# Lean Certification Competency and Behavior Model

## Overview

This industry-leading certification program is the result of an alliance between the American Society for Quality (ASQ), the Association for Manufacturing Excellence (AME), Shingo Institute, and SME. These organizations partnered to create the Lean Certification program to set the globally recognized standard for lean principles and practices. As a result, the Lean Certification program provides individuals, companies, and educators with a benchmark for achievements and a common roadmap for continuous improvement and workforce development. The standard assesses your lean knowledge (exam), the application of that knowledge (Portfolio/Accomplishment Record), and mentoring/coaching of others.

**Lean Bronze Certification** focuses on lean from a tactical perspective. Tactical lean is the deployment and application of lean principles, concepts, and methods locally, within a work cell, work group, or value stream. This may be a workshop or project focused on implementation of specific lean concepts or techniques.

**Lean Silver Certification** focuses on lean from an integrative perspective. This is the integration of lean activities coupled with organizational restructuring necessary for transformation and sustainable lean operation of a complete value stream.

**Lean Gold Certification** focuses on lean from a strategic perspective. This is a lean transformation of a business or organization. This requires at least two business transformation projects. Each project must include two or more of these classic value streams:

- New product development
- Order through delivery
- Supply chain
- Administrative functions

**VALUE STREAM** is defined as any process that has a defined customer and supplier (including internal), material flow, and information flow. The process should include multiple operations or tasks that require the use of several people, machines, or equipment.

The Lean Certification Competencies and Behavior Model is intended to help identify the minimum competencies and behavior expectations in your pursuit of a specific level of Lean Certification.

## Lean Certification Competencies and Behavior Models

**Body of Knowledge Category:** Cultural Enablers
**Subcategory:** Principles of Cultural Enablers
**Focus Topics:** Candidates understand and focus on respect for people and humility, and the evolution thereof, as they progress on their lean journey

| Minimum Competencies and Expected Behaviors | | |
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| **BRONZE** | **SILVER** | **GOLD** |
| Bronze candidates demonstrate a positive attitude and respect for colleagues. They check their "rank" at the door, demonstrating a solid understanding and effectively modeling appropriate team behaviors.<br><br>They are role models for "we" versus "I" behaviors. Bronze candidates understand and place the needs of the organization before the needs of themselves. | *In addition to the Bronze competencies and behaviors:*<br><br>Silver candidates are fully capable of recognizing and rewarding appropriate efforts and behaviors. Candidates value the contributions of others, and they actively practice servant leadership.<br><br>Candidates clearly understand that their role in the organization is to break down barriers that prevent progress and encourage the participation and involvement of all stakeholders.<br><br>Silver Candidates model behavior and foster respect for people/individuals, safety, and the environment. Candidates also demonstrate humility, understanding that those who do the work are best suited to improve the work and recognize that one's lean learning is never complete. | *In addition to the Bronze and Silver competencies and behaviors:*<br><br>Gold candidates establish and enable proper training and human development to develop new "scientists" in the organization, providing opportunities for continuous growth and learning.<br><br>Candidates create a climate of success for all, and establish a culture of learning and empowerment that thrives on "learning by doing" and growing from mistakes.<br><br>Gold candidates actively eliminate barriers by establishing and enabling effective communication and work to develop a servant-leader model for management that others are held accountable.<br><br>Candidates ensure that the process supersedes the leader — creating an environment where leadership changes are non-disruptive to the process. |

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**Body of Knowledge Category:** Cultural Enablers
**Subcategory:** Process for Cultural Enablers
**Focus Topics:** Planning and deployment; creating a sense of urgency; modeling the lean principles, values, philosophies; message deployment — establishing vision and direction; integrating learning and coaching; people development-education, training, and coaching; motivation, empowerment, and involvement; environmental systems; and safety systems

