

Introduction to Data Analytics

Course Summary

Description

Ever been handed a giant spreadsheet and have no idea what to do with it? That daunting spreadsheet sometimes looks more like something out of the Matrix rather than usable data. This class takes the fear and anxiety out of data analysis and presents a step-by-step method to scrub, analyze and graphically present what that data is telling you. I teach participants how to understand, account for and present conclusions on important topics, such as variability, populations & samples, and more complex time-based analysis. These topics give the participant simple yet powerful techniques to gain deep insight on the behavior of data that cannot be gained through simpler graphical and analytical methods. The course uses hands-on class exercises, practical analytical techniques, 1:1 attention, decision trees, and job aides to develop skills and reinforce understanding.

At the conclusion of this course, participants will have gained hands-on experience in analyzing real-life data. The best part: we encourage participants to bring in their own data and use it for each topic and exercise. Participants who cannot or choose not to bring in their own data will be provided data to work with. Topics covered in class are relevant to all levels of experience.

Objectives

By the end of this course, students will be able to:

- Learn how to break down data into small chunks.
- Learn how to scrub your data and prepare it for analysis.
- Learn how to identify, analyze and graphically present one column of attribute data
- Learn how to identify, analyze and graphically present one column of variable data.
- Learn how to identify, analyze and present relationships between two columns of data.
- Learn how to repeat the analysis process for any data, regardless of size and complexity.
- Learn how to analyze variability (inconsistency) of your data.
- Learn how establish limits to the variability for proper predictions.
- Understand the difference between a sample and a population.
- Understand how to take samples into account to make estimations for the population (For example: think about polling a few voters to see who will win the election).
- Learn advanced techniques to look at data over time.
- Learn how to put all these topics together to give you powerful graphical and analytical techniques for truly understanding your data.

Topics

- Scrubbing your data
- Identifying your data Bar Charts
- Pie Charts
- Line Charts
- Pareto Charts
- Histograms Charts
- Scatterplots
- Boxplots
- Measuring and working with data variability
- Populations and samples
- Sampling techniques
- Comparing customer expectations/specifications vs. reality
- Control Charts
- An extensive 2-day multi-part simulation using SigmaXL (see note below)

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Course Summary (cont'd)

Audience

The audience intended for this course is for any employee of an organization who desires to or is required to know about how to scrub, organize, analyze and present simple or complicated data.

This course is designed to have broad appeal across many types of learners. Anyone who is looking to gain an understanding of how business analytics is actually performed in real organizations will benefit.

Prerequisites

This course is primarily aimed at professionals who have a bachelor's degree and/or some exposure to the business world or government. Those with technical degrees or more advanced business degrees like an MBA will find certain areas easier to absorb, and may get maximum value from the course. However, even undergraduates in non-technical fields or advanced high-school students pursuing internships will be able to follow most concepts and get value from the course. Finally, even professionals who have had deep experiences in methods will likely find value in this course.

Duration

Three days