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Learning Style: Virtual Classroom

Technology:

Difficulty: Beginner

Course Duration: 3 Days

Next Course Date: **July 13, 2026**

## Introduction to Python Programming Basics (TTPS4800)



### About This Course:

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.

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.

## **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.

## **Prerequisites:**

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.

## **Course Outline:**

### 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