

## Day 1

### **Hands-On: Business Analysis for Everyone with Excel—Becoming a Data Detective Made Easy**

#### **Module 1 – Process-Centric Thinking**

- Continual Improvement
  - Beyond Enterprise Data
  - Beyond Transactions
  - Understanding Cause and Effect
  - Business Impact
- Business Processes
  - Every Business Has Processes
  - The Process of Website Visits
- Process Variation
  - All Processes Have Variation
  - Two Types of Variation
  - Causes and Cures of Variation
  - Multiple Uses for Data
  - Traditional Focus on Transactions
  - Relational Perspective

#### **Module 2 – Numeric Literacy and Data Visualization**

- Numeric Summaries
  - Summaries Communicate Efficiently
  - Data Professionals Are Translators
- Measures of Location
  - Average (Arithmetic Mean)
  - Median
- Measures of Dispersion
  - Range
  - Standard Deviation
- Numerical Summaries & Data Types
  - Nominal vs Ordinal vs Numeric Data
  - Numeric Summaries Based on Data Type
- Ratios
  - Ratios
  - Percentages
  - Proportions
- Data Visualization
  - Running Records
  - Bar Charts

- Histograms
- Hands-on Lab #1

### **Module 3 – Analyzing Business Data**

- Analysis & Data Fundamentals
  - 4 Principles of Business Data Analysis
  - 4 Data Principles
- Business Data is Different
  - Aggregation
  - Data Sparsity
  - Autocorrelation

### **Module 4 – The Process Behavior Chart**

- Plotting Your Process
  - Process Measures Over Time
  - Process Location
  - Process Variation
- Characterizing Process Variation
  - Exceptional Process Measures
  - Process Limits
  - The “Happy Path” Corridor
  - The Complete Chart
- Hands-on Lab #2

### **Module 5 – Using the Process Behavior Chart**

- What Can You Analyze?
  - Types of Process Measures
  - Logically Comparable Data
- Predictable Processes
  - Predictable Processes Defined
  - Recognizing a Predictable Process
- Detecting Process Changes
  - Detection Rule #1
  - Detection Rule #2
  - Detection Rule #3
  - Detection Rule Prioritization
- Hands-on Lab #3

### **Module 6 – Becoming a Data Detective**

- Buried Signals
  - How Process Behavior Charts Work
  - Aggregated Data
  - When Noise Might Not Be Noise

- Uncovering Insight
  - Effect of Process Hierarchies
  - Process Disaggregation
- Hands-on Lab #4

### **Module 7 – Data Detective Mastery**

- Data Sleuthing
  - Case Study – Has e-commerce Improved?
  - Examining the Data
  - The Null Hypothesis
- Group Differences
  - Comparing the Data
  - Are Differences Real?
- Hands-on Lab #5

### **Module 8 – What’s Next?**

- Additional Resources

## **Day 2**

### **Data Visualization Fundamentals**

#### **Module 1 - Data Visualization Concepts**

- Data Visualization Today
- Data Visualization Components
- Visual Cues
- Coordinate Systems
- Measurement Scales
- Visual Context

#### **Module 2 - Fundamentals of Visualization**

- Data Visualization Methods
- Data Visualization Standards
- Visualization with Purpose
- Data Visualization Development

#### **Module 3 - Visualization Techniques**

- Visualization Techniques
- Visualizing Comparisons
- Visualizing Proportions
- Visualizing Relationships
- Visualizing Patterns

## **Module 4 - Visualization and BI**

- Visualization and BI
- Analytics
- Visual Reporting
- Infographics
- Data Storytelling

## **Module 5 - Tools and Resources**

- Data Visualization Tools
- Best Practices in Visualization

## **Day 3**

### **Data Storytelling for Business Impact**

#### **Module 1 - Introduction to Data Storytelling**

- Defining Data Storytelling
- Initial Data Analysis
- Drivers for Storytelling

#### **Module 2 - Building the Context**

- Identify the Context
- Building Blocks
- Choose What Message to Send
- Assembling the Plan

#### **Module 3 - Craft the Story**

- Story Components
- The Storyteller
- Characters and Personas
- The Story Lifecycle
- Kinds of Stories
- Narrative Elements
- Key Elements of a Great Story

#### **Module 4 - Visual Design**

- What Needs to Be Visualized?
- Visual Design Best Practices
- Time to Design
- Mapping the Visuals to the Story

#### **Module 5 - Refine the Visual Story**

- Refinement

- Cognitive Overload
- Visual Perception
- Visual Order
- Use of Contrast
- Test the Story

**Module 6 - The Stakeholders' View**

- Final Test
- Look and Feel
- Size, Color, Placement
- Usability
- Aesthetics
- Access

**Module 7 - Story Delivery**

- Walkthrough
- Acceptance

**Module 8 - Putting It All Together**

- Review the Process
- Sample Story

**Workshop**

- Working with Your People, Projects, Processes and Data
- Choose from a provided list of topics for a tailored workshop. Workshop topic selection to be determined during pre-course discussion and planning with instructor.