| Minimum Competencies and Expected Behaviors | | |
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| **BRONZE** | **SILVER** | **GOLD** |
| Bronze candidates respect decision-making processes, and understand the importance of driving consensus.<br><br>Candidates actively share information and encourage others to do so. Bronze candidates build relationships both internally and externally (within team and outside of team) to enable continuous improvement and professional development. Candidates actively seek out strategic goals, objectives, and information to understand the goals; and identify how they can affect goals through their sphere of influence.<br><br>They possess an understanding of principles and use lean processes, procedures, etc. as standardized/specified by the organization. Candidates are capable of collecting and analyzing data, and using it to justify efforts. Candidates clearly understand and respect roles and responsibilities.<br><br>They take risks, experiment using the scientific method, and understand that improvement efforts are not a one-time event, but a cycle of improvement activities. Bronze candidates embrace, support, and promote effective environmental and safety systems. In addition, candidates actively questions “the way we do things” or “we’ve always done it that way because it works” to identify improvements and foster process learning. | *In addition to the Bronze competencies and behaviors:*<br><br>Silver candidates are capable of creating learning environments, which includes developing others through delegation and “letting go” in order to stretch and grow protégés. They clearly communicate and plan at a value stream level with appropriate stakeholders, establishing and driving cross-functional communication. Candidates identify and recommend changes to organizational structure, policies, governance, etc., to promote continuous improvement and human development.<br><br>Silver candidates are the pivotal point within Hoshin planning – they link goals and objectives to tactics that drive continuous improvement, and create systems to align with goals, objectives, mission, and vision. Candidates participate and/or set goals and objectives as part of the Hoshin process. These value-stream-level leaders take the corporate vision and translate it into operational activities (e.g. projects, local goals/objectives), facilitating, and developing plans that drive from current state to future state. Candidates are capable of breaking through barriers and removing obstacles that prevent continuous improvement and compromise goals/objectives. They provide 360 degree feedback, up and down, through the organization, and they receive 360 degree from down and up in the organization. | *In addition to the Bronze and Silver competencies and behaviors:*<br><br>Gold candidates are the architects and leaders of lean transformation efforts. Candidates are capable of setting lean vision and strategy. They evolve organizational design to drive continuous improvement and human development — getting the right people in the right positions, and developing succession planning for human development. Candidates foster mentoring/coaching throughout the organization enabling all employees to evolve a thorough understanding of Lean.<br><br>Gold candidates set organizational vision and requirements, establishing a system that drives improvement and involvement aligned with the needs and objectives of the entire organization. They communicate and align the organization to “true north” —the organization’s purpose — and enable the implementation of plans directed at the achievement of “true north”. They establish constancy of purpose, values, and accountability for themselves – and hold others accountable for agreed to expectations and upholding the values of the organization. They fully understand and appropriately utilize SWOT analysis (and other tools) for the entire organization’s development and long-term viability. |

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| Minimum Competencies and Expected Behaviors | | |
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| **BRONZE** | **SILVER** | **GOLD** |
| Bronze candidates are comfortable working in teams of all different types and recognize the value that a variety of experiences and skill sets bring decision making and the improvement process. | Candidates are capable of creating measurement systems, and using those systems to enable transition to the next level of continuous improvement.<br><br>Silver candidates practice innovative systems thinking. They set targets to their level of influence within the system. Possessing a passion and drive for excellence, Silver candidates are capable of motivating teams to perform at a level higher than the team thought themselves capable.<br><br>Silver candidates are comfortable chartering, selecting, and managing team-based improvement efforts and actively encourage a variety of viewpoints and backgrounds when facilitating team activities.<br><br>Within the improvement framework for which they are responsible, silver candidates take seriously the responsibility to protect the health and safety of the work force and observe sound environmental practices. | Gold candidates are fully capable of establishing contingency and crisis plans. Gold candidates drive a sense of urgency throughout the organization around the need for "Continuous Improvement." They develop a closed-loop system for driving improvement, and ensure alignment and synchronization of business plans that support the mission/vision/purpose of the organization. Gold candidates encourage risk taking and experimentation using the scientific method. They set key metrics and shares information freely within acceptable finance disclosure guidelines. They emphasize safety, and possess a higher understanding of safety and environmental impact from a strategic, community and individual perspective (e.g. stakeholders).<br><br>Gold candidates set expectations for the organization to work cross-functionally wherever possible in support of customer value and see it as their responsibility to establish organizational structures and policies where teams can thrive and customer-supplier relationships continue to strengthen over time through joint efforts and strong and frequent communication. |

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**Body of Knowledge Category:** Cultural Enablers
**Subcategory:** Cultural Enabler Techniques and Practices
**Focus Topics:** Cross training, skills assessment, instructional goals, on-the-job training, coaching and mentoring, leadership development, teamwork, information sharing (Yokoten), and suggestion systems

| Minimum Competencies and Expected Behaviors | | |
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| **BRONZE** | **SILVER** | **GOLD** |
| Bronze candidates are active participants in improvement efforts and change. Candidates promote teamwork and they actively participate on and/or lead teams.<br><br>Bronze candidates actively input their knowledge, skills, abilities, ideas, etc., into the system. They share ideas, and encourage idea sharing from others. They are involved in and promote ideas and idea/suggestion systems.<br><br>Bronze candidates understand that effective teaming outperforms individual performance. They understand and believe in the value of cross training; encourage and/or potentially conduct cross training within their team.<br><br>Additionally, candidates are acutely aware of the need to grow their own lean learning and actively seek out knowledge, skills, and mentors. Bronze candidates know they are empowered, and they accept both accountability and responsibility. They are able to recognize comfort zones and have the capability to stretch outside their comfort zones.<br><br>Specific skills expected of bronze candidates:<br>• Ability to be a positive contributor to an improvement team<br>• Understand and promote use of PDCA and problem-solving as basis for all improvements<br>• Ability to define value and identify customers both inside and outside the organization | *In addition to the Bronze competencies and behaviors:*<br><br>Silver candidates are the communication bridge between suppliers and customers.<br><br>Candidates are capable of identifying and acquiring appropriate resources for improvement activities and initiatives.<br><br>Candidates drive information sharing both internally and with external key stakeholders. They drive idea generation and idea systems.<br><br>They are key developers of cross-functional teams, and actively coach/mentor teams and people on lean tools, principles, philosophy, and methods. In addition, they safely guide them out of their comfort zones. Silver candidates are capable of identifying needs-based training, and conduct training on a regular basis. Candidates understand the value of integrating training as a general (daily) practice.<br><br>Candidates create learning opportunities outside of their areas, and drive benchmarking, best practices, etc. Moreover, they drive teams and teamwork that crosses organization and traditional boundaries. Silver candidates manage and focus team dynamics, leveraging the knowledge, skills, and abilities of team members in order to elevate the team to higher levels of performance.<br><br>Silver candidates model appropriate/desired behaviors and corporate values. | *In addition to the Bronze and Silver competencies and behaviors:*<br><br>Gold candidates create a learning organization. They establish and drive programs and processes for people development and leader development. Candidates understand the number of leaders and personnel that must be developed in order to maximize progress along the journey, and actively develops (and enables the development) other lean leaders.<br><br>A Gold candidate enables the establishment of idea systems, engagement programs, reward & recognition programs, etc., and understands their strategic value and impact.<br><br>Gold candidates practice being a "leader as teacher/mentor/coach," as well as servant leadership. Candidates lead by example, and models the desired behaviors and corporate values.<br><br>Gold candidates constantly seek and provide frequent, if not constant feedback. They are personally involved in improvement activities on a regular basis to demonstrate the importance of these activities to all others. Candidates are also acutely aware that there is still much more to learn on their own journey, and actively seeks out knowledge, skills and mentors, as well as shares their own knowledge, skills and experience with others progressing on the journey. |

