

Lean Gold Certification Blueprint



LEAN[™]
certification

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The Lean Certification Blueprint provides additional useful information beyond the Body of Knowledge. The Body of Knowledge specifies the competencies, topics, and subtopics required by different types of lean professionals. The Blueprint goes one step further by specifying the segments of the relevant Body of Knowledge covered by the specific professional certification, and provides detail on the level of proficiency expected for each certification. The Blueprint codifies the content that lean certification addresses in terms of terminal learning objectives (TLOs) and enabling learning/certification objectives (ELOs).

Lean Gold Certification Blueprint

TLO1: A Lean Gold professional will be able to analyze and develop principles of cultural enablers within a business or organization.

- 1.1.1 Create an environment of respect for individuals in the organization's culture.
- 1.1.2 Demonstrate and integrate the principle of humility into the organization's culture.

TLO2: A Lean Gold professional will be able to analyze and support the processes for cultural enablers within a business or organization.

- 1.2.1 Direct planning and deployment processes for creating a lean culture.
- 1.2.2 Design the key steps to create a sense of urgency in an organization.
- 1.2.3 Create and model the lean principles, values, and philosophies through action and dialogue.
- 1.2.4 Design appropriate message deployment, including establishing and communicating the vision and direction.
- 1.2.5 Integrate learning and coaching into the organization's culture.
- 1.2.6 Guide the development of people, including education, training, and coaching.
- 1.2.7 Integrate motivation, empowerment, and involvement into the organization's culture.
- 1.2.8 Demonstrate respect for the individual by providing resources for an appropriate work environment (e.g., area cleanliness, lighting, HVAC).
- 1.2.9 Support the development, maintenance, and improvement of safety systems.

TLO3: A Lean Gold professional will be able to analyze and apply techniques and practices of cultural enablers within a business or organization.

- 1.3.1 Guide and support the cross training of employees in an organization.
- 1.3.2 Ensure a skills assessment is utilized for training and employee advancement.

- 1.3.3 Ensure instructional goals are established for learning events.
- 1.3.4 Ensure the development of on-the-job training for new and/or experienced employees.
- 1.3.5 Influence and apply coaching and mentoring.
- 1.3.6 Influence and direct leadership development programs, including motivation, coaching for performance, establishing expectations, and managing change.
- 1.3.7 Promote a culture of teamwork.
- 1.3.8 Influence and promote processes for information sharing and sharing best practices (Yokoten).
- 1.3.9 Promote suggestion systems.

TLO4: A Lean Gold professional will be able to analyze and develop principles and philosophies of continuous process improvement within a business or organization.

- 2.1.1 Influence and lead methods to ensure a process focus (e.g., allocate time to the floor).
- 2.1.2 Influence and lead approaches to identify and eliminate barriers to flow.
 - 2.1.2.1 Ensure the concepts and principles related to flow and the economies of flow are understood and practiced.
 - 2.1.2.2 Lead, promote, and model methods to reduce the original 7 Wastes (Muda), fluctuation (Mura), and minimize overburden (Muri).
 - 2.1.2.3 Lead and oversee the understanding of connecting and aligning value added work to eliminate waste and maximize value.
 - 2.1.2.4 Promote and support organizing around flow.
 - 2.1.2.5 Ensure end-to-end flow is visible.
 - 2.1.2.6 Promote methods to manage the flow visually to make process conditions apparent.
- 2.1.3 Drive the principle of matching rate of production to the level of customer demand (Just-In-Time).
- 2.1.4 Create a culture of scientific thinking by promoting stability, standardization, recognition of abnormalities, and a “go and see” mentality.
 - 2.1.4.1 Influence and promote stability.
 - 2.1.4.2 Influence and promote standardization.
 - 2.1.4.3 Influence and promote processes that support the recognition of abnormalities.
 - 2.1.4.4 Influence and promote opportunities to “go and see” in order to identify abnormalities and areas for improvement.
- 2.1.5 Create a culture that embraces automation (jidoka).
 - 2.1.5.1 Create a culture that embraces quality at the source.
 - 2.1.5.2 Create a culture that embraces no defects passed forward.
 - 2.1.5.3 Create a culture that embraces separate man from machine.

