



### **Beginning Data Analysis and Visualization (3 Days)**

In today's business world, just about every employee works with data to some extent. MS Excel is widely available and used by many employees to process data and information. This course helps the participants become more familiar with data analytics concepts and more proficient with MS Excel.

This course is designed for beginners who have familiarity with the MS Excel environment but need to learn how to use the tools for data analysis. In this course, the participants will learn how to load data into MS Excel and set up worksheets and tables. They will learn the basics of performing statistical and visual analysis to gain new insights in a quicker, more efficient manner.

Participants will see an overview of more advanced features of MS Excel and how they can be useful in the analysis of data. Participants are given additional resources that can be used to further their understanding of these concepts after the course.

#### **Objectives:**

Upon successful completion of this training, students will be able to:

- Load data into MS Excel and prepare it for analysis
- Describe Basic Spreadsheet Design
- Describe the advantages and differences between worksheets, tables and reports
- Perform Statistical Analysis on data
- Create basic Formulas and use basic Functions
- Create PivotTables, PivotCharts, and Slicers
- Describe the uses of chart types available in MS Excel
- Display information using meaningful visuals
- Create Geospatial Visualizations



### **Intermediate Data Analysis and Visualization (3 Days)**

In today's business world, just about every employee works with data to some extent and typically has MS Excel on their desktop. This course helps the participants expand their knowledge of data analytics concepts and the functionality of excel so they can become more proficient in their daily data analysis tasks.

This course is designed for those who already have familiarity with MS Excel and with Data Analysis concepts. In this course, we take your knowledge further and look at the details of analyzing data both statistically and visually to gain new insights in a quicker more efficient manner.

Participants will perform deeper statistical analysis of the data and learn more techniques to display their results visually. They will also begin to learn some of Excel's more advanced features like Power Query, Power Pivot and Dashboards.

Participants will learn and practice several intermediate and advanced MS Excel techniques to analyze data using real world examples. Participants are given additional resources that can be used to further their understanding of these concepts after the course.

#### **Objectives:**

Upon successful completion of this training, students will be able to:

- Getting and Transforming Data
- Analyzing and Visualizing Data for Business
- Performing Statistical Analysis
- Perform linear regression analysis
- Analyzing Data with Formulas and Functions
- Create nested formulas to handle more complex operations
- Creating Conditional Visualizations
- Creating PivotTables, PivotCharts, and Slicers
- Presenting Information in an Excel Dashboard
- Explain the use of Power Query in aiding data analysis
- Modeling and Analyzing Data with Power Pivot
- Creating Geospatial Visualizations with Excel



### **Advanced Data Analysis Concepts (3 Days)**

It's easy to suffer from information overload in today's world. Employees need tools that are both easy to use and help them make sense of the large volume of data they're presented with on a daily basis.

In this course, we build upon our Introduction to Data Analytics and Data Analysis and Visualization with Excel course and move on to more advanced features of Excel and more advanced techniques we can apply to our data.

Participants will learn how to bring data from multiple sources together in one place for analysis. They will learn how to manipulate the data into a form suitable for the type of analysis required for their work.

Participants will move past descriptive analytics and leverage the power of:

- Diagnostic Analytics: Why did something happen?
- Predictive Analytics: What will happen?
- Prescriptive Analytics: How can we make something happen?

Tracking information and results over time can offer valuable insights used to refine the work that we do. Participants will learn to use KPIs to help with Data Analysis and to make real-time decisions based on current up to date information.

Participants will learn how to organize analytic results spatially (GIS, Geospatial) to more quickly reveal insights.

#### **Objectives:**

Upon successful completion of this training, students will be able to:

- Explain Data Modelling with Excel Worksheets
- Simultaneously work with data from multiple sources
- Creating queries with Power query
- Model and Analyze Data with Power Pivot
- Create proper KPIs to help with data analysis.
- Perform Diagnostic and Predictive Analytics to better explain why a problem occurs and what is most likely to occur next.
- Perform Prescriptive Analytics to help make things happen
- Data Analysis with PivotTables, PivotCharts, and Slicers
- Use Excel's Advanced and 3D Mapping features