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| Minimum Competencies and Expected Behaviors | | |
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| **BRONZE** | **SILVER** | **GOLD** |
| • Ability to identify waste and describe its impact on people who do the work<br>• See improvement as a normal component of daily work for self and others | Specific skills expected of Silver candidates:<br>• Ability to set up a team based project, select team members and manage an improvement team<br>• Ability to plan, develop and conduct lean training sessions<br>• Ability to design and implement appropriate idea and recognition systems to promote and increase employee involvement and empowerment<br>• Capable of identifying ergonomic, safety or employee satisfaction issues that may slow or jeopardize improvement efforts<br>• Ability to coach/mentor future lean facilitators in principles, systems and techniques | Specific skills expected of Gold candidates:<br>• Ability to align the organization around lean principles and drive establishment of lean systems in all areas<br>• Capability to assess organizational design and policies/procedures to insure they promote human development and the flow of value<br>• Ability to champion and sustain the lean journey over time<br>• Willingness and skills to coach and mentor new lean leaders<br>• Build a corporate strategy that promotes and rewards employee involvement and shares gains with all constituents<br>• Participates in improvement activities and conducts Gemba walks on a regular basis<br>• Sets high expectations for next levels of management to reach new levels of excellence annually and holds them accountable for measuring and monitoring progress towards new levels. |

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**Body of Knowledge Category:** Continuous Process Improvement
**Subcategory:** Principles of Continuous Process Improvement
**Focus Topics:** Process focus, identification and elimination of barriers to flow (waste, organize around flow, make it visible, etc.), match rate of production to level of customer demand/just-in-time, scientific thinking (PDCA, standardization, recognize the abnormal, etc.), jidoka (quality at the source), autonomation, no defects passed forward, poke-yoke/error-proofing, stop and fix, etc., integration of improvement with work, seek perfection, incremental continuous improvement (Kaizen), breakthrough continuous improvement (Kaikakau)

| Minimum Competencies and Expected Behaviors | | |
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| **BRONZE** | **SILVER** | **GOLD** |
| A Bronze candidate understands that the Gemba (actual place or where the work is done) is always the best source of information for improvement. Candidates recognize that all improvement activities should be able to be linked to customer satisfaction — quality, cost and/or delivery.<br><br>Bronze candidates effectively participate in local level improvement activities and understand the relationship of those activities to key local outcomes. They are capable of planning and/or conducting improvement activities using proven best practices and reliable methods and understand why it is important to use the scientific method for solving problems.<br><br>Candidates constantly scan their local environment to expose problems and barriers to flow. They are also capable of performing problem solving on their own, and effectively gather, analyze and use data and information to support their efforts. Additionally, candidates recognize and promote the importance of stability and standardization as the basis for all improvement.<br><br>Specific skills expected of bronze candidates:<br>• Ability to identify and use basic problem solving and data collection/analysis tools | *In addition to the Bronze competencies and behaviors:*<br><br>A Silver candidate uses tools to drive alignment to company vision and corporate strategies (true north). Candidates are capable of using tools to link and align value streams, and of integrating tactical projects for value stream improvement. They also are focused on a closed loop understanding of expectations — ensuring clarity of purpose and alignment of everyone involved on the team.<br><br>Silver candidates use customer expectations and metrics to effect changes that drive improvement, and are fully capable of establishing processes and flows to takt time.<br><br>A Silver candidate understands and is capable of communicating the ideal state, making it apparent to others, and protects the drive toward the achievement of the ideal state. As such, candidates are fully capable of establishing and implementing iterative cycles of improvement using appropriate principles and tools.<br><br>Candidates are capable of planning, structuring, and leading the execution of improvement events and projects at a value stream level. They possess the ability to apply appropriate tools simultaneously for process improvement. In addition, scientific thinking (PDCA/DMAIC) drives all improvement efforts. | *In addition to the Bronze and Silver competencies and behaviors:*<br><br>Gold candidates possess extensive understanding of creating flow across an extended enterprise (from suppliers through customer).<br><br>They demand fact-based process knowledge from others and expect that correct tools will be selected and utilized to solve the most important problems affecting customer satisfaction — quality, cost and delivery.<br><br>Gold candidates set direction to embrace continuous process improvement throughout the organization and beyond the 4 walls to engage with suppliers, customers, and other partners. Candidates promote process improvement as a means to an end, not an end in itself. They possess a passion for effective deployment of continuous process improvement techniques, and a thorough understanding of all of the lean tools/techniques and how, where and when to apply them.<br><br>Specific skills expected of Gold candidates:<br>• Ability to define the value streams that exist within an organization and prioritize which value streams should be the focus of improvement and articulate why |

