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Orange Belt

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LEAN SIX SIGMA
ORANGE BELT SKILL SET

A GUIDELINE FOR LEAN SIX SIGMA
ORANGE BELT TRAINING AND CERTIFICATION

H.C. Theisens; A. Meek; D. Harborne

VERSION 2.4

Lean Six Sigma Academy©

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The structure of this document is based on the 'Continuous Improvement Maturity Model' - CIMM™. You have the permission to share and distribute this model in its original form by referencing the publisher and author, (LSSA®, Theisens et. al., 2014).

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CONTENT

INTRODUCTION 7
THEORETICAL ASSESSMENT CRITERIA 8
CONTINUOUS IMPROVEMENT MATURITY MODEL (CIMM) 9
U1. WORLD CLASS PERFORMANCE 11
E1. Competitive strategies 11
E2. History of Continuous Improvement 11
E3. Philosophy & Principles 11
U2. PROCESS IMPROVEMENT DEPLOYMENT 12
E1. Management of Change 12
U3. PROJECT MANAGEMENT 13
E1. Team Formation 13
E2. Process Improvement Roadmaps 13
E3. Voice of the Customer (VOC) 14
E4. Project Charter 14
E5. Project Management Techniques 15
U4. LEVEL I – CREATING A SOLID FOUNDATION 16
E1. Organized Work Environment 16
E2. Standardized work 16
E3. Quality Management 16
U5. LEVEL II – CREATING A CONTINUOUS IMPROVEMENT CULTURE 17
E1. Kaizen 17
E2. Basic Quality Tools 17
E3. Basic Management Tools 17
U6. LEVEL III – CREATING STABLE AND EFFICIENT PROCESSES 18
DEFINE 18
E1. Process Mapping 18
MEASURE 18
E2. Lean Performance Metrics 18
ANALYZE 19
E3. Value Stream Analysis 19

IMPROVE 19
E4. Reducing Muda (Waste) 19
E5. Reducing Muri (Overburden) 19
E6. Reducing Mura (Unevenness) 20
E7. Value Stream Improvement 20
CONTROL 20
E8. First Time Right 20
U7. LEVEL IV – CREATING CAPABLE PROCESSES 21
DEFINE 21
E1. Critical to Quality 21
MEASURE 21
E2. Six Sigma Performance Metrics 21
E3. Statistics 22
E4. Distributions 22
E5. Measurement Systems 22
ANALYZE 23
E6. Hypothesis Testing & Confidence Intervals 23
E7. Correlation and Regression 23
E8. Process Capability and Performance 23
IMPROVE 24
E9. Design of Experiments (DOE) 24
CONTROL 24
E10. Statistical Process Control (SPC) 24
Appendix A – Bloom's Taxonomy for Performance Criteria 25

INTRODUCTION

Within the domain of 'Continuous Improvement' individuals can be trained at four different levels. These levels are called Yellow Belt, Orange Belt, Green Belt and Black Belt.

Table 1. *Overview of Belt levels*

Belt level	Level
Yellow Belt	Awareness
Orange Belt	Foundation
Green Belt	Practitioner
Black Belt	Expert

The LSSA - Lean Six Sigma Academy® was established in September 2009 with the objective to develop an international recognized certification scheme for all Lean Six Sigma Belt levels. The LSSA Exam Board has developed four skill sets with clear criteria for skills and competences. These skill sets specify which of the overall Lean Six Sigma tools and techniques are expected to be included within certain Belt level competencies. Lean Six Sigma training is provided by a global network of 'Accredited Training Organizations' (ATOs). These ATOs provide training programs that are aligned to the LSSA skill sets.

Examinations are provided through a number of 'Examination Institutes' (EIs), which use the skill sets to develop exams. The exams are open to all. Individuals can apply directly to the EIs or sign up via one of the ATOs. It is recommended that candidates receive training through an ATO to prepare for certification. Alternatively, candidates who wish to self-study have the option to apply directly to an EI for certification.

