

Certificate in **Python Programming**

Why CFI Education



Classroom / Live and
Self-paced Learning



Case Study
Approach



Project work
and Certification



Passionate
Educators

Career Paths



**Data
Analyst**



**Business
Analyst**



**Business
Intelligence Analyst**



**Market Research
Analyst**



**Consultant,
among others**

DATA ANALYSIS WITH PYTHON

Explore the world of data analysis with Python!



This course provides hands-on experience through labs using real Python tools like Jupyter notebook in JupyterLab, making your journey into data analytics both insightful and practical.

MODULE 1

- . Introduction
- . Datatypes, Variables, and Operators
- . String and its Associated Functions
- . If-Else Statement

MODULE 2

- . Regular Expressions
- . Looping Statements
- . Nested Loop
- . Pattern-Based Problem

MODULE 3

- . Data Structure in - Python:
- . List
- . Tuple
- . Dictionary
- . Functions in Python:
- . Recursion
- . Functions Return Statement
- . Modules in Python

MODULE 4

- . List Comprehension
- . File Handling in Python:
- . Reading, Writing, and Appending into Files
- . Comparing Files
- . Classes and Objects
- . Inheritance and Polymorphism

MODULE 5

- . Numpy for Creating Arrays
- . Data Analysis Using Pandas
- . Matplotlib for Graphical Representation

DATA ANALYSIS WITH PYTHON

MODULE 1

IMPORTING DATASETS

- . Learning Objectives
- . Understanding the Domain
- . Understanding the Dataset
- . Python package for data science
- . Importing and Exporting Data in Python
- . Basic Insights from Datasets

MODULE 2

CLEANING AND PREPARING THE DATA

- . Identify and Handle Missing Values
- . Data Formatting
- . Data Normalization

MODULE 3

SUMMARIZING THE DATA FRAME

- . Descriptive Statistics
- . Basics of Grouping
- . ANOVA
- . Correlation
- . More on Correlation

MODULE 4

MODEL DEVELOPMENT

- . Simple and Multiple Linear Regression Model
- . Evaluation Using Visualization
- . Polynomial Regression and Pipelines
- . R-squared
- . MSE for In-Sample Evaluation
- . Prediction and Decision Making

MODULE 5

MODEL EVALUATION

- . Model Evaluation
- . Over-fitting
- . Under-fitting
- . Model Selection
- . Ridge Regression
- . Grid Search

DATA VISUALIZATION WITH PYTHON

MODULE 1

INTRODUCTION TO VISUALIZATION TOOLS**

- . Introduction to Data Visualization
- . Introduction to Matplotlib
- . Basic Plotting with Matplotlib Line Plots

MODULE 2

BASIC VISUALIZATION TOOLS

- . Area Plots
- . Histograms
- . Bar Charts

MODULE 3

SPECIALIZED VISUALIZATION TOOLS

- . Pie Charts
- . Box Plots
- . Scatter Plots
- . Bubble Plots

MODULE 4

ADVANCED VISUALIZATION TOOLS

- . Waffle Charts
- . Word Clouds
- . Seaborn and Regression Plots

Fee Structure: INR 25,000

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