

# Python for Data Science Immersive

Learn Python and boost your career with data science. You'll learn the world's most popular programming language through real-world dataset analysis. Manipulate data, learn how to make predictions, and gain the foundational skills you need to use Python on the job or start your data science career.

Group classes in NYC and onsite training is available for this course. For more information, email [class@programwithus.com](mailto:class@programwithus.com) or visit: <https://programwithus.com/classes/python-for-data-science-immersive>



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## Course Outline

### Python Fundamentals

#### Data Types & Variables

- Statements & Expressions
- Variables
- Integers & Floats
- Strings

#### Data Structures & Attributes

- Functions & Methods
- Lists
- Indexing & Slicing
- Booleans

### Structuring Programs

#### Complex Data Structures & Control Flow

- Dictionaries
- Conditional Statements
- For Loops
- Creating Functions

#### Packages & Object Oriented Programming

- Classes & Objects

- Modules & Imports
- Packages & Documentation

## Arrays & Dataframes

### Numpy

- Arrays
- Universal Functions
- Boolean Indexing

### Pandas

- Pandas Dataframes
- Pandas Series & dtypes
- Column Manipulation
- Descriptive Statistics

## Analyzing & Visualizing Data

### Data Analysis

- Filtering & Cleaning Data
- Groupby Operations
- Pivot Tables

### Data Visualization

- Plotting with Matplotlib
- Bar Charts
- Scatter Plots
- Histograms
- Customizing Visualizations

## Linear Regression

### Statistical Modeling

- Theory of Linear Regression
- Simple Linear Regression with sci-kit learn
- Multiple Linear Regression
- Overfitting & Outliers
- Evaluating Models
- Assumption & Limitations of Linear Regression