Examinations are provided through the following three Examination Institutes (EIs):

- **APMG** APM Group Limited www.apmg-international.com
- **iSQI** International Software Quality Institute www.isqi.org
- **ECQA** European Certification and Qualification Ass. www.ecqa.org

The LSSA Orange Belt skill set describes the assessment criteria for the exam. The Orange Belt certification can be achieved independently. There are no pre-requisites for Orange Belt certification and therefore does not require any prior completion of any other Belt(s).

THEORETICAL ASSESSMENT CRITERIA

The assessment criteria for the theoretical exam are as follows:

- The theoretical exams consists of 50 multiple choice questions.
- The pass mark for the exams is set at 63% (32 marks or more required to pass).
- The duration of the exams is 90 minutes.
- The exams are Open book exams, where a maximum of 2 books are allowed. (eBook or Pdf's are not allowed)
- A calculator is allowed.
- You must be able to identify yourself with photographic ID.
- A practical assessment is not part of the Orange Belt exam.

If you pass you will receive a certificate from your EI that states you passed the Orange Belt exam.

CONTINUOUS IMPROVEMENT MATURITY MODEL (CIMM)

The LSSA skill sets are based on the 'Continuous Improvement Maturity Model' (CIMM). This is a framework that guides an evolutionary staged approach for process improvement from a very early stage till delivering world class products. CIMM summarizes all best practices elements of many different improvement methods in one framework, along two axes.

CIMM Axis 1 - Organization Development
The first axis focuses on the developing the employees and the organization. Organizational development can relate to the development of products and services, improvement of efficiency, market development, and so forth. CIMM describes the development of leadership, the development of employee's competencies, the development of organizational culture and the way in which the organization is managed.

Figure 1 - CIMM Organizational Development (LSSA, 2017)

CIMM Axis 2 - Process Improvement
The second axis focuses on improving processes. In order to implement the strategy, the organization must continuously simplify, align and improve its processes. CIMM describes the creation of a solid foundation, an improvement culture, stable and predictable processes, capable processes and future-proof processes.

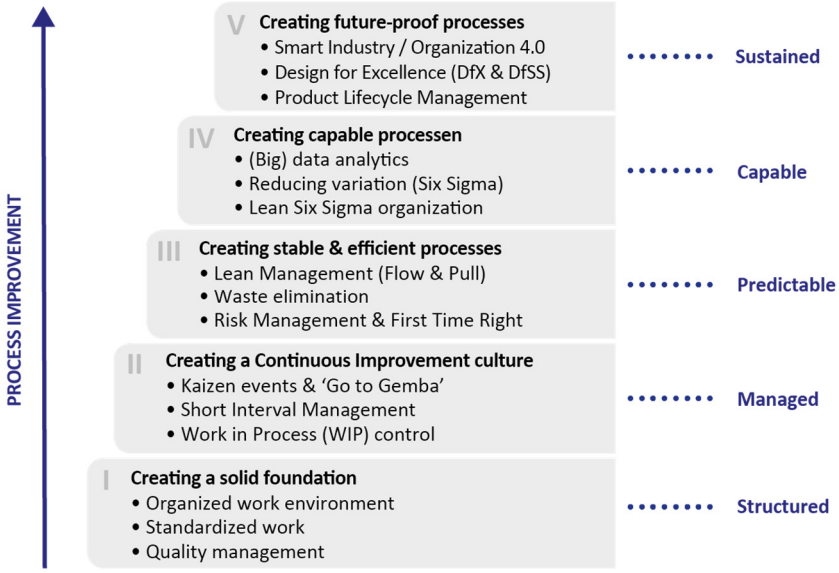

Figure 2 – CIMM Process Improvement (LSSA, 2017)

The following chapters describe the theoretical skill set elements. The structure consists of a number of 'Units', 'Elements' and 'Performance Criteria'.

