Module 01: Microsoft Excel Dashboard Reporting

1. **Dashboard Foundations**
   - Purpose of dashboards
   - Types of dashboards for business users
   - Dashboard design principles

2. **Data Cleaning and Preparation**
   - Structuring raw data
   - Data validation
   - Preparing tables for analysis
   - Named ranges and dynamic ranges

3. **PivotTables for Analysis**
   - Creating PivotTables
   - Grouping, filtering, sorting
   - Calculated fields
   - Refreshing and linking multiple tables

4. **Power Query for Data Automation**
   - Importing and transforming data
   - Merging and appending queries
   - Column transformations
   - Automating data refresh

5. **Power Pivot and Data Modeling**
   - Building a data model
   - Managing relationships
   - Basic to intermediate DAX calculations
   - Measures vs calculated columns

6. **Visualization Tools in Excel**
   - Pivot Charts
   - Combo charts, KPIs, sparklines
   - Conditional formatting for insights

7. **Building a Final Interactive Dashboard**
   - Slicers, timelines, form controls
   - Layout and navigation
   - Publishing and sharing best practices

Module 02: Microsoft Power BI

1. **Data Modelling Review**
   - Star schema
   - Relationship types
   - Model optimization

2. **Power Query Advanced**
   - Advanced transformations

- Custom columns
- Query management and parameters

3. Intermediate DAX

- Row context and filter context
- Time intelligence (YTD, MTD, QTD)
- CALCULATE, FILTER, ALL, REMOVEFILTERS
- KPI measures and dynamic calculations

4. Visualization Best Practices

- Visual selection and usage
- Designing interactive reports
- Bookmarks and buttons for report navigation

5. Power BI Service

- Publishing datasets and reports
- Workspaces and permissions
- Scheduled refresh
- Apps and content distribution

6. Power BI Advanced Features

- Tooltips, drill-through, drill-down
- Custom visuals
- Q&A setup
- Introduction to dataflows

Module 03: Tableau Public

1. Getting Started with Tableau Public

- Installing Tableau Public
- Interface overview
- Connecting to supported local sources (Excel, CSV, Google Sheets)
- Working with extracts stored inside the workbook

2. Data Preparation in Tableau Public

- Data Interpreter
- Cleaning and reshaping data
- Pivoting and splitting fields
- Basic transformations
- Joins using local files only

3. Building Visualizations

- Bar, line, area, pie charts
- Geographic roles and map visuals
- Highlight tables and heatmaps
- Dual-axis and combined charts
- Filters, groups, basic sets

4. Calculated Fields and Table Calculations

- Arithmetic and logical calculations
- Date and string functions

- Table calculations (running totals, percent of total, moving average)
- Workarounds to mimic LOD behavior using table calcs

5. Dashboards and Interactivity

- Designing interactive dashboards
- Actions: filter actions, highlight actions, URL actions
- Layout and formatting best practices
- Optimizing dashboards for Tableau Public