- 2.1.5.4 Create a culture that embraces multi-process handling.
- 2.1.5.5 Create a culture that embraces self-detection of errors to prevent defects.
- 2.1.5.6 Create a culture that embraces stop and fix
- 2.1.6 Promote integration of improvement with work
- 2.1.7 Develop a culture of seeking perfection through incremental continuous improvement (Kaizen) and breakthrough continuous improvement (Kaikaku).
 - 2.1.7.1 Promote the use of incremental continuous improvement (Kaizen).
 - 2.1.7.2 Promote the use of breakthrough continuous improvement (Kaikaku).

TLO5: A Lean Gold professional will be able to support the development of continuous process improvement systems within a business or organization.

- 2.2.1 Support the development, maintenance, and improvement of a visual workplace system.
 - 2.2.1.1 Support the development, maintenance, and improvement of a 5S system.
- 2.2.2 Support the development, maintenance, and improvement of a lot size reduction.
- 2.2.3 Support the development, maintenance, and improvement of load leveling (i.e., total volume, model sequence, model volume) (heijunka).
- 2.2.4 Support the development, maintenance, and improvement of a 3P Production Process Preparation.
- 2.2.5 Support the development, maintenance, and improvement of a total productive maintenance system.
- 2.2.6 Support the development, maintenance, and improvement of a system for creating standard work.
- 2.2.7 Support the development, maintenance, and improvement of a built-in feedback system.
- 2.2.8 Support the development, maintenance, and improvement of a strategic business assessment system.
- 2.2.9 Support the development, maintenance, and improvement of continuous process improvement methodologies.
 - 2.2.9.1 Produce the Plan-Do-Check-Act (PDCA) continual improvement methodology.
 - 2.2.9.2 Construct the steps and key components of DMAIC.
 - 2.2.9.3 Develop a problem solving storyboard session.
- 2.2.10 Support the development, maintenance, and improvement of a quality system (e.g., ISO).
 - 2.2.10.1 Analyze the components and function of ISO and other standards.
- 2.2.11 Support the development, maintenance, and improvement of corrective action systems.
 - 2.2.11.1 Support the development, maintenance, and improvement of root cause analyses.

- 2.2.12 Support the development, maintenance, and improvement of a project management system.
- 2.2.13 Support the development, maintenance, and improvement of a process design system.
- 2.2.14 Support the development, maintenance, and improvement of pull systems.
- 2.2.15 Support the development, maintenance, and improvement of a knowledge transfer system.

TLO6: A Lean Gold professional will be able to analyze and apply continuous process improvement techniques, tools, and practices within a business or organization.

- 2.3.1 Influence and promote the use of work flow analysis tools.
 - 2.3.1.1 Promote the use of flowcharts.
 - 2.3.1.2 Promote the use of flow analysis charts.
 - 2.3.1.3 Promote and use value stream mapping.
 - 2.3.1.4 Ensure the use of takt time analysis.
- 2.3.2 Promote and use data collection and presentation for continuous process improvement (e.g., histograms, pareto chart, check sheet).
 - 2.3.2.1 Create histograms.
 - 2.3.2.2 Develop a pareto chart to focus improvement efforts or assist in understanding a problem.
 - 2.3.2.3 Promote the use of a check sheet to collect and record data at the location of the data source.
- 2.3.3 Promote and use tools to identify the root cause.
 - 2.3.3.1 Promote and use a cause and effect (fishbone) diagram.
 - 2.3.3.2 Promote and use the 5-Whys technique to arrive at the root cause of a problem.
 - 2.3.3.3 Promote the use of failure mode and effects analysis.
- 2.3.4 Promote and conduct analyses to present variation data.
 - 2.3.4.1 Promote the use of process control charts.
 - 2.3.4.2 Promote the use of scatter and concentration diagrams.
- 2.3.5 Promote the use of product and service design
 - 2.3.5.1 Promote the use of concurrent engineering.
 - 2.3.5.2 Promote the use of and apply quality function deployment.
 - 2.3.5.3 Promote the use of product or process benchmarking.
 - 2.3.5.4 Promote the use of design for product life cycle (DFx).
 - 2.3.5.5 Promote the use of variety reduction – product and component.
 - 2.3.5.6 Promote the use of design for manufacturability.

