Advanced Concepts of Data Visualization

Duration: 2 Days **Course Code: GK840042** **Version: 1.0**

Overview:

Learn to design powerful, interactive dashboards and visual stories that turn complex data into clear, actionable insights.
Advanced Concepts in Data Visualization is a three-day immersive course designed for professionals who want to elevate their data storytelling and dashboard design skills. Building on foundational visualization principles, this course dives into advanced chart types, ethical design practices, and the role of the author in shaping how data is understood. Learners will explore how design decisions—like color usage, annotation, and layout—can dramatically impact the clarity and effectiveness of a visual narrative.
Throughout the course, participants will gain hands-on experience with interactive dashboards, live data pipelines, and mobile optimization techniques. They'll learn to implement features like slicers, tooltips, bookmarks, and row-level security, while also developing a deeper understanding of how to transform and model data using Power Query and DAX. By the end of the course, learners will be equipped not just to build dashboards, but to craft compelling visual arguments that resonate with their audience and support confident decision-making.

Target Audience:

Data visualization practitioners: learners who make data visualizations as part of their role (in any sector or context) can level up their communication skills, design thinking, and technical know-how with this course.
Data analysts with knowledge of PowerBI and basic data viusalization: analysts with an interest in visualzation can develop expertise in data visualization, design thinking, and PowerBI.
Data analysts or visualization practitioners who want to design end-to-end data pipelines for continuously updating data visualizations / dashboards.
As well as: Business Intelligence Professionals, Data Scientists, and Business Analysts

Objectives:

- Create compelling visual narratives that effectively communicate insights and drive decision making
- Discuss and implement best practices for designing impactful charts and dashboards and practice making design decisions that support a visualization goal
- Recognize specialized chart types and examine different forms of interactivity
- Use advanced chart types (networks, waterfall charts, small multiples, stream graphs, combination line and bar charts) and custom visuals to extend visualization capabilities in Power BI
- Use conditional formatting, cross-filtering/highlighting, buttons, slicers, tooltips, and bookmarks to increase interactivity and communication efficacy in Power BI
- Understand and construct a data pipeline to create an updatable dashboard
- Recognize the opportunities and challenges of live-updating dashboards, and how to mitigate associated risks
- Use Power Query Editor and DAX formulas for data transformation and calculated fields in Power BI
- Implement data model view, parameters, and incremental refresh for handling and organizing dynamic and large datasets in Power BI
- Optimize dashboards and other data visualizations for mobile view in Power BI: prioritize visualizations for smaller space, touch-friendly interface, and progressive disclosure.
- Implement row level security to limit access and create secure visualizations in PowerBI

Prerequisites:

Understanding of common chart types

- Ability to select appropriate chart types based on the data and intended message
- Awareness of how to use color accurately and with a data-driven purpose

- Familiarity with labeling, titles, and basic annotation in visualizations
- Experience with data quality assessment and data cleaning
- Ability to interpret and accurately represent analysis results
- Comfort with simple calculations and summary statistics

* Basic data visualization concepts: chart type selection, understanding of how to use color accurately and with data-driven purpose; accessibility basics; proper use of labels, titles, and annotations.

* Basic data analysis skills: data quality assessment; data cleaning; assessing and accurately representing results.

* Some familiarity with Power BI.

- GK840037 - Storytelling in Data

Content:

Advanced Chart Types ; Visual Design

- Explore the role of design in effective data communication
- Apply color theory and accessibility principles to visualizations
- Learn and implement advanced chart types in Power BI:
- Networks, waterfall charts, small multiples, stream graphs, and combo charts
- Practice ethical visualization and understand the author’s influence on interpretation

Interactivity ; Live Data Dashboards

- Design interactive dashboards using slicers, tooltips, bookmarks, and conditional formatting
- Understand and build data pipelines for live/updatable dashboards
- Use Power Query and DAX for data transformation and calculated fields
- Implement best practices for designing user-friendly, interactive experiences

Visual Storytelling ; Publishing

- Craft visual arguments that align with audience needs and business goals
- Optimize dashboards for mobile viewing and touch-friendly interfaces
- Apply row-level security to protect sensitive data
- Publish and maintain dashboards with confidence, including versioning and troubleshooting

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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