

ADVANCED POWER BI TECHNIQUES AND DATA ANALYSIS EXPRESSIONS (DAX)

COURSE OVERVIEW

This comprehensive course is designed to equip participants with advanced skills to utilize Data Analysis Expressions (DAX) and Power BI tools for data transformation, analysis, and visualization. Participants will gain hands-on experience in creating and optimizing robust data models while mastering advanced calculation techniques to derive actionable insights from raw data. The course covers advanced topics such as building relationships, understanding complex schemas, dynamic measures, and leveraging AI tools for text analytics and enhanced visualization techniques. By the end of the course, participants will be able to create interactive and impactful dashboards that support data-driven decision-making and transform complex datasets into meaningful business intelligence.

TARGET COMPETENCIES

- Advanced Data Analysis Expressions (DAX)
- Data modeling techniques
- High-impact visualization skills
- Performance optimization
- Dynamic reporting
- Dashboard Design

COURSE OBJECTIVES

- By the end of this course, participants will be able to:
- Write advanced DAX functions for in-depth data analysis.
 - Develop and optimize data models, including managing relationships and schemas.
 - Design professional dashboards that showcase KPIs and metrics for decision-making.
 - Apply advanced visualization techniques to communicate insights effectively.
 - Create dynamic and interactive reports in various ways to communicate analytics results.

TARGET AUDIENCE

This course is ideal for professionals seeking to take their analytical skills to the next level. This includes:

- Data Analysts are looking to enhance their Power BI skills.
- Experienced Power BI users seeking advanced techniques.
- Business Analysts
- Business Intelligence specialists aim to optimize data transformation and reporting.

COURSE METHODOLOGY

The course combines theoretical learning with practical application through interactive workshops that provide hands-on experience, real-world case studies that contextualize key concepts, group exercises that enhance collaborative problem-solving, and guided sessions designed to help participants master DAX concepts and effectively leverage advanced Power BI tools. Guided sessions for mastering DAX concepts and leveraging advanced Power BI tools effectively.

COURSE OUTLINE

ADVANCED DATA ANALYSIS EXPRESSIONS (DAX)

- Filter DAX Functions and Variables

Use filtering functions to manipulate data context and to create dynamic calculations such as:

- (ALL), (ALLEXCEPT), (FILTER).
- (SELECTEDVALUE), (ALLSELECTED).
- Utilizing VAR for dynamic calculations.

- Table Manipulation and Relationship Functions

Use table functions to return values or manipulate existing tables such as:

- (TOPN), (VALUES)
- (RELATED), (RELATEDTABLE)
- (USERELATIONSHIP) for advanced relationship management.

- Time Intelligence Functions

Use time intelligence function to perform calculation using time periods, including days, months, quarters, and years, and then build and compare calculations over those periods such as:

- (DATEADD)
- (NEXTYEAR)
- (PREVIOUSYEAR)
- (PREVIOUSMONTH)
- (TOTALMTD)
- (TOTALYTD)

DATA MODELING PRINCIPLES

- Introduction to data modeling and its importance in analytics.
- Understanding and managing relationships: terminology, logic, and troubleshooting.
- Best practice for Many-to-Many Relationships
- Creating a Dynamic Calendar Table
- Comparing Star Schema vs. Snowflake Schema
- Optimizing performance and avoiding a single large table
- Maintaining robust and scalable data models.

ADVANCED VISUALIZATIONS

- ArcGIS Maps: Geographic visualizations for spatial analysis.
- Metrics and KPIs: Displaying performance indicators.
- Narrative Visualizations: Creating meaningful data stories.
- Decomposition Tree: Root cause analysis and pattern discovery.
- Key Influencers: Identifying factors influencing outcomes.
- Python and R Script Visuals: Incorporating advanced analytics.

ADVANCED REPORTING

- Paginated Reports: Generating detailed, print-ready reports.
- Utilizing parameters for dynamic report filtering and customization.
- Designing advanced dashboards for interactive reporting.
- Create visually rich report tooltips to provide additional information about data on dashboard visuals.

POWER BI AI TOOLS FOR ANALYTICS

- Leveraging AI tools for advanced analytics:
- Text Analytics: Analyzing and interpreting textual data.
- Vision: Visual AI for image-based data.
- Azure Machine Learning: Integrating machine learning models into Power BI.

To register or for complete course information

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