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PHOENIX TS

# Data Analysis Level 1 Training

This course will introduce students to data analysis, modeling, and spreadsheet usage to make informed decisions.

**Due to Covid-19 safety restrictions** PhoenixTS will temporarily be unable to provide food or water to our students who attend class at our Training Center and all student Break Areas are currently closed. Students may bring their own lunch and snacks to eat at their seat in the classroom or eat out at nearby restaurants.

## Course Overview

This 3 -day instructor led course introduces the necessary core quantitative methods and the foundations for statistical methodologies used in data analytics. Statistical software and the use of spreadsheets are integrated throughout so that students better comprehend the importance of using technological tools for effective model building and decision-making. This course is data-oriented, exposing students to basic statistical methods, their conceptual underpinning, such as variability and uncertainty, and their use in the real world. Topics include data collection, descriptive statistics, elementary probability rules and distributions, statistical inferences, break-even analysis, regression analysis, and introduction to predictive modeling and optimization models.

There are no prerequisites for this course.

## Course Objectives

At the end of this training course, participants will be able to do the following:

- To improve analytical thinking and develop effective problem-solving strategies and validation techniques for different problem situations.
- To familiarize students with useful, efficient, and proper methodologies for summarizing and communicating quantitative and qualitative data in Excel.



- To build statistical models replicating the real-life situation as closely as possible and to formulate appropriate hypothesis given the context
- To help students acquire effective modeling skills in designing and implementing readable and reliable spreadsheet models.
- To teach students how to interpret the results of statistical tests and decision models, and to use them in making decisions.
- To develop one's ability and confidence in effectively communicate analytical, quantitative, and statistical concepts.

## Course Outline

### Module 1: Introduction to The Course

- Introduction to Analytics
- Different Types of Analytics
- Why are There So Many Different Methods?
- Terminology and Notation
- Core Ideas in Data Analytics
- The Steps in Data Analytics Projects

### Module 2: Data Exploration • Introduction to Statistics

- Variable Types
- Summarizing Data
- Descriptive Statistics: Measures of Central Tendency
- Descriptive Statistics: Measures of Variation
- Statistical Displays: Histograms and Boxplots

### Module 3: Excel for Data Analysis

- Introduction to Excel
- Sort/Filter/Conditional Formatting
- Pivot Tables
- Data Visualization



## Module 4: Breakeven Analysis

- Linear Functions
- Revenue and Cost Models
- Exponential Functions
- Curve Fitting
- What-If Analysis / Goal Seek

## Module 5: Time Value of Money

- Basics of lending and borrowing.
- Interest
- Present and future value of investments
- Simple Interest
- Compound Interest

## Module 6: Probability Models

- Basic Principles
- Conditional Probability
- Discrete Random Variables
- Continuous Random Variables
- Normal Distribution
- Z-score
- Outlier Detection Method

### Module 7: Statistical Inferences

- Sampling Types / Survey Errors
- Confidence Intervals
- t-Distribution
- Introduction to Hypothesis Testing
- Single Sample t-Test
- Type I/II Errors

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Starting at **\$1,485**

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# GSA



### Price Match Guarantee

We'll match any competitor's price quote. Call us at 240-667-7757.

This **Data Analysis Level 1 Training** course includes:

- 3 days of instructor-led training
- Data Analysis Level 1 Training training book
- Notepad, pen and highlighter



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- Variety of bagels, fruits, doughnuts and cereal available at the start of class\*
- Tea, coffee and soda available throughout the day\*
- Freshly baked cookies every afternoon\*

*\*denotes this benefit is only available at participating locations.*