- **Unit:** The skill set is presented by skill set areas; each called a 'Unit'. The chapters in the book 'Climbing the Mountain' reflect the 'Units' described in this skill set.
- **Element:** Each 'Unit' consists of a number of 'Elements'. The paragraphs in each chapter of the book 'Climbing the Mountain' reflect the 'Elements' in this skill set.
- **Performance Criteria:** Each 'Element' consists of a number of 'Performance Criteria' and each 'Performance Criteria' has an explanation. These describe the tools, techniques and competencies that are required to be achieved by the Green Belt.
- **Level of Cognition:** A 'Cognitive Level' has been assigned to each 'Performance Criteria'-description according to Bloom's Taxonomy [Appendix A]. This defines at which level the Green Belt is expected to apply the respective tool, technique or skill. This is the minimum level the Green Belt must be able to demonstrate in order to be assessed as competent.

U1. WORLD CLASS PERFORMANCE

The Unit 'World Class Performance' reviews the general philosophy of Process Improvement. It discusses the overview of different process improvement methods and the history of the most important methods. It also explains why process improvement is needed.

E1. COMPETITIVE STRATEGIES

The Learning Element 'Competitive strategies' explains Operational Excellence, Customer Intimacy and Product Leadership. It also explains how Operational Excellence can be applied to processes in different types of enterprises.

U1.E1.PC1 **Operational Excellence** **Remember**
Recall that Operational Excellence can be applied to processes in different types of enterprises.

U1.E1.PC2 **Physical vs. Transactional processes** **Remember**
Recall the similarities and differences between physical processes and transactional processes.

E2. HISTORY OF CONTINUOUS IMPROVEMENT

The Learning Element 'History of Continuous Improvement' explains the history of process improvement and quality management.

U1.E2.PC1 **History of TQM, Lean and Six Sigma** **Remember**
Recall the origins of TQM, Lean and Six Sigma.

E3. PHILOSOPHY & PRINCIPLES

The Learning Element 'Philosophy & Principles' explains the values and principles of Lean and Six Sigma. Similarities and differences to other improvement methods are also reviewed.

U1.E3.PC1 **Value and foundations of Lean and Six Sigma** **Understand**
Understand the value of Lean and Six Sigma, its philosophy and goals. Understand the relationship between Lean and Six Sigma.

U1.E3.PC2 **Lean principles** **Understand**
Understand that Lean philosophy and principles realize improvements in process lead times and efficiencies.

U1.E3.PC3 **Six Sigma principles** **Understand**
Understand that Six Sigma philosophy and principles realize breakthroughs in quality performance.

U2. PROCESS IMPROVEMENT DEPLOYMENT

The Unit 'Process Improvement Deployment' reviews how process improvement programs should be deployed across the organization. It explains the role and responsibilities of Leadership in its efforts to coach and inspire improvement teams. Also team development and change management aspects will be reviewed.

E1. MANAGEMENT OF CHANGE

The Learning Element 'Management of Change' reviews the dynamics that can occur during a project such as cooperation, resistance, escalation of problems and solving roadblocks.

U2.E1.PC1 **Organizational culture** **Understand**

Understand that an organization's culture can influence the success of Lean Six Sigma deployment.

U2.E1.PC2 **Change Management approaches** **Understand**

Understand the difference between Top-Down and Bottom-Up approach.
Understand the power of the Bottom-Up approach.

U3. PROJECT MANAGEMENT

The Unit 'Project Management' outlines the way improvement projects should be executed. It starts with the identification of customers and its requirements. The Unit also covers a number of project management roadmaps, team formation, the project charter and a number of project management tools.

E1. TEAM FORMATION

The Learning Element 'Team Formation' reviews the different role and responsibilities within and around an improvement team. It also reviews how a team is formed.

U3.E1.PC1 **Roles and Responsibilities** **Understand**

Understand Lean Six Sigma levels of expertise: Master Black Belt, Black Belt, Green Belt, Orange Belt and Yellow Belt. Understand various team roles and responsibilities.

U3.E1.PC2 **Team member selection** **Understand**

Understand the basic principles of team formation and team member selection.

E2. PROCESS IMPROVEMENT ROADMAPS

The Learning Element 'Process Improvement Roadmaps' reviews a number of roadmaps, including Plan-Do-Check-Act (PDCA) and Define, Measure, Analyze, Improve and Control (DMAIC).

