7. For and while loops

#### Part 2: OS Services

1. The os and os.path modules
2. Environment variables
3. Launching external commands with subprocess
4. Walking directory trees
5. Paths, directories, and filenames
6. Working with file systems

#### Part 3: Dates and Times

1. Basic date and time classes
2. Different time formats
3. Converting between formats
4. Formatting dates and times
5. Parsing date/time information

#### Part 4: Binary Data

1. What is Binary Data?
2. Binary vs text
3. Using the Struct module

#### Part 5: Pythonic Programming

1. The Zen of Python
2. Tuples
3. Advanced unpacking

4. Sorting

5. Lambda functions

6. List comprehensions

7. Generator expressions

8. String formatting

#### Part 6: Functions, modules, and packages

1. Four types of function parameters

2. Four levels of name scoping

3. Single/multi dispatch

4. Relative imports

5. Using `__init__` effectively

6. Documentation best practices

#### Part 7: Intermediate classes

1. Class/static data and methods

2. Inheritance (or composition)

3. Abstract base classes

4. Implementing protocols (context, iterator, etc.) with special methods

#### Part 8: Metaprogramming

1. Implicit properties

2. `Globals()` and `locals()`

3. Working with object attributes

4. The `inspect` module

5. Callable classes

6. Decorators

7. Monkey patching

See [website](#) for full outline.

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