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| **BRONZE** | **SILVER** | **GOLD** |
| • Ability to point to the critical measures in a work process that determine success or indicate problems<br>• Ability to identify customers and suppliers at least one level up or downstream from the areas where work is performed or improvement efforts are being undertaken<br>• Ability to develop a spaghetti diagram to depict flow within a work cell<br>• Ability to define and calculate takt time for a process | Silver candidates are able to teach and develop scientific thinking in others through experiential and experimental learning.<br><br>Silver candidates organize for continuous improvement, looking for opportunities throughout the extended value stream, from supplier to customer (design-supply-delivery), identifying and communicating opportunities, and ultimately driving change/improvements throughout the value stream. Because of their focus on value stream improvement, they are able to influence improvements in areas outside their core responsibility that are needed to effect change within their own value stream (e.g. support areas such as finance, sales, service, etc.). | • Ability to map the extended value stream for an organization and determine when it makes sense to engage external customers or suppliers in improvement efforts<br>• Ability to stabilize and standardize process inputs, activities and outputs by using best practices<br>• Ability to sustain and protect improvements that have been made through use of methods that quickly expose<br>• Ability to train other managers in the principles of lean<br>• Capable of assuming the role of change agent<br>• Ability to set and align improvement vision across the enterprise |

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**Body of Knowledge Category:** Continuous Process Improvement
**Subcategory:** Continuous Process Improvement Systems
**Focus Topics:** Visual workplace (including 5S), lot size reduction, load leveling, 3P, TPM, standard work, built-in feedback, strategic business assessment, continuous improvement process methodology (PDCA, DMAIC), quality systems, standards, corrective action systems, project management, process design, pull system, and knowledge transfer

| Minimum Competencies and Expected Behaviors | | |
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| **BRONZE** | **SILVER** | **GOLD** |
| A Bronze candidate is likely to be "solutions" focused versus focused on temporary countermeasures (solution means root cause level; countermeasure means temporary solution with a timeframe for the next evolution and/or multiple cycles of improvement).<br><br>Candidates possess a solid understanding of the improvement methodologies employed and are capable of explaining the "why" to others. They clearly understand and utilize scientific thinking (PDCA, DMAIC), model appropriate use and encourage the behavior/usage by others. Additionally, a Bronze candidate is capable of recognizing when a lack of stability and standardization problems occur, and make them visible to others.<br><br>Specific skills expected of bronze candidates:<br>• Understands how to manage a work area using visual systems and methods<br>• Able to explain what is meant by stability and standardization to others and point to what these concepts mean in the context of his/her own work area or within any improvement project they are a part of | *In addition to the Bronze competencies and behaviors:*<br><br>A Silver candidate effectively establishes and utilizes visual management. They understand and use visual management to drive performance and improvement. Moreover, they identify improvement opportunities through visual mechanisms. Candidates insure stability and standardization expectations are defined, and that related requirements are maintained.<br><br>Silver candidates establish and hold themselves and others accountable for standard work; and they appropriately integrate standard work across value streams. Candidates are capable of integrating visual management into all areas of the organization.<br><br>A Silver candidate is capable of managing complete value stream projects and connecting all the sub-projects (tactical projects) that comprise a value stream transformation. And, they continually drive and share best practices. | *In addition to the Bronze and Silver competencies and behaviors:*<br><br>Gold candidates drive the organization beyond the tools of lean to total transformation. They are the driving force behind visual management. And, they utilize scientific thinking (PDCA, DMAIC) as the underlying principle for all tool selection and application. Gold candidates emphasize understanding the root cause of problems/abnormalities. They enable the evolution of tools to being employee driven versus leader driven.<br><br>A Gold candidate understands and enables continuous improvement every day versus "random acts of kaizen" behavior.<br><br>Gold candidates possess a profound capability in the use of planning tools to set strategy and direction. They actively seek out new tools and techniques to expand the toolbox to those that fit appropriately — and, they possess a deep understanding of how the tool is used, why/when it should be used, and are capable of demonstrating both its fit with lean principles and tools, as well as its fit with corporate culture and practices. |