U3.E2.PC1 **Kaizen Roadmap** **Understand**

Understand project management methods that are used at the shop floor for Kaizen initiatives e.g. PDCA, A3-report.

U3.E2.PC2 **Problem Solving Process (8D)** **Understand**

Understand and be familiar with the 'Eight Disciplines Problem Solving Method' which is used to approach and resolve problems.

U3.E2.PC3 **DMAIC Roadmap** **Understand**

Understand and follow the Process Improvement DMAIC roadmap.

E3. VOICE OF THE CUSTOMER (VOC)

The Learning Element 'Voice of the Customer' reviews customer identification (internal/external) and customer requirements.

U3.E3.PC1 **Customer identification** **Understand**

Understand how the project will impact customers. Identify internal and external customers.

U3.E3.PC2 **Customer requirements** **Understand**

Understand different customers have different needs, expectations, requirements and desires.

E4. PROJECT CHARTER

The Element 'Project Charter' covers the description of the project such as problem description, objectives, scope, timing and benefits.

U3.E4.PC1 **Problem statement** **Apply**

Prepare problem statements in relation to customer requirements.

U3.E4.PC2 **Project scope and goal** **Understand**

Understand and review project boundaries of the project (scope). Understand the objectives and measurable targets for the project based on the problem statement and scope (goal).

U3.E4.PC3 **Project performance measures** **Understand**

Understand performance measurements Cost, Quality and Delivery.

U3.E4.PC4 **Project benefits calculation** **Understand**

Understand the hard benefits and the soft benefits of the project.

E5. PROJECT MANAGEMENT TECHNIQUES

The Element 'Project Management Techniques' reviews a number of tools that are used during execution of the project.

U3.E5.PC1 **Time management** **Understand**

Understand the importance and basic disciplines of time management.

U3.E5.PC2 **Project progress** **Understand**

Understand the importance of presenting project progress and results.

U3.E5.PC3 **Project risk management** **Understand**

Understand risk management and contribute by attending risk assessment meetings. Assure useful contribution by identifying risks.

U4. LEVEL I – CREATING A SOLID FOUNDATION

The Unit 'Creating a solid foundation' reviews how to achieve a solid foundation for further process improvement programs. This foundation consists of a proper and organized work environment, reliable equipment and standardized work.

E1. ORGANIZED WORK ENVIRONMENT

The Learning Element 'Organized work environment' is about good housekeeping and how to set up a proper and safe work environment in a structured manner.

U4.E1.PC1 **Organized work environment (5S)** **Apply**

Organize the work environment by applying 5S (Sort, Straighten, Shine, Standardize, Sustain). Understand that an organized environment will improve safety and moral.

E2. STANDARDIZED WORK

The Learning Element 'Standardized work' is about implementing and improving standards.

U4.E2.PC1 **Standardized work and Documentation** **Understand**

Understand that standardized tasks are the foundation for continuous improvement. Interpret standard operating procedures (SOPs) and one-point-lessons.

E3. QUALITY MANAGEMENT

The Learning Element 'Quality Management' is about developing procedures to identify and detect defects. Also preventing mistakes and avoiding problems will be discussed.

U4.E3.PC1 **Quality Management System** **Understand**

Understand quality procedures, the need to be disciplined and to work according procedures.

U4.E3.PC2 **Ongoing evaluation and auditing** **Understand**

Understand and participate in (internal / external) audits.

U5. LEVEL II – CREATING A CONTINUOUS IMPROVEMENT CULTURE

The Unit 'Creating a continuous improvement culture' reviews how to create a continuous improvement culture at the shop floor. This Unit reviews setting up and facilitate Kaizen teams. It also reviews a number of problem solving techniques and tools.

E1. KAIZEN

The Learning Element 'Kaizen' reviews how to organize and facilitate improvement teams at the shop floor that work on Kaizen improvement initiatives.

U5.E1.PC1 **Short Interval Management** **Apply**
Implement and support Short Interval Management, Stand Up meetings and corrective actions.

