

Python Summer Camp NJ

In the first half of this hands-on Python course, you'll dive into the fundamentals of Python code and quickly transition into more complicated programming tasks. The second half of the course focuses primarily on data science using Pandas, Matplotlib, and Sci-Kit learn. These packages will teach you how to input, analyze, and graph data.

Group classes in NJ and onsite training is available for this course. For more information, email hello@nextgenbootcamp.com or visit: <https://www.nextgenbootcamp.com/classes/python-summer-camp-nj>



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Course Outline

Day 1-3

Introduction to Programming

- History of Python
- Understanding Hardware
- Anaconda Distribution
- Jupyter Notebook Fundamentals
- Writing First Program (“Hello World”)

Terminal Commands

- Navigate & Manipulate Directory Structures
- Edit Files
- Basic Scripting

Python Fundamentals

- Objects
- Types & Operators
- Expression
- Indexing & Slicing

Data Science Fundamentals

- Import Data
- Functions
- Lambda Syntax
- Basic Data Tool

Advanced Python Fundamentals

- Lists
- Mutating Operations
- Tuples, Sets, Dictionaries
- Loops
- Control Flow
- List Comprehension
- Error Handling

Day 4-5

Processing

- Strings & String Methods
- Read & Write to Text Files
- Natural Language Processing
- Mini Project

Object Oriented Programming

- Classes
- Constructors
- Object Methods
- Writing Modules
- Advanced Scripting
- Terminal & Socket Connection

Day 6-8

Numerical Python

- Arrays
- Visualizing using Matplotlib
- Data Shaping
- Concatenating, Indexing, Slicing
- Arithmetic & Boolean Operations
- Histograms

Statistical Modeling: NUMPY 2

- Linear Algebra
- Saving & Loading Arrays
- Randomness
- Convolution
- Statistics

Day 9-10

Python Data Analysis:Panda 1

- Data Series
- Data Frames

- Import CSV & Excel Files
- Organize Data Frames
- Data Manipulation

Advanced Python

- File Input
- User Input
- List Comprehension
- Packages

Data Processing: Pandas 2

- Cleaning Data
- Filtering Data
- Advanced Grouping
- Timestamping
- TimeDelta Objects
- GroupBy Method

Data Visualization

- Visualization Overview
- Time Series
- Histograms & Bar Plots
- 3D Plots
- Contour Plots
- Quiver Plots

Final Project

Details

- Curate Data
- Import, Clean, and Merge Data
- Analyze Data
- Visualize Data
- Present Results