LCS LEVEL DESCRIPTORS

CONTENTS

INTRODUCTION

The level descriptors are central to LCS since they define what knowledge and implementation abilities an individual should possess. A programme or course aligned to a level should therefore closely reference its description, with its learning outcomes and topic coverage clearly aligned.

Key points about the framework:

- Implicit in the framework design is that knowledge builds as the framework progresses, so a learner would be expected to have reached Level 1a before moving on to Level 1b and so on.
- The division between Level 1b and Level 1c is not absolute and some topics and tools could fit in both categories.
- The importance of practical competence increases as the levels progress.

1 -Fundamental	Level 1a	Awareness
	Level 1b	Diagnosis & Analysis
	Level 1c	Improvement & Implementation
2- Technical	Level 2a	Implementation & Design
	Level 2b	Implementation & Leadership
3 - Strategic	Level 3a	Strategic Enterprise
	Level 3b	Strategic Supply Chain

The descriptors are Principle and Outcome based. This means that the descriptor is not prescriptive in demanding that a particular set of tools or techniques should be included in a course aligned to the level.

Key features of the descriptors include:

- Both lean knowledge and application requirements are specified.
- They are principles based, not focused on specific tools.
- They state the outcomes expected as a result of a course of lean learning – expressed as what an individual should be able to understand, apply, describe, analyse, etc
- They provide guidance on the indicative contents of a course aligned to the level

Note that some aspects in the descriptors may not be sectorally applicable or relevant, in which case they can be ignored when aligning training to the framework.

LEAN THINKING DEFINITION

The LCS definition and interpretation of lean thinking, developed in the Lean Enterprise Research Centre, is one that promotes a holistic, systems approach to continuous improvement, acknowledging that lean is much more than simply improving processes through the application of tools and prescriptive principles.

Figure 1 –LCS's adapted lean principles

Successful lean organisations employ lean strategies, lean leadership and understand the need for an engaged, empowered workforce.

Figure 1 illustrates LCS's six principles of lean and a short definition of lean used is **delivering appropriate customer and stakeholder value with the minimum of resources.**

Lean is used as the umbrella term for a continuous improvement philosophy that encompasses a variety of approaches, that include tools and techniques from the Toyota Production System, six sigma, agile, the theory of constraints and systems thinking. Other commonly used 'improvement' terms include business improvement, service improvement, process excellence, operational excellence, operational effectiveness, systems thinking, business excellence and lean six sigma.

The LCS accepts that there are many different continuous improvement methodologies and maintains that different organisations require their own, bespoke implementation solutions for sustained, cultural change – thus adopting a contingent approach.

LCS ACCREDITATION PHILOSOPHY

"The Accreditation Disruptor". The LCS approach differs significantly from traditional accreditation approaches in several ways.

Its interpretation and definition of Lean Thinking, as described above, is core to this difference.

It has an open source perspective to lean, which characterises it as dynamic and constantly evolving, driven by the market and practitioners. There is no single 'book of knowledge' that defines lean thinking, but a broad, ever changing body of knowledge.

There are some generic, high level principles underlying lean thinking, but many different methods, tools, techniques and models available to be used, all of which can align to these core principles.

Organisations should use a contingent approach to lean implementation: in other words, the method developed will depend on their specific context and the circumstances they face. This means there is no right or wrong way to design a system or deliver training.

The LCS accreditation model is outcomes based, which means the job of the training programme is to deliver a specific capability for an individual. The LCS is non-prescriptive and does not specify how the outcome should be achieved, nor the specific syllabus to be used. This also means that the LCS devolves responsibility for defining quality to the accredited organisation and empowers it to take responsibility for managing it and continually improving.

This approach allows the LCS to offer a flexible and adaptable model that can be applied in all types of organisations, regardless of sector or scale. It also accommodates the Learning Organisation – one that facilitates the learning of its members and continuously transforms itself.

LEVEL DESCRIPTORS

Click on a level to move to its descriptor.

LEVEL 1A | LEVEL 1B | LEVEL 1C | LEVEL 2A | LEVEL 2B | LEVEL 3A | LEVEL 3B

LEVEL 1A - AWARENESS

SUMMARY

Awareness and a basic understanding of lean thinking principles and underlying continuous improvement concepts and an ability to understand and articulate fundamental lean ideas.

