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
  o Running Records
  o Bar Charts
  o Histograms
• Hands-on Lab #1

Module 3 – Analyzing Business Data
• Analysis & Data Fundamentals
  o 4 Principles of Business Data Analysis
  o 4 Data Principles
• Business Data is Different
  o Aggregation
  o Data Sparsity
  o Autocorrelation

Module 4 – The Process Behavior Chart
• Plotting Your Process
  o Process Measures Over Time
  o Process Location
  o Process Variation
• Characterizing Process Variation
  o Exceptional Process Measures
  o Process Limits
  o The “Happy Path” Corridor
  o The Complete Chart
• Hands-on Lab #2

Module 5 – Using the Process Behavior Chart
• What Can You Analyze?
  o Types of Process Measures
  o Logically Comparable Data
• Predictable Processes
  o Predictable Processes Defined
  o Recognizing a Predictable Process
• Detecting Process Changes
  o Detection Rule #1
Hands-on: Business Analysis for Everyone with Excel

Module 6 – Becoming a Data Detective
  • Buried Signals
    o How Process Behavior Charts Work
    o Aggregated Data
    o When Noise Might Not Be Noise
  • Uncovering Insight
    o Effect of Process Hierarchies
    o Process Disaggregation
  • Hands-on Lab #4

Module 7 – Data Detective Mastery
  • Data Sleuthing
    o Case Study – Has e-commerce Improved?
    o Examining the Data
    o The Null Hypothesis
  • Group Differences
    o Comparing the Data
    o Are Differences Real?
  • Hands-on Lab #5

Module 8 – What’s Next?
  • Additional Resources