Lean Six Sigma Green Belt Blended Learning Program

Course Description

Lean Six Sigma (LSS) is a disciplined process improvement approach focused on reducing waste, increasing customer satisfaction, and reducing variability for improved profits ... among many other benefits.

Green Belts are typically process managers / leaders who manage a couple of projects each year in their function specific area of the organization while maintaining their regular work duties. The LSS Green Belt course artfully blends the tools of Lean with the rigorous DMAIC problem-solving methodology and statistical toolset.

Blended Learning

FLEXIBLE: Class sessions can be 100% online or augmented with live classroom instruction.

FAST: Self-paced online learning and up to 50% less class time.

EFFECTIVE: Interactive modules and project simulations accelerate and cement learning.

ON-THE-JOB SUPPORT: Modules provide a quick-access job aid, as needed, when project challenges arise.

Certification

Certification recognizes understanding and ability to apply Lean Six Sigma knowledge. Certification is earned from TQG Master Champions, Academic Partners, or Distribution Partners.

Requirements

- A grade of 80% on e-Learning modules
- A passing grade of 80% on a final exam
- Active participation in all class sessions
- Successful completion of on-site Capstone Project

For More Information David Lewis 281.542.2061 or David.Lewis@sjcd.edu
# Standard Course Outline

(multiple combinations are possible)

## e-LEARNING MODULES

<table>
<thead>
<tr>
<th>PRE-CLASS</th>
<th>TIME</th>
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<tbody>
<tr>
<td>Class Kick-Off</td>
<td>~1 hrs</td>
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### Session 1 - Introduction
- Six Sigma Introduction
- Introduction to Lean Principles*
- Introduction to Lean Office and Service*

### Session 2 – Defining the Project
- Voice of the Customer
- Managing the Project
- Kaizen Event*
- SIPOC
- Mapping the Process

### Session 3 – Measuring the Process
- Eight Wastes*
- Current State Value Stream Mapping*
- Future State Value Stream Mapping*
- Process-Based Costs
- What is Statistics?
- Organizing and Presenting Data

### Session 4 – Process Analysis
- Pareto Analysis
- Scatter Diagrams
- Measures of Central Tendency
- Measures of Dispersion
- Measurement System Analysis
- Measurement System Analysis
- Introduction to Process Capability
- Process Capability Assessments

### Session 5 – Baseline and Root Cause
- 5S*
- Cause and Effect Diagrams
- Failure Mode and Effects Analysis
- Visual Management*
- Error Proofing*
- Intro. to Design of Experiments (optional)

### Session 6 – Making Improvements
- Total Productive Maintenance
- Workplace Design and Layout*
- Changeover Reduction
- Standard Work*
- Flow and Pull Systems*

### Session 7 – Controlling the Process
- Selecting the Solution
- Control Charts
- Controlling the Process

**Totals:** e-Learning = ~24 hrs; Class Time = ~24 hrs

(*) denotes Healthcare Only version is available

<table>
<thead>
<tr>
<th>Capstone Project (**)</th>
<th>~3 days</th>
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<tbody>
<tr>
<td>Certification Exam</td>
<td>~2 hrs</td>
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</table>

( **) or project of a similar scope

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Welcome to the Green Belt Hybrid Certification class offered by San Jacinto College Business & Professions department. We will begin with a 1-hr Pre-class on Saturday, Jan 31, 2015 at 9:00a.m. The pre-class will layout the class structure, expectations and the requirements of you before, during and after the class. It will also cover some six sigma basics. You will be getting your first assignment.

The pre-class will cover:

1. **Introduction to the course.** A very basic overview of Six Sigma Green Belt Certification.

2. **Access and use of the SJC E-learning portal.** This course is a blended course meaning that it also includes a requirement to complete some e-learning modules that will cover various aspects of Six Sigma and introductory statistics. You enrolled in the on-line courses when you enrolled in the curriculum through San Jacinto College. The on-line courses need to be completed before each class session as described in the course agenda below. The on-line courses will take 22 hours for LSS Green Belt to complete. You will take a portion of the courses prior to week 1 and a portion prior to week 2 for the LSS Green Belt. You may take them at your convenience.

3. **Project identification and definition.** In order to demonstrate mastery of the six sigma Green Belt body of knowledge, we require the completion of an improvement project. You will complete your project by successful completion of Capstone Team Project.

4. **Laptop computer** It is not necessary for you to bring your own laptop computer with Microsoft Excel. You will be provided computers in classroom Minitab that provides six sigma and statistical tools.

5. **Class Materials** You will be provided the class presentation materials in 3-ring binder. Other materials and files will be available through the e-Learning Portal.

**Class Schedule:** Location: San Jacinto College Central Campus 8060 Spencer Hwy Pasadena, Texas 77505
<table>
<thead>
<tr>
<th>Session or activity</th>
<th>Dates, time</th>
<th>Objectives, content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-class</td>
<td>01/31/15 9:00am – 11:00am</td>
<td>Introduction Course Requirements Selecting and Defining a Project Use of the e-Learning Portal</td>
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<tr>
<td>Session 1 Introduction</td>
<td>02/01 – 02/06 E-Learning 11hrs</td>
<td>E-Learning Modules</td>
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<td>02/07/15 9am – 12Noon</td>
<td>Introduction to Lean Principles Introduction to Lean Office and Service</td>
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<tr>
<td>Session 2 Defining the Project</td>
<td>02/14/15 9am – 1pm</td>
<td>Voice of the Customer Managing the Project Kaizen Event SIPOC</td>
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<tr>
<td>Session 3 Measuring the Process</td>
<td>02/15 – 02/20 E-Learning 11hrs</td>
<td>E-Learning Modules</td>
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<td>02/21/15 9am – 2pm</td>
<td>Eight Wastes Current State Value Stream Mapping Future State Value Stream Mapping Process-Based Costs What is Statistics? Organizing and Presenting Data</td>
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<tr>
<td>Session 5 Baseline and Root Cause</td>
<td>03/07/15 9am – 12Noon</td>
<td>5S Cause and Effect Diagrams Failure Mode and Effects Analysis Visual Management Error Proofing Intro. To Design of Experiments (optional)</td>
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<tr>
<td>Session 6 Making Improvements</td>
<td>03/14/15 9am – 12Noon</td>
<td>Total Productive Maintenance Workplace Design and Layout Changeover Reduction Standard Work Flow and Pull System</td>
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<td>Session 7 Controlling the Process</td>
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<td>Selecting the Solution Control Charts Controlling the Process</td>
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<tr>
<td>Session 8 Green Belt</td>
<td>03/28/15 9am – 5pm</td>
<td>Capstone Project</td>
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<td>04/04/15 1pm – 5pm</td>
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<td>04/11/15 1pm – 5pm</td>
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<td>04/18/15 1pm – 5pm</td>
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<td>04/25/15 1pm – 5pm</td>
<td>Capstone Project/Presentation</td>
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<td></td>
<td>04/26/15 – 05/03/15</td>
<td>Online Certification Exam</td>
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