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DATA ANALYSIS WITH PYTHON

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Course Duration: 12 Weeks

The objective of this course is to provide participants with a strong foundation in data analysis using Python. By the end of the course, students will have the skills and knowledge to perform data manipulation, exploration, and analysis, using Python libraries such as Pandas and NumPy. They will also be able to draw meaningful insights from data and make data-driven decisions

Week 1: Introduction to Python Programming

- Basic Python syntax and data types
- Variables, operators, and control structures
- Functions and libraries in Python

Week 2: Data Structures in Python

- Lists, tuples, and dictionaries
- Working with data structures
- List comprehensions and other advanced techniques

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Week 3: Introduction to Data Analysis with Python

- Understanding the role of data analysis in decision-making
- Introduction to Python for data analysis
- Setting up Python and Jupyter Notebook
- Basic Python data types and operations
- Introduction to NumPy for numerical computations

Week 4: Data Import and Cleaning

- Importing data from different sources (CSV, Excel, SQL)
- Data cleaning and preprocessing techniques
- Handling missing data and duplicates
- Data type conversions and categorical data handling

Week 5: Exploratory Data Analysis (EDA)

- Descriptive statistics and summary metrics
- Data distribution analysis
- Data visualization for EDA (optional, if not excluded)
- Identifying outliers and anomalies

Week 6: Data Transformation and Feature Engineering

- Feature scaling and normalization
- Handling datetime data
- Encoding categorical variables
- Creating new features from existing ones

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Week 7: Statistical Analysis with Python

- Introduction to statistical concepts in data analysis
- Hypothesis testing and p-values
- Correlation analysis
- Statistical tests for comparing groups

Week 8: Data Analysis Libraries in Python

- Introduction to Pandas for data manipulation
- Data aggregation and group operations
- Pivot tables and cross-tabulations
- Working with time series data (if relevant)

Week 9: Data Analysis with Pandas (continued)

- Advanced data cleaning techniques
- Combining and merging datasets
- Handling large datasets efficiently
- Case study: Analyzing real-world data

Week 10: Introduction to Machine Learning

- Overview of machine learning concepts
- Preparing data for machine learning tasks
- Selecting appropriate machine learning algorithms
- Model evaluation and validation techniques

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Week 11: Data Analysis with Python (Practical Applications)

- Practical exercises and real-world case studies
- Building predictive models (regression, classification)
- Evaluating model performance
- Model deployment considerations

Week 12: Final Project and Course Wrap-Up

- Final project assignment: Analyzing a provided dataset or a topic of interest
- Presentation and discussion of final projects
- Course review and key takeaways
- Next steps in data analysis and Python learning

ADD-ons

**Hands-
on-
Project**

**Lifetime
Career
Guidance**

**24/7
Whatsapp
support**



FAQ (Frequently asked questions)

1. Who is this course designed for?

This course is designed for individuals who are interested in data analysis and want to learn how to use Python for data manipulation, cleaning, and analysis. It's suitable for beginners and those with some programming experience.

2. What prior knowledge or skills are required for this course?

Participants should have a basic understanding of programming concepts, but no prior experience in data analysis is required. Familiarity with Python is helpful but not mandatory.

3. What tools and libraries will be used in this course?


The course primarily utilizes Python and data analysis libraries such as Pandas and NumPy. Participants will need access to a Python environment for hands-on exercises.

4. What types of data analysis techniques will be covered in the course?

The course covers a wide range of data analysis techniques, including data cleaning, data exploration, summary statistics, data aggregation, and basic statistical analysis.

5. Is there a final project or assignments in this course?

Yes, participants will work on practical assignments and projects where they will apply data analysis techniques to real-world datasets. These projects allow students to practice and demonstrate their skills.



FAQ (Frequently asked questions)

6. Is a certificate provided upon course completion?

Most course providers offer certificates of completion, which can be a valuable addition to your professional portfolio.

7. What are the career or practical applications of this course?

Data analysis skills are in high demand across various industries, including data science, business analysis, market research, and more. Participants can use these skills to enhance their career prospects and solve real-world problems.

8. What are the next steps after completing this course?

After completing this course, participants can explore more advanced data analysis topics, dive into data visualization, or consider courses in related fields such as machine learning or data engineering.

9. Is this course suitable for complete beginners?

While some programming knowledge is helpful, this course is designed to be accessible to beginners with a strong willingness to learn. It starts with the basics of data analysis using Python.

10. Is there any post-course support or resources available?

Many course providers offer access to course materials and may provide additional resources or forums where participants can continue learning and ask questions.





Contact Us For More Info



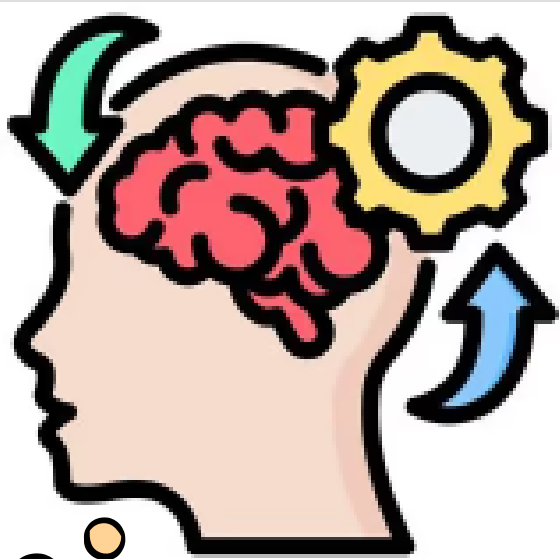
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