# Python Training Courses

Through our hands-on Python courses, participants will gain the skills needed to develop Python programs to solve typical Finance problems, cutting through the noise of generic "Data Science" courses. Participants will be introduced to best-practices programming in Python to clean, analyze, and visualize financial data.

## WHAT YOU WILL LEARN

- Read, Run and Write Code in Python
- Data Structures and Control Flows
- Python Functions and Packages
- Data Collection, Cleaning, Manipulation
- Data Visualization
- Data Analysis and Modeling
- Acquiring Data from Websites (aka Web Scraping)
- Dashboarding
- Automation and Best Practices

(704) 927-9688
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# Python Training Courses

### WHO ARE THESE COURSES FOR?
- Business and finance professionals
- Anyone who uses Excel daily and is looking to boost their speed and productivity and learn programming
- Our Python courses range from an introductory level which are catered to professionals with no coding background, to advanced applications for participants who are more experienced with Python

### PREREQUISITES

**Python 1:**

A general understanding of programming principles is recommended but not required. Participants should also understand finance concepts but in-depth analytical understanding is not necessary. Participants are expected to download & install Anaconda or an equivalent Python distribution in advance of the course.

**Python 2:**

Participants require basic prior programming knowledge in Python and an understanding of the pandas package. Participants should also understand Finance and statistical concepts, but in-depth analytical understanding is not necessary. It is recommended that participants take "Python 1: Core Data Analysis" before this course.

**Python 3:**

A general understanding of programming principles and Python is recommended for this course. The course material will build on the content of "Python 1: Core Data Analysis". Although not required, participants will benefit from having taken "Python 2: Visualization and Analysis". Participants should be familiar with Python packages and their installation. Participants are expected to download & install Anaconda or an equivalent Python distribution in advance of the course.

### SCHEDULE
9:00 am to 5:00 pm each day with an hour lunch around noon and shorter breaks throughout the day.

### LEARNING OPTIONS
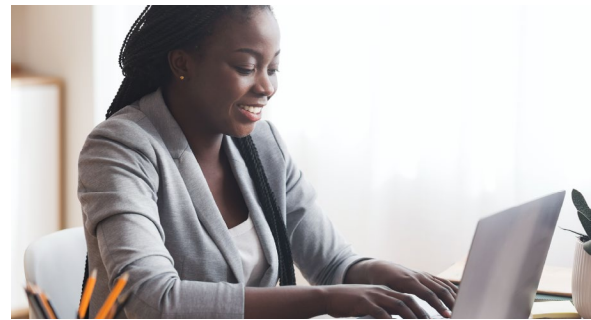This course is available in-person and virtually.

### COURSE PRICING
Early Registration: $1,150* (per day)
Standard Registration: $1,250 (per day)

*register at least 30 days in advance*
Additional discounts offered to existing clients
Group rates available

**COURSE CALENDAR**

*Course syllabus on next page*

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## Python 1 – Core Data Analysis

### Using Python

- Develop familiarity with the Anaconda Python Distribution
- Manage environments and installing packages
- Gain familiarity with open source Python Development Environments
- Learn how to write programs in Python and developing an understanding for data structures, functions, loops, logical operations and other programming best practices

### Data Collection, Cleaning, Manipulation, and Visualization

- Import data from various sources (e.g.: CSV, Excel, HTML) into pandas (a high-performance library of data structures)
- Develop the necessary skills to clean raw financial data, and gain familiarity in overcoming common issues with numerical data
- Merge data from various sources and leverage built-in functionality to gain efficiency
- Build programs to perform exploratory data analysis using basic statistical functions
- Develop the ability to create powerful visualizations using the pandas plotting functions

## Python 2 – Visualization and Analysis

### Data Visualization in Python

- Develop the ability to create powerful visualizations using the matplotlib and seaborn packages
- Plot and interpret scatterplots and time series plots
- Format settings of graphs
- Learn to create and interpret more advanced graphs such as histograms and box plots

### Data Analysis and Modeling

- Gain experience in performing statistical analysis, linear regression, time series regression, and optimization
- Learn how to use statistical functions in popular data science packages such as statsmodels, SciPy, and scikit-learn
- Build and test financial market analyses to explore common tasks such as capital asset pricing, times series forecasting, multi-factor models and portfolio optimization

## Python 3 – Web Scraping and Dashboarding

### Acquiring Data from Websites ("Web Scraping")

- Automate corporate due diligence and data gathering by designing programs to download publicly available information from websites
- Aggregate alternative data from industry websites
- Create programs for competitor analysis and price comparisons
- Review API's and Python packages used for web scraping, such as Requests, Urllib and Beautiful Soup to parse downloaded data into a format that can be analyzed and visualized
- Automate user interactions with websites using the Selenium package
- Extract financial and economic data from Yahoo Finance, EDGAR, FRED and other sources
- Learn to import data from various types of websites (HTML, JSON, XML, PDFs)

### Automation, Visualization and Dashboarding

- Build powerful visualizations using more advanced visualization packages such as Bokeh, Seaborn, and Plotly
- Create interactive dashboards and charts using Dash and Streamlit packages
- Tips for moving and creating folders on the fly and importing data from multiple source files
- Automate extracting and cleaning tables from PDF files

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