- 2.3.6 Promote the use of various lean tools to prepare for improvement efforts (e.g., individual, work teams, kaizen blitz).
 - 2.3.6.1 Lead, direct, or facilitate a kaizen blitz event.
- 2.3.7 Develop and promote countermeasure activities (e.g., mistake-and error-proofing) to reduce or eliminate root causes of problems.
 - 2.3.7.1 Drive organizational deployment of mistake and error proofing (Poka Yoke) protocols.
 - 2.3.7.2 Drive organizational deployment of a quick changeover/setup reduction (SMED) technique.
 - 2.3.7.3 Design and promote one piece flow concepts.
 - 2.3.7.4 Drive organizational deployment of a right sized equipment process.
 - 2.3.7.5 Drive organizational deployment of cellular flow process concepts.
 - 2.3.7.6 Drive organizational deployment of sensible automation.
 - 2.3.7.7 Drive organizational deployment of material signals (Kanban).
 - 2.3.7.8 Drive organizational deployment of source inspection.
- 2.3.8 Design and analyze external supply processes and identify opportunities for improvement.
 - 2.3.8.1 Develop and implement supplier managed inventory and outline the benefits for the external supplier, the internal process, and the value stream.
 - 2.3.8.2 Promote the use of cross-docking where appropriate.
 - 2.3.8.3 Examine the benefit to the value stream of supplier assessment and feedback, and drive appropriate improvements.
 - 2.3.8.4 Understand the value of supplier development to the overall value stream and drive appropriate improvements.
 - 2.3.8.5 Analyze various types of supplier benchmarking (e.g., internal, competitive, functional) and drive appropriate improvements.
 - 2.3.8.6 Analyze the challenges of logistics within the supply chain, and drive appropriate improvements.
- 2.3.9 Design and analyze internal supply processes and identify opportunities for improvement.
 - 2.3.9.1 Promote the application of methods to minimize waste during material handling across the organization.
 - 2.3.9.2 Develop and ensure application of methods to minimize warehousing across the organization.
 - 2.3.9.3 Drive the design, development and improvement of plans and schedules.

TLO7: A Lean Gold professional will be able to analyze and develop principles of consistent lean enterprise culture within a business or organization.

- 3.1.1 Create systemic thinking to build a culture that is customer focused.
 - 3.1.1.1 Develop part-whole relationships which are clear and explicit through holistic thinking.
 - 3.1.1.2 Develop an organization that evolves as necessary to accommodate future conditions through dynamic thinking.
 - 3.1.1.3 Develop organization-wide closed-loop thinking to assure effective feedback of organizational learning (e.g., Deming's PDCA cycle).
- 3.1.2 Drive constancy of purpose to the lean enterprise culture.
 - 3.1.2.1 Ensure a focus on results.
 - 3.1.2.2 Ensure a focus on waste elimination to a project.
 - 3.1.2.3 Ensure a focus on value to the customer during work groups and projects.
- 3.1.3 Reinforce the importance of social responsibility (e.g., environmental impact) to the organization's success.

TLO8: A Lean Gold professional will be able to analyze and develop processes or systems for developing and maintaining a consistent lean enterprise culture within a business or organization.

- 3.2.1 Drive enterprise thinking within an organization.
 - 3.2.1.1 Develop an organization focused on flow concepts to eliminate traditional boundaries between internal customers and suppliers.
 - 3.2.1.2 Integrate business systems with improvement systems.
 - 3.2.1.3 Develop and implement reporting systems (across functions) that track lean improvement activities.
 - 3.2.1.4 Design and deploy information management tools.
- 3.2.2 Develop and implement different methods of policy deployment/strategy deployment.
 - 3.2.2.1 Ensure the integration of scientific thinking into the strategy process.
 - 3.2.2.2 Design and ensure implementation of a series of nested experiments to understand the cause and effect.
 - 3.2.2.3 Ensure utilization of the dynamic give-and-take process to receiving feedback.
 - 3.2.2.4 Create an environment that will allow the group to make decisions and move forward.
 - 3.2.2.5 Ensure correct alignment and prioritization of initiatives across the organization.
 - 3.2.2.6 Develop and deploy standard work for strategy communication and keeping track of progress across the organization.
 - 3.2.2.7 Develop and utilize an effort-and-impact matrix to properly deploy and allocate resources.