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| Minimum Competencies and Expected Behaviors | | |
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| **BRONZE** | **SILVER**<br>Specific skills expected of silver candidates:<br>• Ability to design and implement visual systems and visual management methods throughout processes<br>• Deep understanding of how to conduct root cause problem solving activities<br>• Capable of teaching PDCA problem solving methods to others and leading problem solving projects<br>• Able to build a file/database of improvement results that can be shared with others<br>• Practices the concept of reflection within all projects in order to capture lessons learned and make the next round of improvement efforts better.<br>• Ability to plan and lead multiple, inter-related improvement projects within a value stream, including iterations of improvement within a single area or portion of a value stream | **GOLD**<br>Specific skills expected of Gold candidates:<br>• Ability to establish a culture of daily continuous improvement within all areas of an organization<br>• Ability to define appropriate measures of improvement for any area of the organization and recognize the behaviors that particular measures will drive<br>• Capable of identifying whether appropriate tools are being used by bronze and/or silver candidates<br>• Ability to create and set improvement strategies and priorities, and use methods such as Hoshin planning and tools such as x-matrix and A3 to ensure alignment and measure progress regularly |

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**Body of Knowledge Category:** Continuous Process Improvement
**Subcategory:** Continuous Process Improvement Techniques and Practices
**Focus Topics:** Work flow analysis (includes flow charting, value stream mapping, takt time analysis, etc.), data collection and presentation, identification of root cause (cause and effect diagrams, five why's, FMEA), presenting variation data (SPC, etc.), product and service design (concurrent engineering, QFD, benchmarking, DFx, variety reduction, DFM), organizing for improvement, countermeasure activities (poka-yoke; SMED, right sized equipment, Kanban, etc.), and supply processes (both external and internal)

| Minimum Competencies and Expected Behaviors | | |
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| **BRONZE** | **SILVER** | **GOLD** |
| A Bronze candidate is capable of applying lean tools on project driven improvement efforts, including the capability to apply multiple tools on the same project.<br><br>Candidates understand and are able to pick appropriate tools for localized problems. Bronze candidates are highly focused on the use of lean tools in a local/highly focused manner that may or may not be part of a larger transformation effort.<br><br>A Bronze candidate actively engages in problem solving, root cause analysis, and scientific thinking (PDCA, DMAIC). They utilize lean tools to help focus problem solving (e.g. use of charts, data collection, standard work evaluation, etc.). Candidates possess a keen understanding of the value of data to drive decisions and are capable of conducting workflow analysis and collecting, analyzing and presenting the data.<br><br>Bronze candidates are proficient in root cause analysis/five why's. They are willing to stop the process, and fully understand why one would stop a process, the purpose of such a stop, and are capable of communicating the reasons to others. | *In addition to the Bronze competencies and behaviors:*<br><br>A Silver candidate is capable of coaching/teaching the tools and principles of lean. They are able to focus team development and training around tools and techniques. Candidates recognize and make visible the impact others have on process improvement.<br><br>Candidates use tools and techniques to build relationships in the extended value stream (e.g. joint projects with suppliers and/or customers using specific tools/methods).<br>Develops and fosters the use of standard tools and methods across the organization.<br><br>Silver candidates apply tools systematically, in a focused, laser-like approach (not a random/shotgun approach). They use tools to drive operational availability and create capacity that enables growth opportunities. Candidates are capable of quantifying the impact of improvement activities and link results to specific improvement efforts. | *In addition to the Bronze and Silver competencies and behaviors:*<br><br>A Gold candidate possesses a deep understanding of the interrelationship between the various tools of lean. They also understand that tools are a means to an end to drive lean philosophy into the business. Candidates facilitate and enable the extension of tools to all areas and all processes within an enterprise; drive a depth of understanding of the tools to drive continuous improvement; and drive an understanding of the "why" for appropriate tools<br><br>Gold candidates are capable of evolving tool usage: customizing tools to the organization and setting standards for how the tools work with the entire company/enterprise. They enable evolution of the tools to the point where irregularities become readily apparent.<br><br>Gold candidates use the tools of lean to support Hoshin and drive business results. Candidates practice the tools frequently at appropriate levels of the organization (e.g. tool use at management level), modeling desired behavior and practices. |

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| Minimum Competencies and Expected Behaviors | | |
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| **BRONZE** | **SILVER** | **GOLD** |
| Specific tools/techniques that bronze candidates should be able to apply in simple form within local projects:<br>• 5S and Visual Systems<br>• Standardized work<br>• Kanban/pull systems<br>• Single minutes exchange of die (SMED)<br>• Process mapping<br>• Spaghetti diagrams<br>• Back quality and problem solving tools such as fishbone diagrams and pareto charts<br>• Cellular flow<br>• Production to takt time<br>• Value stream mapping within a plant<br>• Jidoka (autonomation) | Additional tool/techniques beyond bronze expected of silver candidates:<br>• Heijunka (leveled scheduling)<br>• Value Stream Mapping for the extended value stream<br>• Poka-yoke (mistake proofing)<br>• Jidoka (autonomation)<br>• All other tools listed in bronze, but with a deeper understanding and more creative application capability<br>• Benchmarking<br>• TPM systems<br>• Standardized work for management<br>• A3<br>• Lean product design<br>• 3P<br>• DFMA, QFD, FMEA | They are fully capable of teaching/mentoring others on the use of more complex tools (e.g. Hoshin). Candidates are upset by and are capable of readily identifying “tool jockeys” — people who use the tools without an underlying understanding of the principles of lean and the application of the tool and principle the situation at hand.<br><br>A Gold candidate is capable of extending, stabilizing and standardizing tools and principles throughout the extended enterprise, and understand the ultimate benefit to “being outside of yourself” to gain the ultimate benefit (e.g. supplier through customer).<br><br>Additional tool/techniques beyond silver expected of gold candidates:<br>• Hoshin planning<br>• Developing lean models for selling and supplier development<br>• Standardized work for leadership and non-production areas |

