Introduction to Python Programming Basics - TTPS4800

Hands-on Python Journey: JumpStart Your Python Basic Scripting Skills for Any Role

Duration: 3 Days
Skill Level: Introductory
Available Format: Instructor-Led Online; Instructor-Led, Onsite In Person ; Blended; On Public Schedule

Python is one of the most versatile, popular programming languages in use today. You can leverage Python in almost every industry, in a wide array of applications from system administration to machine learning, from automation to web services, from data analysis to visual effects. Compared to other programming languages, Python is relatively easier to learn and use, providing a wide variety of opportunities for students of all skill levels and roles.

What You'll Learn

Overview

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A core component of our **Python SkillJourney** skills-immersion series, **Introduction to Python Programming Basics** is a highly-rated, hands-on training course that has provided thousands of students with the skills required to quickly and easily put Python to work in their job, task or project. This three-day, jumpstart-style course provides an

excellent start for users new to Python, enabling them to use their new skills immediately and providing the broad foundation for continued Python learning in their particular industry.

NOTE: If you are coming from a non-technical background, you might consider the **TTPS4803: Python for Everyone: Getting Started with Python Basics for Non-Developers (4 days)** as an alternative to this course. If you want additional topics beyond the basics, you might consider the **TTPS4820 Mastering Python Programming Boot Camp** five day superset of this course.

Objectives

Working in a hands-on learning environment led by our engaging expert instructor you'll learn how to:

- Create working Python scripts following best practices
- Use python data types appropriately
- Read and write files with both text and binary data
- Search and replace text with regular expressions
- Get familiar with the standard library and its work-saving modules
- Use lesser known but powerful Python data types
- Work with dates, times, and calendars
- Know when to use collections such as lists, tuples, dictionaries, and sets
- Understand Pythonic features such as list comprehensions and generators
- Write robust code using exception handling
- Work with basics for network programming
- Create and use virtual environments

This course is rich with hands-on activities, challenge labs, knowledge checks, valuable discussions and focused projects that can be done individually or in groups. Guided by our engaging, highly-experienced instructor, you'll work within our user-friendly **Learning Experience Platform (LXP)** that combines the best aspects of in-person live training with our robust hands-on online environment. You'll have extensive opportunities for live engagement, practice and review. You'll exit this program equipped with the knowledge, skills and confidence needed to put your new Python skills right to work.

Audience

This course is geared for technical users who are new to Python. Roles might include developers, software engineers, data analysts who want to enhance data processing, system administrators and web site administrators who want to use Python to support their server installations, developers who want more efficient web solutions, as well as anyone else who wants to automate or simplify common tasks with the use of Python scripts.

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Pre-Requisites

To ensure a smooth learning experience and maximize the benefits of attending this course, you should have the following prerequisite skills:

- At least some prior hands-on experience with scripting or programming. You don't need to be an expert in either, but you should have had some exposure and should be coming from a technical background.
- Working with Unix or Linux, and familiarity with using the command line interface for simple tasks, such as file navigation and executing commands.
- Basic familiarity working with text editors like Notepad, or IDEs, would be helpful as the course includes hands-on lab sessions requiring code editing.

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Agenda

Please note that topics, agenda and labs are subject to change, and may adjust during live delivery based on audience skill level, interests and participation.

The Python Environment

- Starting Python
- Using the interpreter
- Running a Python script
- Editors and IDEs

Variables and Values

- Using variables
- Builtin functions
- String data
- Numeric data
- Converting types

Basic input and output

- Writing to the screen
- String formatting
- Command line arguments
- Reading the keyboard

Flow Control

- About flow control
- The **if** statement
- Relational and Boolean values
- **while** loops
- Exiting from loops

Array types

- Sequence types in general
- Lists and list methods
- Tuples
- Indexing and slicing
- Iterating through a sequence
- Sequence functions, keywords, and operators
- List comprehensions and generators

Working with files

- File I/O overview
- Opening a text file
- Reading a text file
- Writing to a text file

Dictionaries and Sets

- About dictionaries
- Creating dictionaries
- Getting values
- Iterating through a dictionary
- About sets
- Creating sets
- Working with sets

Functions

- Defining functions
- Returning values
- Parameters and arguments
- Variable scope

Sorting

- The sorted() function

- Custom sort keys
- Lambda functions
- Sorting in reverse
- Using min() and max()

Exception handling and logging

- Exceptions
- Using try/catch/else/finally
- Handling multiple exceptions
- Logging setup
- Basic logging

Modules and Packages

- Creating Modules
- The import statement
- Module search path
- Using packages
- Function and Module aliases

Introduction to Classes

- About object-oriented programming
- Defining classes
- Constructors
- Understanding self
- Properties
- Instance Methods and data
- Class methods and data
- Inheritance

Alternative Five Day Course Note:

If you want additional topics beyond the three day basics, you might consider the TTPS4820 **Mastering Python Programming Boot Camp** five day superset of this course, that includes the topics below in the additional two days of coverage:

1. **Regular Expressions**
2. **Dates and times**
3. **Working with the file system**
4. **Advanced data handling**
5. **Network programming**
6. **Effective Scripts**
7. **Virtual Environments**

Follow On Courses

TTAI2330	QuickStart to Azure OpenAI Basics for Technical Users
TTAI2820	Mastering AI Security Boot Camp
TTDV7580	Hands-on Ansible Essentials | Introduction to Automation with Ansible
TTML5504	Machine Learning Foundation: Working with Statistics, Algorithms and Neural Networks
TTPS4832	Test Automation with Python / PyTest Essentials
TTPS4872	Quick Start to Python for Data Science Primer: A Hands-on Technical Overview
TTPS4873	Fast Track to Python for Data Science and/or Machine Learning
TTPS4878	Hands-On Data Analysis with Panda
TTPS4879	Hands-On Predictive Analytics with Python
TTSK7503	Spark Developer | Spark for Big Data, Hadoop & Machine Learning
TTSNW03	Getting Started with Snowflake | Datawarehouse in the Cloud
TTSNW04	Intermediate Snowflake | Datawarehouse in the Cloud
TTRS2100	Hands-on Rust Programming for Python Developers
TTSNW07	Advanced Data Handling and Automation with Snowflake

Related Courses

TTDV7585	Advanced Ansible in Action: Building Smarter, Stronger Automation

TTPS4803	Introduction to Programming with Python (for Non-Developers)
TTPS4820	Mastering Python Programming Boot Camp
TTPS4824	Python Essentials for Networking & Systems Administration
TTPS4874	Applied Python for Data Science and Engineering
TTPS4894	Python Security | Introduction to Python Programming for Security Analysts & Professionals
TTPS4800	Introduction to Python Programming Basics

All applicable course software, digital courseware files or course notes, labs, data sets and solutions, live coaching support channels, CodeCoach.AI anytime tutor access, and rich extended learning and post training resources are provided for you in our "easy access, single source, no install required" online **Learning Experience Platform (LXP),** remote lab and content environment. Access periods vary by course. We'll collaborate with you to ensure your team is set up and ready to go well in advance of the class. Please inquire about set up details and options for your specific course of interest.

For More Information

Please contact us or call 844-475-4559 toll free for more information about our training services (instructor-led, self-paced or blended), coaching and mentoring services, public course enrollment or questions, partner programs, courseware licensing options and more.