1A LEAN AWARENESS KNOWLEDGE AREAS

A1: Origins and evolution of lean thinking and continuous improvement

A2: Underpinning and related concepts and approaches

A3: Key lean/CI principles and frameworks

A4: Core elements of lean and CI

A5: Awareness of the human and strategic dimensions of lean thinking

APPLICATION

Not applicable – evidence of practical competency is not required at Level 1a.

COURSE CONTENT

A training course that aims to cover the knowledge requirements for LCS Level 1a is likely to reference several of the topics below and the course's learning outcomes should be closely aligned with the knowledge areas above.

Note that for 1a, **awareness** is the main focus, rather than an in-depth understanding of topics.

The topics selected should be contextualised for the organisation for which the training is intended and will depend on several factors – the positioning and stance of the improvement approach taken, the nature of the organisation's processes, the business sector in which the organisation operates, whether it is manufacturing products or delivering intangible services – internally or externally, whether it private or public sector, and so on.

This list is indicative; some topics may not be sectorally relevant, some will require passing reference only and there may be other specialist or emerging topics that are not listed.

TOPIC EXAMPLES

- **Origins & evolution, key contributors:** Ford, Taylor, Deming, Training Within Industry (TWI), Toyota-TPS (Ohno), Shingo, Womack & Jones.
- **Underpinning and related concepts and approaches**: Scientific thinking and the 'scientific method'; systems thinking, process thinking, continuous improvement, Kata, Six Sigma, Theory of Constraints, Agile.
- **Key principles & frameworks:** W&J's Five Lean Principles; Seddon's CHECK methodology; PDCA; DMAIC (& variants); ToC
- **Core elements:** Value, waste, flow, pull; value adding/non-value adding; the value stream; muri (overburden) and mura (unevenness); demand understanding - value and failure demand;
- **Human and strategic dimensions:** human dimensions and the enabling factors for sustainability and culture change; engagement, leadership, policy deployment.

Back to top

LEVEL 1B - DIAGNOSIS & ANALYSIS

SUMMARY

Knowledge of lean diagnostic, analytical and planning techniques and the ability to use them in the workplace to understand customer/stakeholder value, the current state, solve problems and propose future states.

1B LEAN DIAGNOSTIC & ANALYSIS KNOWLEDGE

B1: Purpose, customer/stakeholder value identification and understanding

B2: Mapping techniques

B3: Quality approaches

B4: Problem solving techniques

B5: Basic data gathering/statistical techniques

B6: Planning and communication techniques

B7: Demand and capacity analysis and understanding techniques

APPLICATION

LCS 1b application focuses on the ability to:

- Analyse a process/value stream through the application of mapping and other diagnostic techniques.
- Use problem-solving techniques to identify and define problems and issues and improve processes and quality.
- Understand how to improve and plan for improvements as a result of diagnostic activities.
- Undertake activities and use techniques to understand customer value and the ‘voice of the customer’
- Recognise and map different types of value streams in organisations to create the ‘current state’.
- Map processes in organisations.
- Understand variation
- Solve problems
- Develop ‘future state’ maps
- Undertake basic data gathering and statistical techniques to help diagnose and solve problems
- Understand customer/stakeholder value and analyse customer demand data

TOPIC EXAMPLES

A training programme that aims to cover the knowledge requirements for LCS Level 1b is likely to reference several of the following topics.

- Purpose, customer/stakeholder value: QFD; Kano; VoC; cycle of service; service encounter; idea management; public value (Moore)
- Mapping: current state and future state; value stream mapping, Learning to See, brown paper mapping; SIPOC; process mapping, spaghetti diagrams; quality filter; customer journey; swim lane; four fields; flow charts.
- Quality: Kano model; seven quality tools (cause-and-effect diagram/Fishbone, check sheet, control chart, histogram, Pareto chart, scatter diagram, flow chart/run chart); mistake proofing, Gaps model of service quality; poka yoke; checklists; variation reduction & six sigma, SPC; etc
- Problem-solving, FMEA; means-ends analysis; soft systems methodology; 8D problem solving; DMAIC; PDCA; A3; Five Whys; CATWOE; Four Frame approach; Drill Down; Cause & Effect (Fishbone) etc
- Data and analysis: seven quality tools; Design of Experiments; Measurement Systems Analysis /Gage R&R; surveys; Kingman's equation
- Demand and capacity: demand analysis and understanding; value/failure demand identification; ToC five steps
- Planning & communicating: QCD measures; A3; visual management; communication boards; project management and organisation; team roles and function; Agile approach - scrum

The topics should be contextualised for the organisation for which the training is intended and those selected will depend on several factors – such as the nature of the organisation's processes, whether it is manufacturing products or delivering intangible services – internally or externally, whether it private or public sector, etc. This list is indicative; some topics may not be relevant, some will require passing reference only and there may be other topics that are not included.

