Jaipur Engineers

Your One-Stop IT & Staffing Ecosystem

PROGRAMMING

Python Programming

Python • NumPy • pandas • Matplotlib • Plotly



COURSE FEE

₹7,500

JAIPUR, RAJASTHAN

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Python Programming

Syllabus at a glance

01

Core Python

02

Files, exceptions & OOP

03

NumPy

04

pandas

05

Matplotlib

06

Plotly

PORTFOLIO PROJECT

Retail Sales Explorer

Clean a sample sales file, calculate revenue by category and create both static and interactive charts.

Python Programming

Core concepts

01

Core Python

Set up Python and run a script. Work with types, strings, conditions, loops, lists, dictionaries and reusable functions.

02

Files, exceptions & OOP

Read CSV or JSON, structure a small program with classes or modules, and handle invalid input.

03

NumPy

Work with arrays, shapes, indexing, masks and aggregations. Compare row and column calculations.

TOOLS & TOPICS

Python • NumPy • pandas • Matplotlib • Plotly

Python Programming

Applied skills

04

pandas

Load tabular data, handle missing and duplicate records, group rows and join lookup tables.

05

Matplotlib

Choose a suitable chart, label axes and export a readable static figure.

06

Plotly

Build a chart with hover details and filters, then check results against the cleaned data.

TOOLS & TOPICS

Python • NumPy • pandas • Matplotlib • Plotly

Python Programming

Portfolio project

Retail Sales Explorer

Clean a sample sales file, calculate revenue by category and create both static and interactive charts.



Define inputs

Write a normal case, an empty case and an invalid case before coding.

Verify output

Run each case and record the expected and actual results.

Source code, sample inputs, expected outputs and a short run guide.

Python Programming

Project checklist

Use these checks to prepare your project demo or portfolio handoff.

01

Prepare the dataset

Save the original file and document the rules used to clean dates, missing values and duplicates.

02

Reconcile the totals

Check that category totals add up to total revenue and explain any records you excluded.

03

Compare chart formats

Present a static Matplotlib chart and an interactive Plotly view that answer the same business question.

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Course fees

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Contact admissions for current batches, class timings and enrolment details.

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SCAN FOR MAP

View course details online

Python Programming

Course content

MODULES 01–02

01 Core Python

Lessons & practice

- Python setup and virtual environments
- Types and operators
- Control flow, functions and collections

HANDS-ON Parse an expense list and print the total and category counts.

02 Files, exceptions & OOP

Lessons & practice

- CSV and JSON input
- Modules and imports
- Exceptions, validation and classes

HANDS-ON Load transactions and flag rows with missing or invalid values.

Python Programming

Course content

MODULES 03–04

03 NumPy

Lessons & practice

- Arrays, shapes and dtypes
- Slicing, masking and broadcasting
- Aggregation by axis

HANDS-ON Compute row and column totals for a sales array and check one result by hand.

04 pandas

Lessons & practice

- DataFrames and CSV imports
- Missing values, duplicates and types
- Filtering, groupby and merge

HANDS-ON Clean sales rows, join a product lookup and report revenue by category.

Python Programming

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MODULES 05–06

05 Matplotlib

Lessons & practice

- Matplotlib figures and axes
- Bar, line and scatter plots
- Labels, legends and image export

HANDS-ON Compare monthly figures in a readable chart and export the image.

06 Plotly

Lessons & practice

- Plotly Express
- Hover details and colour
- Filtering and HTML export

HANDS-ON Build an interactive chart and reconcile its totals with the static report.