U5.E1.PC2 **Visual Workplace** **Apply**
Apply elements of Visual Workplace and understand how these can help to control the improved process.

U5.E1.PC3 **Root Cause Analysis** **Apply**
Apply root cause analysis and understand the issues involved in identifying a root cause.

U5.E1.PC4 **Kaizen events** **Apply**
Setup and lead Kaizen events.

E2. BASIC QUALITY TOOLS

The Learning Element 'Basic Quality Tools' reviews a number of basic quality tools.

U5.E2.PC1 **Visualization of data** **Understand**
Understand the purpose and use of data visualization, analysis and communication.

U5.E2.PC2 **Basic Quality Tools** **Apply**
Apply basic quality tools: Check sheet; Pareto chart; Scatter plot; Bar chart; Pie chart; Time Series Plot, Histogram and Box plot.

E3. BASIC MANAGEMENT TOOLS

The Learning Element 'Basic Management tools' reviews a number of tools that are very powerful in the problem solving process.

U5.E3.PC1 **Brainstorm Techniques** **Apply**
Apply brainstorm techniques: affinity diagram, 5-Why's and Ishikawa.

U5.E3.PC2 **Decision making** **Understand**
Participate in decision making techniques e.g. Cause & Effect Matrix.

U6. LEVEL III – CREATING STABLE AND EFFICIENT PROCESSES

The Unit 'Creating stable and efficient processes' reviews how the logistical flow of processes can be improved and made more stable, predictable and efficient. This Unit also reviews tools which can be used to visualize and analyze the process flow. This unit also reviews a number of tools and techniques that can be used to improve efficiency, effectiveness, productivity and agility of processes. All Level III Learning Elements and Performance Criteria follow the DMAIC structure.

DEFINE

E1. PROCESS MAPPING

The Learning Element 'Process Mapping' reviews a number of tools to map the process flow that can be used in both Lean and Six Sigma projects.

U6.E1.PC1 **Process Flow diagram** **Understand**
Participate in process mapping initiatives to visualize the flow of activities and decisions within a process.

U6.E1.PC2 **High level process description** **Understand**
Participate by identifying input and output process variables and be familiar with SIPOC technique.

MEASURE

E2. LEAN PERFORMANCE METRICS

The Learning Element 'Lean Performance Metrics' reviews different types of data, measurement scales and Lean performance metrics. This Element also reviews process flow analysis.

U6.E2.PC1 **Process Flow analysis** **Apply**
Apply Little's Law.

U6.E2.PC2 **Lean Performance metrics** **Understand**
Understand Lean performance metrics e.g. takt time, cycle time, lead time, queue time, WIP, yield and OEE.

U6.E2.PC3 **Data types** **Understand**
Understand the difference between quantitative and qualitative data. Understand the difference between continuous (variables) and discrete (attributes) data.

U6.E2.PC4 **Measurement scales** **Understand**
Distinguish between nominal, ordinal, interval and ratio measurement scales.

ANALYZE

E3. VALUE STREAM ANALYSIS

The Learning Element 'Value Stream Analysis' reviews how to create a Value Stream Map of the current situation.

U6.E3.PC1 **Value Adding versus Non Value Adding** **Understand**
Understand the difference between value added and non-value added activities.

U6.E3.PC2 **Value Stream Mapping (Current State)** **Understand**
Understand that Value Stream Mapping is a technique for identifying waste and non-value added activities.

IMPROVE

E4. REDUCING MUDA (WASTE)

The Learning Element 'Reducing Muda' reviews how to identify Waste in the organization and in the processes.

U6.E4.PC1 **Waste identification (for the Operation)** **Apply**
Identify and eliminate the 8 types of waste (Muda); Overproduction, Waiting, Transport, Overprocessing, Inventory, Movement, Defects, Unused expertise.

U6.E4.PC2 **Waste identification (for the Customer)** **Apply**
Identify and eliminate the 7 types of customer waste (Muda); Opportunity Loss, Delay, Unnecessary Movement, Duplication, Incorrect inventory, Unclear Communication and Errors.