Back to top

LEVEL 1C: IMPROVEMENT & IMPLEMENTATION

SUMMARY

This level focuses on knowledge, understanding and application of lean improvement and implementation techniques. Those at LCS 1c should be able to actively participate in improvement activities in the workplace.

1C IMPROVEMENT & IMPLEMENTATION KNOWLEDGE

C1: Workplace organisation and optimisation techniques

C2: Standard operations

C3: Visual management and performance measures

C4: Scheduling, and capacity planning

C5: Enablers for flow

C6: Management and planning

C7: People, teams and sustainability

APPLICATION

LCS 1c application focuses on:

- Applying workplace organisation techniques
- Implementing standard work principles and tools
- Using visual management and performance measures for effective communication and control
- Implementing capacity planning techniques and scheduling approaches
- Applying tools to enable flow
- Applying quality tools
- Applying techniques to understand the nature of demand and manage it effectively.
- Using policy deployment techniques to plan, measure and communicate
- Using key people or 'soft' skills to effect change, lead, coach, participate and communicate

TOPIC EXAMPLES

A training programme that aims to cover the knowledge requirements for LCS Level 1c is likely to reference several of the following topics.

- Workplace organisation: 5S; cell design; layout; 3P – production, preparation, process; ergonomics
- Standard operations: SOPs; standards; leader-standard-work; TWI (job instruction, job methods)
- Visual management and performance measures: A3; display boards; Andon; team communications
- Scheduling and capacity planning: Theory of Constraints; pull systems; Kanban; Heijunka; drum buffer rope; CONWIP; runners-repeaters-strangers
- Enablers for flow: Takt time; TPM; SMED; OEE; demand management; mistake proofing/poke yoke; activity timing
- Management and planning: Policy deployment/Hoshin Kanri; project management; performance management; Scrum

- People, teams and sustainability: leadership; coaching; change management; facilitation; team management; personal communications; TWI (job relations)

The topics should be contextualised for the organisation for which the training is intended and those selected will depend on several factors – such as the nature of the organisation's processes, whether it is manufacturing products or delivering intangible services – internally or externally, whether it private or public sector, etc. This list is indicative; some topics may not be relevant, some will require passing reference only and there may be other topics that are taught that are not included here.

Back to top

LEVELS 2 & 3: LEAN LEADERSHIP

The competency at Levels 2 and 3 are primarily focused on being an effective lean leader and the overarching competencies for these levels are as follows:

- The ability to think in terms of processes, value streams and systems; knowing how to lead systems.
- The ability to problem solve, understand variability and waste.
- Understanding how we learn, develop and improve; leading learning & improvement.
- Understanding the behaviour of people.
- Giving vision, focus and direction to the organisation.

(Adapted from Peter Scholtes' list in *The Leaders Handbook*, 1998)

LEVEL 2A - IMPLEMENTATION & DESIGN

This level focuses on the advanced lean knowledge and leadership competencies required for lean management. Those with LCS 2a should be able to design and implement programmes, play a leading role in managing departmental or cross-functional teams, with some support and guidance.

SUMMARY

- In-depth knowledge and understanding of the lean techniques and associated approaches required to develop a lean implementation programme to achieve business improvement objectives.
- Insight into the business implications of lean thinking to the wider enterprise and supply chain.
- Ability to lead lean programmes and projects with support and guidance.
- Ability to design and communicate strategically integrated lean programmes and projects.