TLO9: A Lean Gold professional will be able to analyze and develop techniques, practices, and tools for developing and maintaining a consistent lean enterprise culture within a business or organization.

- 3.3.1 Design and ensure utilization of an A3 process to capture knowledge, the process problem analyzed, and learning.
- 3.3.2 Demonstrate utilization of a catchball process to review, discuss, and adjust a strategy or objective.
- 3.3.3 Allocate and deploy resources where demand is required.

TLO10: A Lean Gold professional will be able to analyze and develop principles of business results within a business or organization.

- 4.1.1 Analyze value in customer loyalty to measure and drive strategic direction of improvements.
 - 4.1.1.1 Analyze, understand and communicate what matters to the customer in order to align, streamline, and simplify work processes.
 - 4.1.1.2 Diagnose normal conditions from abnormal conditions to trigger the correct response.
 - 4.1.1.3 Create measurement categories to achieve better results through alignment, visibility, and feedback.

TLO11: A Lean Gold professional will be able to analyze and develop measurement systems within a business or organization.

- 4.2.1 Drive precision and accuracy in measurement systems to be consistent.
 - 4.2.1.1 Understand and apply the interdependencies between measures and measurement categories (e.g., attribute measures, variable data, KPIs) in order to prioritize strategic improvements.
 - 4.2.1.2 Ensure the alignment of internal measures with what matters to the customer.
 - 4.2.1.3 Design metrics and measure the results from the whole system to maximize value.
 - 4.2.1.4 Implement a measurement system to measure and expel waste and barriers to flow.
 - 4.2.1.5 Utilize a lean accounting system to measure and optimize organizational performance.
 - 4.2.1.6 Design and develop Voice of the Customer measurements.
- 4.2.2 Classify the goals and objectives to improve the organization's vision.
 - 4.2.2.1 Develop SMART (Specific, Measurable, Achievable, Realistic, Timely) goals to improve the organization.
 - 4.2.2.2 Analyze customer relations to ensure alignment between the organizations' efforts and external customers.

- 4.2.3. Examine the factors that significantly influence organizational outcomes.
- 4.2.4. Develop a system to address and report to stakeholders any issue of product flow, backlogs, and quality problems.
 - 4.2.4.1 Develop a system to utilize and apply methods of visible feedback in real-time to communicate the information.

TLO12: A Lean Gold professional will be able to analyze and develop key lean related measures within a business or organization.

- 4.3.1 Develop and deploy quality measures to establish a value for the product.
 - 4.3.1.1 Establish measures that immediately identify the sources of rework.
 - 4.3.1.2 Establish a first pass yield metric to measure the organization's ability to work efficiently.
- 4.3.2 Drive the deployment of lean flow methods of eliminating waste, reduction of fluctuation, and leveling to produce accurate delivery requirements.
 - 4.3.2.1 Understand the application of takt time to measure the pace of work to meet the customer demand.
 - 4.3.2.2 Understand the application of cycle time to measure the time required to complete a task.
 - 4.3.2.3 Utilize the lead-time to measure the unit's process from start to finish, to drive organizational improvements.
- 4.3.3 Analyze the total cost in the lean process to identify strategic opportunities to eliminate waste.
 - 4.3.3.1 Analyze the cost of goods sold against the average cost of inventory to establish inventory turns.
 - 4.3.3.2 Analyze the queue time a product or resource waits for the next value stream or customer.
 - 4.3.3.3 Analyze wait times between value streams to measure the duration of delay in the value streams.
 - 4.3.3.4 Analyze the overall equipment effectiveness of the key processes across the organization
 - 4.3.3.5 Understand how changeover time affects your available capacity.
- 4.3.4 Analyze the financial impact the lean process has on an organization.
 - 4.3.4.1 Analyze and measure the cash flow to help drive organizational improvements.
- 4.3.5 Understand and capitalize on the impact that lean can have in each respective market.
 - 4.3.5.1 Create customer satisfaction to deliver value to the customer's point of view.