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**Body of Knowledge Category:** Consistent Lean Enterprise Culture
**Subcategory:** Principles of Consistent Lean Enterprise Culture
**Focus Topics:** Systemic thinking, constancy of purpose, respect for people, and social responsibility

| Minimum Competencies and Expected Behaviors | | |
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| **BRONZE** | **SILVER** | **GOLD** |
| Bronze candidates adhere to constancy of purpose. They continually question the status quo to drive constancy of purpose in a localized area.<br><br>Candidates are good team members: involved, sharing ideas, understanding goals, and providing feedback.<br><br>A Bronze candidate accepts change, seeks to understand change, and communicates and supports change. They have ownership of, and hold themselves accountable for, achieving objectives.<br><br>Candidates focus on driving resolution of outstanding issues, working to achieve consensus and ensuring decisions support mission, vision, and objectives.<br><br>Specific skills expected of bronze candidates:<br>• Ability to identify how non-production areas affect the value equation<br>• Able to work in cross-functional improvement teams<br>• Capable of applying basic lean tools such as 5S and Kanban in a non-production environment | *In addition to the Bronze competencies and behaviors:*<br><br>Silver candidates drive consensus up and down through value stream. They see the relationship of "parts to the whole" and are capable of explaining those relationships to others.<br><br>Silver candidates implement and encourage organizational learning. They build a culture that is value stream focused and based in systemic thinking. Candidates create opportunities to experiment and practice scientific thinking (PDCA, DMAIC) and actively participate and coach others in scientific thinking. As part of a learning organization, candidates constantly seek out best practices and other sources to continue their personal learning for greater impact to the organization.<br><br>A Silver candidate is capable of measuring improvement efforts – before and after – and communicating results and opportunities as part of a learning organization.<br><br>Candidates focus on the standardization of standard work, visual management and other protocols, processes and procedures. Additionally, they develop, test, standardize, and deliver lean training and development activities to establish a common language, common practice, and alignment to organizational goals/objectives. | *In addition to the Bronze and Silver competencies and behaviors:*<br><br>A Gold candidate establishes and maintains a constancy of purpose with flexibility. They develop and drive policy deployment. And, they are constantly aligning plans, goals, and objectives to organizational purpose. Candidates go to the Gemba (actual place or where the work is done) to seek understanding and to facilitate improvement efforts.<br><br>Gold candidates are capable of integrating suppliers, customers and other key stakeholders as appropriate.<br><br>Gold candidates develop and enable the implementation of common management and reporting systems across the enterprise. They drive change to support business needs. Gold candidates define value as identified by the customer and promotes customer value.<br><br>Specific skills expected of Gold candidates:<br>• Ability to develop and implement appropriate companywide measurement systems that drive correct behaviors and support attaining business goals<br>• Capable of setting goals for lean improvement efforts in non-production areas and across values streams<br>• Ability to determine organizational design, policy and procedural issues that must be modified to support strategic lean initiatives |

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| **BRONZE** | **SILVER** | **GOLD** |
| | Specific skills expected of silver candidates:<br>• Ability to define all customers and suppliers in a value stream and articulate what is meant by customer value for any area of the organization<br>• Deep understanding of how customers and suppliers in a value stream affect one another and how connection points in a value stream affect inventory levels, lead-time, cost and quality<br>• Capable of teaching lean tools to non-production employees and of leading administrative kaizen projects<br>• Able to define and establish appropriate measures in administrative processes to drive improvement and signal problems | • Capable of designing closed-loop improvement systems that include frequent feedback against goals and milestones |

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**Body of Knowledge Category:** Consistent Lean Enterprise Culture
**Subcategory:** Processes for Developing a Consistent Lean Enterprise Culture
**Focus Topics:** Enterprise thinking, policy deployment/strategy deployment

| Minimum Competencies and Expected Behaviors | | |
|---|---|---|
| **BRONZE** | **SILVER** | **GOLD** |
| A Bronze candidate encourages change at the local level, within their sphere of responsibility and influence. Candidates serve as a good role model for others in terms of teamwork, involvement, idea sharing, identifying process problems, and trying new ideas using the scientific method.<br><br>Candidates follow agreed upon standards and willingly shares information with others when problems arise. They seek to understand how they can contribute to the larger organization and expects leadership support and encouragement. They also acknowledge and encourage the good work of local team members.<br><br>Bronze candidates are capable of training and deploying effective standard work techniques, and implementing measures that comply with Policy Deployment. | *In addition to the Bronze competencies and behaviors:*<br><br>A Silver candidate is capable of identifying and justifying appropriate resource requirements for improvement. They ensure alignment of activities and resources with improvement efforts.<br><br>A Silver candidate is able to manage change and ensure all affected by change are aligned with the organization's purpose, mission, vision, goals, and objectives.<br><br>Silver candidates are also capable of developing and implementing appropriate management and reporting systems through collaboration with peers and executive leadership. | *In addition to the Bronze and Silver competencies and behaviors:*<br><br>Gold candidates set direction for measurement and reporting systems that align with lean strategies; set direction for development of standard work for management; and set expectations that human development is an integral part of all employee related practices and programs.<br><br>Gold candidates can determine ROI from improvement activities and they take a long-term view of improvement rather than expecting immediate, bottom line results.<br><br>They promote a steady rate of improvement within all areas of the company and set goals for involvement for all employees. They find ways to link rewards and recognition to desired results and set expectations that progress will be checked frequently.<br><br>They see the inter-relatedness of all functions within the organization and actively promote the concept that most functions exist to support the value creation areas. They take a broad view of non-value-added activities and jobs and constantly seek to revise the organization and support activities to add more value. |