KNOWLEDGE

LCS 2a knowledge competency focuses on:

AB1 – Strategy formation and policy deployment techniques

AB2 – Design and deployment of effective and relevant performance measures

AB3 – Leadership skills for effective lean team management

AB4 – Supply chain management (where sectorally relevant)

AB5 – Advanced lean thinking knowledge and techniques, complementary approaches

AB6 – Sustainable change and continuous improvement

AB7 – Project management, implementation and control

APPLICATION

LCS 2a practice and application competency focuses on:

- Playing a leadership role in workplace implementation
- Facilitating workplace change and improvement (guiding, mentoring)
- Identifying the appropriate lean approach required to meet the organisational improvement need or objective.
- Effective planning and control
- Designing strategically aligned lean programmes
- Deploying programmes and communicating effectively
- The ability to engage with people at all levels

COURSE CONTENT

A training programme that aims to cover the knowledge requirements for LCS Level 2a is likely to reference several of the following topics:

- Project/programme management, implementation and control.
- Performance management
- Policy deployment/Hoshin Kanri, 'catch ball', visual management, QFD, etc
- Development strategy
- Performance measures.
- Team leading skills,
- Communication skills
- Coaching and mentoring skills, techniques
- Facilitation and change management skills
- Sustainability and cultural change
- Leader standard work

- Lean management
- Lean implementation frameworks and models
- Associated thinking: eg Theory of Constraints, Six Sigma, Systems Thinking, JIT, TQM, TPM etc
- Advanced techniques, eg Factory physics, new product/service introduction methods, TRIZ
- Advanced problem-solving techniques: The Cynefin Framework

The topics should be contextualised for the organisation for which the training is intended and those selected will depend on several factors – such as the nature of the organisation's processes, whether it is manufacturing physical goods or delivering intangible services – internally or externally, whether it private or public sector, etc. This list is indicative; some topics may not be relevant, some will require passing reference only and there may be other relevant topics that are not included in the list.

Back to top

LEVEL 2B - IMPLEMENTATION & LEADERSHIP

This level focuses on the advanced lean knowledge and leadership competencies required for lean management. Those with LCS 2b should be able to design and implement programmes, play a leading role in managing inter-business, departmental or cross-functional teams, with high levels of responsibility and requiring minimal support and guidance.

The difference between levels 2a and 2b lies mainly in the wider scope and higher levels of responsibility of the latter, who is also likely to have greater implementation experience in a variety of lean roles in organisations.

SUMMARY

- In-depth knowledge and understanding of the lean techniques and associated approaches required to develop a lean implementation programme to achieve business improvement objectives.
- Insight into the business implications of lean thinking to the wider enterprise and supply chain.
- Ability to lead lean programmes and projects with support and guidance.
- Ability to design and communicate strategically integrated lean programmes and projects

KNOWLEDGE

LCS 2b knowledge competency focuses on:

AB1 – Strategy formation and policy deployment techniques

AB2 – Design and deployment of effective and relevant performance measures

AB3 – Leadership skills for effective lean team management

AB4 – Supply chain management (where sectorally relevant)

AB5 – Advanced lean thinking knowledge and techniques, complementary approaches

AB6 – Sustainable change and continuous improvement

AB7 – Project management, implementation and control

LCS 2b application competency focuses on:

- Playing a leadership role in workplace implementation
- Facilitating workplace change and improvement (guiding, mentoring)
- Identifying the appropriate lean approach required to meet the organisational improvement need or objective.
- Planning and control.
- Designing strategically aligned lean programmes.
- Deploying programmes and communicating effectively
- The ability to engage with people at all levels

COURSE CONTENT

A training programme that aims to cover the knowledge requirements for LCS Level 2b is likely to reference several of the following topics:

- Project management, implementation and control.
- Policy deployment/Hoshin Kanri, 'catch ball', visual management, QFD, etc
- Development strategy
- Performance measures.
- Team leading skills,
- Communication skills
- Coaching and mentoring skills, techniques
- Facilitation and change management skills
- Sustainability and cultural change
- Leader standard work
- Lean management
- Lean implementation frameworks and models
- Associated thinking: eg Theory of Constraints, Six Sigma, Systems Thinking, JIT, TQM, TPM etc
- Advanced techniques, eg Factory physics, new product/service introduction methods, TRIZ
- Advanced problem-solving techniques: The Cynefin Framework

The topics should be contextualised for the organisation for which the training is intended and those selected will depend on several factors – such as the nature of the organisation's processes, whether it is manufacturing products or delivering intangible services – internally or externally, whether it private or public sector, etc. This list is indicative; some topics may not be relevant, some will require passing reference only and there may be other relevant topics that are not included in the list.

