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 toPowerBI

-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