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**Body of Knowledge Category:** Consistent Lean Enterprise Culture
**Subcategory:** Consistent Enterprise Culture Techniques and Practices
**Focus Topics:** A3, catchball, and redeployment of resources

| Minimum Competencies and Expected Behaviors | | |
|---|---|---|
| **BRONZE** | **SILVER** | **GOLD** |
| Bronze candidates respond to catchball at an appropriate level.<br><br>A bronze candidate is capable of applying simple lean tools and techniques in non-production areas and can document the process flow in a variety of non-production settings. | *In addition to the Bronze competencies and behaviors:*<br><br>Silver candidates are the key drivers within the catchball process. They standardize the A3 process and teach A3 to others.<br><br>They ensure that feedback mechanisms are working and that measurement systems are appropriately linked to achieving business goals.<br><br>They verify that progress is checked against goals frequently and actively help to ensure the links in the policy deployment chain are maintained and correctly structured.<br><br>They check and verify that necessary resources for improvement are available and being properly utilized.<br><br>They are typically the level that will determine if external resources should be considered to support the improvement journey. | *In addition to the Bronze and Silver competencies and behaviors:*<br><br>A Gold candidate is capable of defining and articulating the vision of perfection. They are completely engaged in the catchball process for Hoshin. Candidates deploy and redeploy resources as needed to meet objectives and support suppliers and customers.<br><br>Candidates use A3 thinking and the A3 development process for management level activities. They see the sharing that goes on as part of the A3 process as being an important component of human development and the reflection process. They establish formal systems for feedback on Hoshin goals and require that appropriate measure be put in place to promote change and drive improvement.<br><br>They are willing to set the bar ever higher and see their servant/leader role as being analogous with encouraging and supporting attainment of stretch goals that focus on increasing customer value. |

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**Body of Knowledge Category:** Business Results
**Subcategory:** Principles of Business Results
**Focus Topics:** Create value first to drive performance, measure what matters to the customer, measure normal versus abnormal conditions, and defining measurement categories

| Minimum Competencies and Expected Behaviors | | |
|---|---|---|
| **BRONZE** | **SILVER** | **GOLD** |
| Bronze candidate understands current state and the desired future state for the area the business in which they operate. They are capable of identifying the most important local measures in their work area, and how these measures relate to customer and business expectations. Additionally, a Bronze candidate has the ability to articulate how specific local improvement efforts have impacted local business results.<br><br>Bronze candidates recognize that "setting the bar higher and then higher" is a normal and necessary continuous component for improvement. And, they understand the metrics and appropriate lean tools that assist in attaining company goal/objectives.<br><br>They expect to be held accountable for specific, measurable goals at the local level and actively help others to understand those goals and how to impact them. They are capable of defining appropriate measures to drive lean at the local level. | *In addition to the Bronze competencies and behaviors:*<br><br>Silver candidates are capable of measuring and quantifying process flows, and making the current condition and metrics visual and understandable at a glance for all levels of the organization. Candidates ensure that all measurements are focused on customers, suppliers, safety, environment, employees, community, and other stakeholders. And, they regularly communicate how specific improvement efforts are affecting larger business results.<br><br>Candidates practice and require others to practice "creativity before capital" for improvement efforts. They actively practice the KISS principle — Keep it Super Simple.<br><br>Silver candidates are able to define the correct measures of improvement for a value stream and can assimilate the meaning of several measures taken across a value stream(s) in order to understand the bigger picture with regards to organizational improvement. They are capable of making measurements visual and understand the importance of real-time measurement and placing measures in the hands of the value creators wherever possible.<br><br>They can translate measures to show impact on quality, cost, time, and flexibility and are capable of showing a history of improvement or decline through measurements. | *In addition to the Bronze and Silver competencies and behaviors:*<br><br>Gold candidates design key metrics that are customer focused. Candidates are fully capable of selecting metrics that are simple, appropriate, and meaningful. They are engaged in long-term performance versus short-term results, and understand how to build a sustainable business through long term planning, establishing metrics appropriate to effectively measure performance over time.<br><br>A Gold candidate ensures that all goals align to quality, cost, customer, delivery, safety, environment, and employees. And, they actively promote and communicate the need for the organization to reduce and/or eliminate traditional business metrics that promote non-lean behaviors and outcomes.<br><br>They actively promote the evolution of lean accounting practices within the organization and are capable of teaching others how to define and measure improvement in new ways.<br><br>They recognize the importance of establishing and sharing metrics that drive local improvements that in turn will impact business level performance metrics.<br><br>They are comfortable sharing results and metrics with a much wider group of employees and practice open-book management as much as possible. |

