



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 the Data Analysis Track certification in Enthought Academy.

Certificate Awarded Upon Completion Of Course



Course Overview

In the Data Visualization for Scientists & Engineers course, students will be exposed to multiple techniques for visualizing data.

There will be two main emphases through the course. First, how to survey and explore data to find gaps, interesting features, and places to explore more fully.

Second, how to create explanatory visualizations that facilitate communications.

The final portion of the course will consist of two hands-on projects in which students will create Jupyter notebooks for exploring and then explaining a scientific data set.

Packages: cartopy, matplotlib, seaborn, statsmodels

Lectures

Why Visualization?

Survey, Explore, Explain

Distributions

Distributions, Comparing Distributions

Relationships

Finding Relationships in Data

Multiple Dimensions

Handling More than Two Dimensions

Flow & Potential

Displaying Vector Fields, Map Underlays

Image Data

Visualizing Images & Other Raster Data

Graphs

Mapping Categorical Relationships

Animations

Animating Visualizations, Drill Downs

Exploratory Practicum

Project #1 : Exploratory Visualization Notebook

Explanatory Practicum

Project #2 : Explanatory Visualization Notebook

Prerequisites

This course requires basic proficiency with Python and the scientific Python stack. Some practical experience with Jupyter Notebooks, NumPy (ndarrays), Pandas (DataFrames), and scientific visualization in Python using Matplotlib are essential to working with the code and concepts presented in this course.

If you have taken Enthought's **Python Foundations for Scientists & Engineers**, you have the requisite background knowledge for this course.

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.