



## **Transactional Lean Six Sigma “Analyze”**

3 Days

### **Audience and Purpose:**

This course is designed for those individuals working directly on Transactional Six Sigma projects and serving as Black Belts or Green Belts. It is assumed they come from a variety of backgrounds and disciplines and will be working on non-manufacturing business processes across the company. Tools and examples are in direct support of transactional and business operation related projects

### **Course Objectives:**

Upon completion of the course, the participants will be able to:

1. Benchmark best practices to research alternative methods and potential solutions
2. Analyze a variety of data types and summarize the X factors by effect size and their practical and statistical significance
3. Identify the factors with the highest potential impact and estimate their ability to be controlled
4. Determine root cause(s) for the problems associated with the project
5. Validate root causes
6. Link process map and simulation data to JMP for analysis

### **Course Outline:**

#### **Section I**

#### **Benchmark the Process or Product**

Determine the Area to Benchmark  
Identify Benchmarking Candidates  
Prepare for the Visit  
Draw Conclusions

#### **Section II**

#### **Establish Causal Relationships Using Data**

Nominal X and Continuous Y  
t test – one sample  
t test – two sample  
t test – paired  
One-way ANOVA  
Test for differences in variances  
Nonparametric tests (optional)  
N way ANOVA  
Continuous X and Continuous Y  
Simple Linear Regression  
Correlation  
Multiple Regressions  
ANCOVA  
Nominal X and Nominal Y  
Test for proportions



Contingency Analysis  
Continuous X and Nominal Y  
Logistic regression  
Summarize the factors that are related to the root cause of the problem  
Summarize the mechanism of how the factors influence the response

### **Section III**

#### **Analyze the Process Map**

Theory of constraints  
Lean thinking  
Continuous Flow  
Non-value added activities  
Cycle time reduction  
Analyze the process flow and associates data  
Determine the relationship of the project problem and the process flow  
Summarize how the current process map is related to the root cause of the problem

### **Section IV**

#### **Visualize the Problem**

Review all visual data  
Summarize how the visual data is related to the root cause of the problem

### **Section V**

#### **Determine Root Cause**

Develop a Cause and Effect Diagram  
Determine the 5 Whys  
List and prioritize all root cause summary findings  
Identify the ease of control and percent contribution to the root cause  
Validate the root cause

### **Section VI**

#### **Link Process Simulation Data to JMP for Analysis (optional)**

Moving data to JMP from iGrafx  
Generating custom reports in iGrafx