

# Lean Six Sigma Green Belt Certification - Healthcare

In this 40 - 60 hour course, candidates apply the concepts of performance management and continuous improvement to create and sustain a more productive, cost effective and responsive healthcare service delivery organization. Through 10 units & 60 lessons, candidates learn the principles which help implement a culture of continuous improvement and apply methods such as lean management, and practices like the Toyota Production System.

Units	Topics	Case Studies	Key Exercises
Unit 1	<b>The Roots of Lean Six Sigma</b> <ul style="list-style-type: none"> <li>The origin of lean</li> <li>Productivity</li> <li>The nature of quality and its effect on productivity</li> <li>The costs of poor healthcare quality</li> <li>Systems thinking</li> <li>The value proposition of lean management</li> </ul>	<ul style="list-style-type: none"> <li>Above and Beyond</li> </ul>	Structured discussion: <ul style="list-style-type: none"> <li>Productivity</li> <li>Cost of poor healthcare quality</li> <li>The role of leadership</li> <li>The value proposition of lean management to healthcare</li> </ul>
Unit 2	<b>Lean Management Teams</b> <ul style="list-style-type: none"> <li>Establishing, supporting and facilitating lean management teams</li> <li>Team roles and responsibilities</li> <li>Project team meetings</li> <li>The stages of team evolution</li> </ul>	<ul style="list-style-type: none"> <li>Team Meetings</li> </ul>	<ul style="list-style-type: none"> <li>Strength's profile</li> <li>Team visioning exercise</li> </ul>
Unit 3	<b>Process Development</b> <ul style="list-style-type: none"> <li>Properties of a well-designed process management system</li> <li>Process owners vs. process stake holders</li> <li>Traditional flowcharting</li> <li>The SIPOC process map</li> <li>Functionally vs. process focused organizations</li> </ul>	<ul style="list-style-type: none"> <li>Flowcharting</li> </ul>	<ul style="list-style-type: none"> <li>Process flowcharting</li> <li>SIPOC scope charting</li> </ul>
Unit 4	<b>Analysis of Performance</b> <ul style="list-style-type: none"> <li>Performance analysis</li> <li>Common cause vs. special cause variation</li> <li>Measures of central tendency</li> <li>Measuring performance</li> </ul>	<ul style="list-style-type: none"> <li>Parable of the Red Beads</li> <li>Analyzing Operational Performance</li> </ul>	<ul style="list-style-type: none"> <li>Analyzing clinical data with run charts</li> <li>Interpreting data with run charts and drawing conclusions</li> </ul>

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Units	Topics	Case Studies	Key Exercises
Unit 5	<b>The Voice of the Patient</b> <ul style="list-style-type: none"> <li>Voice of the patient defined</li> <li>Properties of a well-designed patient loyalty model</li> <li>How to assess the voice of the patient</li> </ul>	<ul style="list-style-type: none"> <li>Focus Group: Stew Leonard's Dairy</li> <li>David Feinberg: UCLA Medical Center &amp; The Patient Experience</li> <li>Assessing the Voice of the Patient - Importance and Satisfaction – An Analysis</li> </ul>	Structured discussion: <ul style="list-style-type: none"> <li>How to engage customers</li> <li>How to engage patients</li> <li>How to engage staff</li> <li>Identifying mechanisms, systems and processes to improve</li> <li><b>Special Session: The Critical Path to Improving the Patient Experience</b></li> </ul>
Unit 6	<b>Part 1: Lean tools for continuous improvement</b> <ul style="list-style-type: none"> <li>Data sheets</li> <li>Histograms</li> <li>Cause and effect analysis</li> <li>Scatter diagrams</li> <li>Correlation and simple linear regression analysis</li> <li>Pareto analysis</li> </ul>	<ul style="list-style-type: none"> <li>Histograms: time of first lightning strikes.</li> <li>Cause and Effect Analysis</li> <li>Scatter Diagrams – saving the manatees</li> </ul>	<ul style="list-style-type: none"> <li>Creating and analyzing histograms</li> <li>Cause and effect analysis</li> <li>Creating and analyzing scatter diagrams</li> <li>Correlation analysis</li> <li>Regression analysis</li> <li>Pareto analysis</li> </ul>
Unit 6	<b>Part 2: Statistical Process Control</b> <ul style="list-style-type: none"> <li>The Purpose of Statistical Process Control</li> <li>Rational sub-grouping and sampling</li> <li>Using baseline control charts for performance metrics</li> <li>Measuring performance capability</li> <li>Measurement systems analysis</li> <li>Data collection</li> </ul>	<ul style="list-style-type: none"> <li>Control Charts</li> <li>Data Collection Planning</li> <li>Data Collection Methods</li> </ul>	<ul style="list-style-type: none"> <li>Control chart selection</li> <li>Control chart construction</li> <li>Control chart analysis</li> <li>Performance capability analysis</li> </ul>
Unit 7	<b>Management by Fact</b> <ul style="list-style-type: none"> <li>Defining lean &amp; six sigma</li> <li>PDCA – Deming approach to improvement</li> <li>DMAIC – lean six sigma approach to improvement</li> </ul>	<ul style="list-style-type: none"> <li>Prescription medicine buying time</li> </ul>	Structured discussion: <ul style="list-style-type: none"> <li>Root cause analysis</li> </ul>

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Units	Topics	Case Studies	Key Exercises
Unit 8	<b>Team Dynamics: Working with and through others</b> <ul style="list-style-type: none"> <li>• Team dynamics</li> <li>• Brain storming</li> <li>• Understanding Group Think</li> <li>• Understanding and Managing Change</li> </ul>	<ul style="list-style-type: none"> <li>• Consensus</li> <li>• Groupthink</li> </ul>	<ul style="list-style-type: none"> <li>• Consensus building: lost at sea</li> <li>• Structured discussion: groupthink</li> </ul>
Unit 9	<b>Establishing a Performance Excellence System</b> <ul style="list-style-type: none"> <li>• Attributes of an effective performance excellence system</li> <li>• Focus on core processes</li> <li>• Integrating measurements</li> <li>• Addressing nonvalue added tasks</li> <li>• Establishing performance target</li> </ul>	<ul style="list-style-type: none"> <li>• Pyxis: A Culture of Continuous Improvement</li> </ul>	Structured discussion: <ul style="list-style-type: none"> <li>• Involvement of senior leaders in cultural transformation</li> <li>• How to engage employees to adopt a performance excellence system</li> <li>• The role of communication to facilitate transformation</li> </ul>
Unit 10	<b>Lean Management in Healthcare</b> <ul style="list-style-type: none"> <li>• Lean thinking</li> <li>• Value defined: value creation and value added</li> <li>• Muda (無駄): waste, waste, waste</li> <li>• Value stream mapping</li> <li>• Theory of constraints, work balancing, takt time, theoretical maximum performance</li> <li>• 5S – getting your service house in order</li> </ul>	<ul style="list-style-type: none"> <li>• Applying the Toyota Production System to Medicine</li> <li>• Calculating Takt Time – Patient Wait times</li> </ul>	Structured discussion: <ul style="list-style-type: none"> <li>• Takt time analysis – patient wait time.</li> </ul>