



About This Course

This is a hands-on course. There will be 20 hours of instruction, exercises, and breaks. In the end, you will not only have learned new concepts, but practiced them.

This course counts toward all Track certification programs in Enthought Academy: Data Analysis Track, Machine Learning Track, Tool Maker Track, and Manager Track.

Certificate Awarded Upon Completion Of Course



Course Overview

Python Foundations for Scientists and Engineers provides people with prior coding experience with the foundational knowledge needed to use Python and key scientific Python libraries for data processing, analysis, and visualization.

This course uses a combination of lecture, live coding, and hands-on exercises to teach you basic skills and give you a chance to cement them with practice.

If you program in another language, this class will help you transition to using Python.

If you already know some Python, but are mostly self-taught, this course will help fill in the gaps in your knowledge.

Packages: matplotlib, numpy, pandas

Lectures

Introduction

Python, IPython, Jupyter

Base Data Types

Integers, Floats, Complex, Booleans, Strings

Container Data Types

Lists, Tuples, Sets, Dictionaries

Control Statements & Files

If, While, For

Functions & Modules

Def, Import

Object-Oriented Python

Classes, Attributes, Methods

Matplotlib

Line, Scatter, Images, Histograms

NumPy

Arrays, Calculations, Indexing

Pandas I

Series, DataFrames

Pandas II

Visualization, Missing Data, Computations

Prerequisites

Experience with Python is helpful (but not required). However, prior programming experience in some other language (e.g., C/C++, FORTRAN, Java, MATLAB, R, etc.) is expected.

In particular, participants need to be comfortable with general programming concepts like variables, loops, and functions.

About Our Instructors

Enthought instructors have advanced degrees in scientific fields such as physics engineering, computer science, and mathematics, and all have extensive experience through research and consulting in applying Python to solve complex problems across a range of industries allowing them to bring their real world experience to the classroom every day.