

Python SkillJourney Series

Introduction to Python Programming Basics (TTPS4800)

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

Course Snapshot

- **Course: Introduction to Python Programming Basics (TTPS4800)**
- **Duration:** 3 days
- **Audience & Skill-Level:** This **introductory level course** provides an excellent kick start for technical users new to Python. Students should have 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.
- **Format / Hands-on:** This course combines engaging instructor-led presentations and practical demonstrations with hands-on programming exercises, challenge labs, use case exploration and engaging group activities. Student machines are required.
- **Flexible Delivery Options:** This course can be delivered for your team or organization **online-live (virtual), onsite in-person, self-paced** or across our immersive **blended learning experience platform (LXP)**.
- **Public Schedule:** This course is currently available on our Public Open Enrollment Schedule.
- **Customizable:** We're flexible! This course agenda, topics, labs, hours and delivery modalities can be adjusted to target your specific training skills objectives, tools and learning goals. Please ask for details.

Description

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.

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.

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.

Take After/ Follow On: We offer a wide variety of follow-on courses and learning paths for leveraging Python for next-level development, data science and analytics, AI and machine learning, automation, testing, networking, security and more. The following is a small subset of possible follow-on courses. See the online catalog for a complete list of courses and learning paths.

- [TTPS4872](#) Python Primer for Data Science (Light-Hands-on) (2 days)
- [TTPS4873](#) Quick Start to Python for Data Science and Machine Learning (3 days)
- [TTPS4850](#) Advanced Python Programming (4 days)
- [TTPS4878](#) Hands-on Data Analysis using Pandas (3 days)

Related Intro Level Courses

The following is a small subset of related courses. See the online catalog for a complete list of courses and learning paths.

- [TTPS4803](#) Python for Everyone: Getting Started with Python Basics for Non-Developers (4 days)
- [TTPS4800](#) Introduction to Python Programming Basics (3 days)
- [TTPS4820](#) Mastering Python Programming Boot Camp (5 day superset of the 3 day course)
- [TTPS4874](#) Applied Python for Data Science & Engineering (4 days)
- [TTPS4894](#) Introduction to Python for Security Pros (4 days)

Enhanced Learning Services: Please also ask about our robust Learning Experience Platform (LXP), Skills Assessment & Skills Prep Services, Skills Immersion Programs & Camps, Coaching and Mentoring Services and Extended Learning Support programs.

Course Topics / 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.

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|---|---|--|
| 1. The Python Environment <ul style="list-style-type: none"> • Starting Python • Using the interpreter | <ul style="list-style-type: none"> • Running a Python script • Editors and IDEs | 2. Variables and Values <ul style="list-style-type: none"> • Using variables |
|---|---|--|

- Builtin functions
 - String data
 - Numeric data
 - Converting types
3. **Basic input and output**
 - Writing to the screen
 - String formatting
 - Command line arguments
 - Reading the keyboard
 4. **Flow Control**
 - About flow control
 - The **if** statement
 - Relational and Boolean values
 - **while** loops
 - Exiting from loops
 5. **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
 6. **Working with files**
 - File I/O overview
 - Opening a text file
 - Reading a text file
 - Writing to a text file
 7. **Dictionaries and Sets**
 - About dictionaries
 - Creating dictionaries
 - Getting values
 - Iterating through a dictionary
 - About sets
 - Creating sets
 - Working with sets
 8. **Functions**
 - Defining functions
 - Returning values
 - Parameters and arguments
 - Variable scope
 9. **Sorting**
 - The `sorted()` function
 - Custom sort keys
 - Lambda functions
 - Sorting in reverse
 - Using `min()` and `max()`
 10. **Exception handling and logging**
 - Exceptions
 - Using `try/catch/else/finally`
 - Handling multiple exceptions
 - Logging setup
 - Basic logging
 11. **Modules and Packages**
 - Creating Modules
 - The `import` statement
 - Module search path
 - Using packages
 - Function and Module aliases
 12. **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:

13. **Regular Expressions**
14. **Dates and times**
15. **Working with the file system**
16. **Advanced data handling**
17. **Network programming**
18. **Effective Scripts**
19. **Virtual Environments**

Setup Made Simple! Learning Experience Platform (LXP)

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

For more information about our training services (instructor-led, self-paced or blended), collaborative coaching services, robust Learning Experience Platform (LXP), Career Experiences, public course schedule, partner programs, courseware licensing options or to see our complete list of course offerings, solutions and special offers, please visit us at www.triveratech.com, email Info@triveratech.com or call us toll free at **844-475-4559**. Our pricing and services are always satisfaction guaranteed.