Module 1: Introduction to Data Analytics (2 Hours)

- **Overview**: Importance of Data Analytics in business and its applications.

- **Getting Started**:

    o Introduction to Excel as a Data Analytics tool.

    o Overview of the Excel interface, essential functions, and shortcuts.

- **Practical Exercise**: Explore a sample dataset and understand rows, columns, and data structure.

Module 2: Data Cleaning and Preparation (3 Hours)

- **Data Cleaning Basics**:

    o Remove duplicates.

    o Handle missing data.

    o Convert data types.

- **Functions for Cleaning**:

    o TRIM, CLEAN, TEXT, CONCATENATE, LEFT, RIGHT, MID.

- **Data Validation**:

    o Create drop-down lists.

    o Restrict data entry using data validation.

- **Practical Exercise**: Clean a messy dataset to make it analysis-ready.

Module 3: Data Analysis Using Functions (4 Hours)

- **Statistical Analysis**:

    o Mean, Median, Mode, Standard Deviation, Variance.

    o Use AVERAGE, MEDIAN, MODE, STDEV, VAR.

- **Logical and Lookup Functions**:

    o IF, IFERROR, IFS, COUNTIF, SUMIF.

    o VLOOKUP, HLOOKUP, and XLOOKUP.

- **Text Functions for Analysis**:

    o TEXT, FIND, SEARCH, SUBSTITUTE, LEN.

- **Practical Exercise**: Use functions to summarize and analyze data (e.g., sales data).

Module 4: Data Visualization (4 Hours)

- **Charts and Graphs**:
    - Create and format bar, column, line, pie, and combo charts.
    - Use sparklines for small data trends.
- **Advanced Visualization**:
    - Pivot Charts.
    - Conditional Formatting for data insights.
    - Advanced charting techniques (e.g., Pareto, Waterfall charts).
- **Practical Exercise**: Visualize KPIs using appropriate charts and conditional formatting.

Module 5: Pivot Tables and Data Modeling (3 Hours)

- **Pivot Tables**:
    - Create Pivot Tables.
    - Group, filter, and sort data within Pivot Tables.
    - Use calculated fields and items.
- **Data Modeling Basics**:
    - Relationships between tables.
    - Using Power Query for basic data modeling.
- **Practical Exercise**: Create a Pivot Table and analyze relationships in a dataset.

Module 6: Advanced Data Analytics Features (3 Hours)

- **What-If Analysis**:
    - Scenario Manager.
    - Data Tables.
    - Goal Seek.
- **Solver**:
    - Solve optimization problems.
- **Introduction to Power Query and Power Pivot**:
    - Load and transform data.
    - Perform advanced calculations.

- **Practical Exercise**: Solve a business scenario using What-If Analysis and Solver.

Module 7: Automation Using Macros (1 Hour)

- **Introduction to Macros**:
  - Record and run macros.
  - Edit macro scripts (basic understanding of VBA).
- **Practical Exercise**: Automate repetitive tasks like formatting or data cleaning.

Module 8: Case Studies and Projects (2 Hours)

- **Case Studies**:
  - Analyze Sales Data: Identify trends, top-performing regions, and customer segments.
  - Perform Budget Analysis: Track expenses and compare actual vs. forecasted values.
- **Final Project**: Build a mini-dashboard for a dataset using Pivot Tables, Charts, and key analytics functions.