

DATA ANALYTICS COURSE OUTLINE.

Introduction to Excel and Data Analytics

- Overview of Data Analytics
- Overview of Excel and its capabilities in data analytics
- Understanding basic concepts in data analytics
- Navigating the Excel interface

Data Preparation and Analysis in Excel

- Importing data into Excel
- Data cleaning and preparation
- Data analysis techniques in Excel (Data validation, conditional formatting, sorting and filtering data.)
- Introduction to pivot tables, creating pivot tables, analyzing data with pivot tables
- Advanced pivot table techniques (slicers, calculated fields), using pivot charts.

- Introduction to data analysis with Excel (descriptive statistics, regression analysis).
- Data visualization techniques in Excel (sparklines, advanced charting).

Excel Formulas and Functions for Data Analytics

- Overview of Excel formulas and functions
- Basic statistical functions (sum, average, median, mode)
- Advanced functions for data analysis (COUNTIF, SUMIF, AVERAGEIF)
- Working with data types (text, numbers, dates), formatting cells, basic functions (IF, VLOOKUP, COUNT).

Visualizing Data in Excel

- Introduction to charts and graphs in Excel
- Creating and formatting charts
- Data visualization techniques in Excel (sparklines, advanced charting).
- Projects and Case Studies

PowerBI for Data Analytics

Introduction to PowerBI

- Overview of PowerBI and its capabilities in data analytics
- Understanding basic concepts in data visualization

Data Preparation and Analysis in PowerBI

- Importing data into PowerBI
- Data cleaning and preparation,-Transforming data in Power BI (cleaning, shaping, merging).
- Data analysis techniques in PowerBI (filtering, sorting, pivot tables)
- Creating relationships between data tables, building basic visualizations (bar charts, line charts, pie charts).
- Introduction to DAX (Data Analysis Expressions) for calculated columns and measures.

Creating Visualizations in PowerBI

- Introduction to charts and graphs in PowerBI
- Creating and formatting charts

Advanced Techniques in PowerBI

- Calculations and formulas in PowerBI
- Advanced data modeling in Power BI, creating hierarchies, handling date tables

- Creating interactive dashboards in Power BI, using slicers, filters, and bookmarks

Projects and Case Studies

SQL for data analysis

- Overview Of SQL capabilities in data analysis,-Introduction to databases and SQL,understanding basic SQL syntax
- Writing basic SQL queries
- creating tables, importing data using SQL
- Cleaning and analysis of data using SQL
- Retrieving data with SELECT statements, filtering data withWHERE clause
- Sorting and grouping data, using aggregate functions (COUNT,SUM, AVG)
- Joining tables, understanding different types of joins

Advanced SQL Techniques

- Subqueries and derived tables, working with nested queries
- Modifying data with INSERT, UPDATE, DELETE statements
- Creating and managing databases and tables
- Introduction to stored procedures and views, optimizing SQL queries for performance

Python for Data Analytics

Introduction to Python and Data Analytics

- Overview of Python and its capabilities in data analytics
- Understanding basic concepts in programming and data analytics

Data Preparation and Analysis in Python

- Importing and reading data in Python
- Data cleaning and preparation
- Data analysis techniques in Python (pandas library)

Projects and Case Studies