

Data Analysis with Python: Zero to Pandas

"Data Analysis with Python: Zero to Pandas" is a practical and beginner-friendly introduction to data analysis covering the basics of Python, Numpy, Pandas, Data Visualization, and Exploratory Data Analysis.

- Watch hands-on coding-focused video tutorials
- Practice coding with cloud Jupyter notebooks
- Build an end-to-end real-world course project
- Earn a verified certificate of accomplishment

The course is self-paced and there are no deadlines. There are no prerequisites for this course. Read the [course FAQs](#) or visit the [Community Discussion Forum](#) to learn more.

[Lesson 1 - Introduction to Programming with Python](#)

[Open →](#)

- Course overview & curriculum walkthrough
- First steps with Python and Jupyter notebooks
- A quick tour of variables and data types
- Branching with conditional statements and loops

[Lesson 2 - Next Steps with Python](#)

[Open →](#)

- Branching with conditional statements and loops
- Write reusable code with Functions
- Working with the OS & Filesystem
- Assignment and course forum walkthrough

Assignment 1 - Python Basics Practice

[Open →](#)

- Solve word problems using variables & arithmetic operations
- Manipulate data types using methods & operators
- Use branching and iterations to translate ideas into code
- Explore the documentation and get help from the community

Lesson 3 - Numerical Computing with Numpy

[Open →](#)

- Going from Python lists to Numpy arrays
- Working with multi-dimensional arrays
- Array operations, slicing and broadcasting
- Working with CSV data files

Assignment 2 - Numpy Array Operations

[Open →](#)

- Explore the Numpy documentation website
- Demonstrate usage 5 numpy array operations
- Publish a Jupyter notebook with explanations
- Share your work with the course community

Lesson 4 - Analyzing Tabular Data with Pandas

[Open →](#)

- Reading and writing CSV data with Pandas
- Querying, filtering and sorting data frames
- Grouping and aggregation for data summarization
- Merging and joining data from multiple sources

Assignment 3 - Pandas Practice

[Open →](#)

- Create data frames from CSV files

- Query and index operations on data frames
- Group, merge and aggregate data frames
- Fix missing and invalid values in data

Lesson 5 - Visualization with Matplotlib and Seaborn

[Open →](#)

- Basic visualizations with Matplotlib
- Advanced visualizations with Seaborn
- Tips for customizing and styling charts
- Plotting images and grids of charts

Course Project - Exploratory Data Analysis

[Open →](#)

- Find a real-world dataset of your choice online
- Use Numpy & Pandas to parse, clean & analyze data
- Use Matplotlib & Seaborn to create visualizations
- Ask and answer interesting questions about the data

Lesson 6 - Exploratory Data Analysis - A Case Study

[Open →](#)

- Finding a good real-world dataset for EDA
- Data loading, cleaning and preprocessing
- Exploratory analysis and visualization
- Answering questions and making inferences

Certificate of Accomplishment

Earn a verified certificate of accomplishment ([sample](#)) for FREE by completing all weekly assignments and the course project. The certificate can be added to your LinkedIn profile, linked from your Resume, and downloaded as a PDF.

Instructor - Aakash N S

[Aakash N S](#) is the co-founder and CEO of [Jovian](#). Previously, Aakash has worked as a software engineer (APIs & Data Platforms) at Twitter in Ireland & San Francisco and graduated from the Indian Institute of Technology, Bombay. He's also an avid blogger, open-source contributor, and online educator.

Jovian Mentorship Program

Get access to a private Slack group with the course team, attend weekly office hours on Zoom, and get 1-on-1 guidance for your project by joining the Jovian Data Science Mentorship Program. This is a limited and paid program designed to help you get the most out of this course. Apply here: <https://jovian.ai/mentorship> .