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| Minimum Competencies and Expected Behaviors | | |
|---|---|---|
| **BRONZE** | **SILVER** | **GOLD** |
| | They have a basic understanding of the “total cost” concept and can explain the difference between traditional costing methods and the total cost concept to others. | They think in terms of trend, seeking steady improvement in key measures over time and actively engage in SWOT analysis on a regular basis to maintain a proactive planning process. |

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**Body of Knowledge Category**: Business Results
**Subcategory:** Measurement Systems
**Focus Topics:** Understanding interdependencies between measures and measurement categories; aligning internal measures with what matters to customers; measuring results from the 'whole' system; measure flow and waste; lean accounting; voice of the customer; goal and objective setting; analysis (understanding what moves the dial on measures); visible reporting

| Minimum Competencies and Expected Behaviors | | |
|---|---|---|
| **BRONZE** | **SILVER** | **GOLD** |
| A Bronze candidate has a solid understanding of the value-add and non-value add of data. They are capable of defining and measuring appropriate local/tactical outcomes and report back realistic information (focuses on the benefit/impact on the organization versus information that "makes me look good").<br><br>Bronze candidates understand SMART goals: they target appropriate to tactical projects that they are capable of achieving. Candidates clearly understand what influence/effect the team can have to cause progress toward achieving SMART goals. And, they understand cause and effect, with the ability to evaluate what was implemented and the resulting effect (PDCA–C understanding) | *In addition to the Bronze competencies and behaviors:*<br><br>Silver candidates constantly represent the voice of customer value, and are capable of communicating it to stakeholders and ultimately drive results and continuous improvement.<br><br>They are capable of translating/converting data into information to drive intelligence/proper decision-making processes/methods at appropriate levels of the organization. A Silver candidate is able to analyze and drive metrics that progress the organization to meet its goals/objectives. Candidates are also capable of defining and analyzing value stream metrics and understand their interrelationship (e.g. the effect changes in one metric have on other metrics). Silver candidates align value stream measures as a whole with strategic goals, and use metrics to prioritize improvement efforts and resource allocation. They establish metrics that drive lower cost, total waste elimination, and continuous improvement to increase value to the customer. And, they have a solid understanding of, and actively work to, eliminate metrics that drive inappropriate and counter-productive behaviors and decisions<br><br>A Silver candidate is fully capable of driving, creating and managing SMART goals. | *In addition to the Bronze and Silver competencies and behaviors:*<br><br>Gold candidates are fully capable of selecting, developing, and driving appropriate metrics systems to support a lean model. They ensure measurement systems include metrics for employee involvement, people development, safety, and environmental impacts, and use those measurements to drive improvements.<br><br>A Gold candidate has a solid understanding of what moves measurements positively or negatively (cause and effect). They drive results through lean accounting versus traditional accounting methods. They understand the cause and effect of related measurements and can explicate Lean metrics to other audiences that do not understand their relationship to GAP. They institute periodic review of measures to ensure right processes and systems are being measured and evaluated (closed loop process). |

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**Body of Knowledge Category:** Business Results
**Subcategory:** Key Lean-Related Measures
**Focus Topics:** Quality, delivery, cost, financial impact, and competitive impact

| Minimum Competencies and Expected Behaviors | | |
|---|---|---|
| **BRONZE** | **SILVER** | **GOLD** |
| Bronze candidates are capable of calculating takt time, cycle time, and other key measurements; and of gathering, analyzing and understanding appropriate data.<br><br>They understand improvement targets and are fully capable of collecting/gathering appropriate metrics/measures to show level and trend of improvement toward target. | *In addition to the Bronze competencies and behaviors:*<br><br>A Silver candidate ensures all reporting provides visual feedback, real time. They use metrics to make problems visible, and to identify and develop opportunities to create capacity for growth. They must be able to understand P&L and balance sheet and/or basic financial measurements.<br><br>They actively seek out new measures that will further lean efforts and expose further waste. They benchmark the measures of world-class companies outside their own industry to ensure they are striving for the highest levels of excellence in the long run.<br><br>They understand the need to drive total cost out of the business and maintain a broad view of cost drivers and can measure the impact of cost drivers. | *In addition to the Bronze and Silver competencies and behaviors:*<br><br>Gold candidates use measures to drive enterprise improvement. They understand the importance of sharing financial gains with employees, stakeholders, community, etc., for long-term sustainability, and understand the value and impact it may have on customer satisfaction, market share, and growth.<br><br>They see the measurement process itself as ripe for improvement. For example, they will require that waste be removed from the process of measuring itself (e.g. why does it take 3 days to close the books each quarter?).<br><br>They will promote use of a small number of meaningful measures as opposed to many measurements and they will require that measures can be directly linked to desired results.<br><br>They are comfortable holding people accountable for meeting goals but are expect to get input when goals are being set and measures are being established.<br><br>They promote real time, visual metrics and frown on after the fact or hidden measurements. |

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