TABLEAU FOR DATA VISUALIZATION AND BUSINESS INTELLIGENCE

Certificate of Completion in Tableau for Data Visualization & Business Intelligence

Course Code: M056/25

Duration: 2 Days

Delivery Format: Hybrid

Target Audience:

- Individuals seeking to acquire essential skills in data visualization.
- Professionals aiming to develop business intelligence capabilities.
- People interested in learning to connect to various data sources within Tableau.
- Those who aspire to design interactive dashboards.
- Professionals who intend to use Tableau for data analysis.
- Those who aim to support business decision-making through data.

Program Outcomes:

Upon completion of this program, participants will be able to:

- Transform raw data into interactive and insightful visualizations.
- Connect to various data sources.
- Create meaningful charts.
- Apply filters and calculations.
- Design interactive dashboards for effective data storytelling.
- Use Tableau to analyze data.
- Share insights.

- Support business decision-making.
- Connect and prepare data from various sources.
- Use advanced features such as calculated fields, table calculations, and LOD expressions.

Detailed Syllabus

Module 1: Introduction to Tableau

Outcome: Participants will understand the fundamentals of Tableau, its significance in business intelligence, the different Tableau product offerings, and be familiar with the Tableau Desktop interface.

Topics:

- What is Tableau & its role in BI
- Tableau products overview (Tableau Desktop, Public, Server, Online
- Installing and setting up Tableau
- Interface overview: data pane, shelves, cards, and views

Activities:

- Interactive lectures introducing Tableau and its ecosystem.
- Guided tour of the Tableau Desktop interface, explaining the function of each component.

Assessments:

- Quiz on basic Tableau terminology and product knowledge.
- Identifying different parts of the Tableau interface and their functions.

Module 2: Connecting to Data

Outcome: Participants will be able to connect Tableau to various data sources, understand the difference between live and extract connections, manage data sources effectively, and combine data using joins, blends, and unions.

Topics:

- Types of data sources supported (Excel, CSV, SQL, etc.)
- Live vs. Extract connections
- Data interpreter and metadata management
- Joins, Blends, Unions in Tableau

Activities:

- Hands-on exercises connecting Tableau to different data file types.
- Demonstrations and explanations of live and extract connections.

Assessments:

- Successfully connecting Tableau to a specified data source.
- Explaining the advantages and disadvantages of live vs. extract connections.

Module 3: Basic Charts and Visualizations

Outcome: Participants will be able to create fundamental chart types in Tableau, understand the difference between dimensions and measures, utilize the "Show Me" feature effectively, and format their visualizations for clarity.

Topics:

- Creating basic chart types: Bar, Line, Pie, Text tables
- Show Me feature
- Working with dimensions and measures
- Formatting charts and views

Activities:

- Guided exercises in creating various basic charts using the "Show Me" panel.
- Explanation of how dimensions and measures drive visualizations.

Assessments:

- Creating specific chart types based on data and requirements.
- Identifying dimensions and measures in a dataset.

Module 4: Sorting, Filtering, and Grouping

Outcome: Participants will be able to sort data effectively, apply various filtering techniques to focus on specific subsets of data, create and use groups for analysis, and implement hierarchies for interactive exploration.

Topics:

- Applying manual and computed sort
- Quick filters, filter types, and filter actions
- Creating groups, hierarchies, and sets
- Using parameters for interactivity

Activities:

- Creating and utilizing groups based on data characteristics.
- Building and using hierarchies to drill down into data.

Assessments:

- Sorting data according to specified criteria.
- Applying appropriate filters to answer specific analytical questions.

Module 5: Calculated Fields and Basic Analytics

Outcome: Participants will be able to create calculated fields to derive new data, use basic functions for manipulating strings and dates, apply logical conditions, and perform basic table calculations and add reference lines/bands for analysis.

Topics:

- Introduction to calculated fields
- String, date, and number calculations
- Basic table calculations
- Using analytics pane: Reference lines, bands, and trend lines

Activities:

- Guided exercises in creating calculated fields using various functions.
- Practical labs on applying table calculations like running total and percentage of total.

Assessments:

- Creating calculated fields to solve specific analytical problems.
- Applying basic table calculations to analyze trends.

Module 6: Advanced Visualizations

Outcome: Participants will be able to create more complex visualizations like dual-axis charts, combo charts, maps, scatter plots, highlight tables, and Gantt charts to represent data in sophisticated ways.

Topics:

- Dual-axis and combo charts
- Maps and geographical visualizations
- Heatmaps, tree maps, and highlight tables

- Gantt charts and Scatter plots

Activities:

- Step-by-step guidance on building each type of advanced visualization.
- Hands-on labs using appropriate datasets to create these charts.

Assessments:

- Creating specific advanced chart types based on data and requirements.
- Explaining the insights conveyed by different advanced visualizations.

Module 7: Advanced Calculations and LOD Expressions

Outcome: Participants will gain a deeper understanding of table calculations and be able to utilize Level of Detail (LOD) expressions to perform complex aggregations and analyses across different levels of granularity.

Topics:

- Table calculations (Running total, % of total, Moving average)
- Level of Detail (LOD) expressions: FIXED, INCLUDE, EXCLUDE
- Practical examples of LOD in business use cases

Activities:

- Advanced exercises on table calculations with partitioning and addressing.
- Detailed explanations and practical application of FIXED, INCLUDE, and EXCLUDE LOD expressions.

Assessments:

- Applying complex table calculations to answer specific analytical questions.
- Writing and explaining the logic of different types of LOD expressions.

Module 8: Dashboards and Storytelling

Outcome: Participants will be able to design and build interactive dashboards using various layout options and objects, add interactivity through filters and actions, create compelling data stories using Storyboards, and follow best practices for user-friendly dashboard design.

Topics:

- Creating dashboards: layout, containers, and objects
- Adding interactivity: filters, parameters, actions

- Storyboards and guided storytelling
- Designing user-friendly dashboards

Activities:

- Hands-on labs building dashboards with different layouts and containers.
- Implementing filter and highlight actions to enable user interaction.

Assessments:

- Building an interactive dashboard with multiple views and filters.
- Creating a data story using Tableau Story Points.

Module 9: Data Export and Sharing Insights

Outcome: Participants will be able to export their Tableau visualizations and dashboards in various formats, publish them to Tableau Public or Server, embedding dashboards in websites or presentations, and understand best practices for communicating data visually.

Topics:

- Exporting views and dashboards (PDF, Image, PowerPoint)
- Publishing to Tableau Public or Server
- Embedding dashboards in websites or presentations
- Best practices for sharing visual stories

Activities:

- Demonstrations of exporting views and dashboards in different formats.
- Step-by-step guide on publishing to Tableau Public or Server.

Assessments:

- Exporting a Tableau view or dashboard in a specified format.
- Publishing a visualization to Tableau Public (if applicable).

Module 10: Final Capstone Project

Outcome: Participants will be able to apply all the Tableau skills and knowledge acquired throughout the course to analyze a real-world business problem, design a comprehensive dashboard solution, and present their findings effectively.

Topics:

- Real-world case study (e.g., Sales Performance, Marketing Campaign Analysis)
- Apply all concepts learned to design a full dashboard
- Group presentation and feedback

Activities:

- Working individually or in groups on a provided case study.
- Designing and building a complete Tableau dashboard to address the case study requirements.

Assessments:

- Evaluation of the final dashboard based on its effectiveness in addressing the case study.
- Assessment of the group presentation, including clarity of insights and communication skills.