CENTRAL BANK OF EGYPT
Egyptian Banking Institute

Data Analysis using Python

Information Technology

7561

In-Class

40 hours

Course Description:

This course provides a comprehensive introduction to data analysis using Python, covering essential libraries like NumPy, Pandas, Matplotlib, and Seaborn. Participants will learn how to manipulate data, perform exploratory analysis, and visualize findings. The course combines theoretical knowledge with practical labs, enabling students to work on real-world datasets and apply techniques like data cleaning, time-series analysis, and creating various types of plots.

Target Audience:

- Aspiring data analysts, data scientists, and professionals who want to enhance their data
- analysis skills using Python.
- Developers and IT professionals looking to leverage Python libraries for data manipulation and visualization.
- Business analysts, researchers, and academics interested in improving their data handling and analytical capabilities.
- Anyone with a basic knowledge of Python who wants to expand their skills in data analysis and visualization.

Course Objectives:

- Understand the role of a data analyst and distinguish between data analysts and data scientists.
- Master essential Python libraries (NumPy, Pandas, Matplotlib, Seaborn) for data manipulation and visualization.
- Perform data analysis processes such as data cleaning, handling missing data, and working with time-series data.
- Gain proficiency in reading, writing, and manipulating data using Pandas DataFrames.
- Visualize data effectively using Matplotlib and Seaborn to uncover patterns and trends.
- Apply Python in real-world data analytics scenarios, including exporting/importing data and working with various file formats

Course Outline:

- Introduction to Data Analysis
- Data Analysis Process & Analyst vs Scientist
- Key Python Libraries for Data Analysis
- NumPy
- Matplotlib & Seaborn
- Pandas
- Data Analysis & Visualization Using Python

Assessment and Attendance Strategy:

- Participants will be evaluated based on their participation in class discussions and individual exercises.
- Each Participant must achieve 80% attendance of the total in-class sessions.

Course Language:

- Material: English
- Instruction and Explanation: Bilingual (EN <>AR)

Prerequisites:

No prerequisite for this Couse