

# Data Analyst Program

Course Overview & Outline



**CEDARPRO**  
ACADEMY



# Course Overview

This comprehensive course is designed to equip participants with the essential skills and tools required to analyze data effectively and support data-driven decision-making. By the end of this program, you will be able to transform raw data into actionable insights using various techniques and technologies, making you a valuable asset in any data-centric industry.

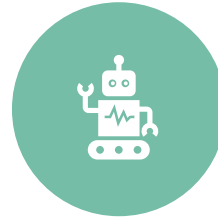
# Training Requisites

- **To enroll in this course, participants should:**
  - A basic understanding of mathematics and statistics.
  - A working knowledge of Microsoft Excel or other spreadsheet software.
  - Access to a computer with internet connectivity.
  - A willingness to engage in problem-solving and analysis.
  - A commitment of approximately 10-15 hours per week for learning and project work.

# Course Format & Set-Up



-**Pre-Work:** Complete introductory lessons on statistics, data manipulation, and an overview of data analysis tools like Excel, SQL, and Python..



- **Instructor-Led Sessions (12 weeks):** Weekly live sessions each focusing on how to collect, clean, analyze, and present data



- **Hands-On Labs:** Weekly practical assignments that cover both theoretical and practical aspects of data analysis.



- **Homework:** Weekly exercises focused on applying key concepts and tools to real datasets.



- **Presentation:** Present your data findings to peers and instructors, simulating real-life data reporting and receiving constructive feedback.



- **Live Project:** Work on a live project where you apply the full data analysis process—from data collection to delivering actionable insights—on a real-world dataset.

# Weeks 1-2: Introduction to Data Analytics Data Collection and Management

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## Week 1-2: Introduction to Data Analytics

- The importance of data analysis in modern business.
- The role of a data analyst and key responsibilities.
- Overview of tools and technologies used in data analysis (Excel, SQL, Python, etc.).

## Week 1-2: Data Collection and Management

- Understanding different types of data (structured and unstructured).
- Techniques for collecting accurate and relevant data.
- How to clean and prepare data for analysis (removing duplicates, handling missing values, etc.).
- Tools for data management and storage (databases, data warehouses).

# Weeks 3-4: Data Visualization and Reporting & Introduction to SQL for Data Analysts

- **Weeks 3-4: Data Visualization and Reporting**
  - The fundamentals of data visualization.
  - Tools for creating visual representations of data (Excel, Tableau, Power BI).
  - How to design charts, graphs, and dashboards that communicate insights effectively.
  - Best practices for presenting data to stakeholders.
- **Weeks 3-4: Introduction to SQL for Data Analysts**
  - Understanding databases and relational databases.
  - Writing basic SQL queries to retrieve data from databases.
  - Aggregating, filtering, and joining data for analysis.
  - Advanced SQL techniques: nested queries, subqueries, and working with large datasets.



# Weeks 5-6: Data Analysis Using Excel & Introduction to Python for Data Analysis

- **Weeks 5-6: Data Analysis Using Excel**
  - Advanced Excel functions for data analysis (Pivot Tables, VLOOKUP, INDEX/MATCH).
  - Using Excel for statistical analysis and data modeling.
  - How to automate data tasks with Excel macros.
  - Case Study: Analysing Sales Data with Excel.
- **Weeks 5-6: Introduction to Python for Data Analysis**
  - Basic Python programming concepts.
  - Working with data in Python using libraries like Pandas and NumPy.
  - Data cleaning and manipulation in Python.
  - Case Study: Analysing Financial Data with Python.

# Weeks 7-8: Data Analysis Techniques and Methods & Advanced Data Analytics Tools

- **Weeks 7-8: Data Analysis Techniques and Methods**

- Descriptive statistics: mean, median, mode, standard deviation.
- Inferential statistics: hypothesis testing, confidence intervals.
- Predictive analytics: regression analysis, forecasting, and trend analysis.
- Case Study: Performing Customer Churn Analysis using Predictive Analytics.

- **Weeks 7-8: Advanced Data Analytics Tools**

- Introduction to Power BI and Tableau for advanced data visualization.
- Building interactive dashboards and reports.
- Automating data reporting and analytics processes.
- Case Study: Building an Executive Dashboard for Financial Reporting.



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# Weeks 9-10: Mastering the Job Hunt: Careers in Data Analysis

- **Weeks 9-10: Mastering the Job Hunt: Careers in Data Analysis**
  - Creating a world-class CV tailored for data analyst roles.
  - Job search strategies and tips for entering the field of data analysis.
  - Interview techniques and how to present your data projects effectively to potential employers.
- **Weeks 9-10: Final Thoughts and Continuous Learning**
  - Review of key takeaways from the course.
  - How to continue developing your data analysis skills through lifelong learning.
  - Staying updated with the latest tools, technologies, and trends in data analysis.

# Learning Outcomes & Job Roles

By the end of this course, participants will:

- Collect, clean, and manage data efficiently using various tools.
- Perform data analysis using Excel, SQL, and Python.
- Visualize data insights and create reports that drive business decisions.
- Apply statistical methods to analyse data and derive meaningful conclusions.
- Use advanced data analysis tools like Power BI and Tableau to build dashboards and reports.
- Confidently present data findings to stakeholders.
- Approach the job market with a solid understanding of the skills required for a data analyst role.

# Potential Roles

- Data Analyst
- Business Intelligence Analyst
- Data Visualization Specialist
- SQL Data Analyst
- Junior Data Scientist
- Marketing Analyst
- Operations Analyst