Back to top

LEVEL 3A - STRATEGIC ENTERPRISE

SUMMARY

This level focuses on advanced lean knowledge and the strategic and leadership competencies required for lean leadership at a senior level. Those with LCS 3a should be able to design lean strategies for an organisation (or a significant business unit) and demonstrate appropriate lean leadership qualities and practices.

At level 3 the onus is on implementation experience. Note that the difference between 3a and 3b is to do with scale, level of responsibility and scope of experience

KNOWLEDGE

- Strategy development and policy deployment techniques
- Design and deployment of effective and relevant performance measures
- Leadership skills for effective lean transformation (eg change management, communication, coaching, mentoring, motivating, etc)
- Supply chain management
- Advanced lean systems knowledge and techniques
- Sustainable change and continuous improvement
- Project direction, implementation and control
- Complementary philosophies, approaches and thinkers

APPLICATION

- Implementation at significant scales and in a range of business environments
- Leading an organisation's lean transformation
- Coaching and mentoring activities
- Creating sustainable lean strategies and implementation plans, aligned to organisational strategy
- Application in a range of core business processes (eg order fulfilment, new product development, sales acquisition, supply chain, etc)

- Implementing and deploying a lean strategy in an organisation to achieve quality/cost/delivery benefits.
- Devising and applying effective and relevant value stream and supply chain performance measures.

ROUTES TO THE QUALIFICATION

The Level 3 qualification is gained via the Approved Prior Learning & Experience route and not via a training course and undertaking a traditional assessment (as with levels 1 and 2).

Level 3 competence is highly focused on practice and application at a strategic level, so to gain it an individual must demonstrate that he/she has this competence through evidence, which is provided through three case studies (strategic in nature) and a 4,000 word assignment on the development of lean thinking. Candidates also must give a presentation to an LCS panel.

Candidates with a lean master's degree are eligible for exemptions, depending on the precise course undertaken.

See the Level 3 web pages for more information.

Back to top

LEVEL 3B - STRATEGIC ENTERPRISE

This level focuses on advanced lean knowledge and the strategic and leadership competencies required for lean leadership at a senior level. Those with LCS 3b should be able to design and lead lean strategies for an organisation and demonstrate mature lean leadership qualities and practices.

At level 3 the onus is on implementation experience. Note that the difference between 3a and 3b is to do with scale, the level of responsibility and scope of experience.

SUMMARY

- High-level knowledge and mature understanding of lean philosophy, techniques and approaches and associated schools of thought.
- Knowledge of the strategic and management dimensions of lean implementation.
- Ability to implement and manage a lean strategy at an organisation or extended enterprise level.
- Wide implementation experience in several organisational contexts over a period of at least 15 years.
- Advanced and widely practised leadership and change management competencies.

KNOWLEDGE

- Strategy development and policy deployment techniques

- Design and deployment of effective and relevant performance measures
- Leadership skills for effective lean transformation (eg change management, communication, coaching, mentoring, motivating, etc)
- Supply chain management
- Advanced lean systems knowledge and techniques
- Sustainable change and continuous improvement
- Project direction, implementation and control
- Complementary philosophies, approaches and thinkers

APPLICATION

- Implementation at significant scales and in a range of business environments
- Leading an organisation's lean transformation
- Coaching and mentoring activities
- Creating sustainable lean strategies and implementation plans, aligned to organisational strategy
- Application in a range of core business processes (eg order fulfilment, new product development, sales acquisition, supply chain, etc)
- Implementing and deploying a lean strategy in an organisation to achieve quality/cost/delivery benefits.
- Devising and applying effective and relevant value stream and supply chain performance measures.

ROUTES TO THE QUALIFICATION

The Level 3 qualification is gained via the Approved Prior Learning & Experience route and not via a training course and undertaking a traditional assessment (as with levels 1 and 2).

Level 3 competence is highly focused on practice and application at a strategic level, so to gain it an individual must demonstrate that he/she has this competence through evidence, which is provided through three case studies (strategic in nature) and a 4,000 word assignment on the development of lean thinking. Candidates also must give a presentation to an LCS panel.

Candidates with a lean master's degree are eligible for exemptions, depending on the precise course undertaken.

Back to top