

Python Programming for Introductory Statistics

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Brief Summary of The Curriculum

Due to time constrain, please write questions about the details in the curriculum in the chat or email to the presenters.

Use Python for Introductory Statistics

Textbook: [Introduction to Statistics](#) by OpenStax

Editor: [Jupyter Notebook](#) in [Google Colab](#) for text and code

Pedagogy: imitate, read, write,. etc. what we do as a kid.

Key Python Libraries Used

- numpy and statistics for Math and Descriptive Statistics:
- pandas for dataframe
- matplotlib, seaborn, and plotly for visualization
- scipy.stats for distributions and inferential statistics
- Statisticsmodel for linear regression

Three-Steps Cycle in Learning Python for Statistics

Listen interactive statistics lectures **and Follow** an instructor or a video to write Python code

Modify: Modify code to answer “Try It” questions

Create:

- code for exercise problems
- an article with real vehicle data to explain linear regression using Python

Workshop

TODO: Read code, evaluate structures, observe patterns, and write code for the selected examples in the tutorials.

Have Fun Coding

- **Visualiz**
- **Descriptive and Inferential Statistics**
- **Linear Regression**

Take away: Working programs for teaching or to play with