E5. REDUCING MURI (OVERBURDEN)

The Learning Element 'Reducing Muri ' reviews how to identify overburdening the organization and how to implement flow and work balancing to reduce overburden. This element also reviews the relations between Lean with TPM and TOC.

U6.E5.PC1 **Flow** **Understand**
Understand the meaning of Flow.

U6.E5.PC2 **Work balancing** **Understand**
Understand the meaning of Work balancing.

U6.E5.PC3 **Total Productive Maintenance (TPM)** **Understand**
Understand the eight pillars of TPM and understand how it can be used for process improvement.

E6. REDUCING MURA (UNEVENNESS)

The Learning Element 'Reducing Mura ' reviews how to identify unevenness in the organization and in the processes. This element also reviews a number of techniques to reduce unevenness.

U6.E6.PC1 **Pull** **Understand**
Understand the meaning of Pull.

U6.E6.PC2 **Volume and Type leveling** **Understand**
Understand basic principles of volume leveling, type leveling and one piece flow.

U6.E6.PC3 **Quick Change Over (SMED)** **Apply**
Reduce change over times by implementing Single Minute Exchange of Die (SMED).

E7. VALUE STREAM IMPROVEMENT

The Learning Element 'Value Stream Improvement' reviews how the techniques and tools that reduce Muda, Muri and Mura can be applied in constructing a Future State Value Stream Map.

U6.E7.PC1 **Value Stream Mapping (Future State)** **Understand**
Understand the difference between current state and future state Value Stream Mapping.

CONTROL

E8. FIRST TIME RIGHT

The Learning Element 'First Time Right' looks at how results that have been achieved in process improvement projects can be sustained. This element reviews the following techniques and principles: Process FMEA, Control plan, Jidoka and Poka Yoke.

U6.E8.PC1 **Process FMEA (pFMEA)** **Understand**
Understand the purpose and elements of Process FMEA, including the risk priority number (RPN) and describe FMEA results for processes.

U6.E8.PC2 **Control plan** **Understand**
Participate in developing a control plan to document and hold gains and assist in implementing controls and monitoring systems.

U6.E8.PC3 **Jidoka & Poka Yoke** **Understand**
Understand the work has to be stopped when there is a quality problem. Identify opportunities to apply Poka Yoke to avoid quality problems.

U7. LEVEL IV – CREATING CAPABLE PROCESSES

The Unit 'Creating Capable Processes' focuses on reducing variation in a stable process with the objective to create a process capable of meeting customer requirements. This Unit reviews the application of Six Sigma and statistical tools used to assure a valid and reliable performance measurement system, to collect data and to analyze the performance of processes. Six Sigma focuses on quality breakthrough improvement projects. All Level IV Learning Elements and Performance Criteria follow the DMAIC structure.

DEFINE

E1. CRITICAL TO QUALITY

The Learning Element 'Critical to Quality' reviews how to translate the Voice of Customer (VOC) into a CTQ flowdown that represents the key measurable characteristics of the product or process.

U7.E1.PC1 **Critical requirements** **Understand**

Understand the various CTx requirements (critical to quality (CTQ), cost (CTC), process (CTP), safety (CTS) and delivery (CTD)).

U7.E1.PC2 **CTQ Flowdown** **Understand**

Understand that Voice of the customer (VOC) requirements need to be translated into CTQ targets and specifications.

MEASURE

E2. SIX SIGMA PERFORMANCE METRICS

The Learning Element 'Six Sigma Performance Metrics' reviews a number of metrics that are often used in Six Sigma projects. The element also reviews a number of sampling methods for assuring data accuracy and integrity.

U7.E2.PC1 **Defects and Defectives** **Understand**

Understand the Six Sigma process performance metrics (e.g. PPM, DPMO, DPU and RTY). Understand the difference between a defect and a defective.

U7.E2.PC2 **Sampling methods** **Understand**

Understand it is important to follow systematic data collection.

U7.E2.PC3 **Data collection tools** **Apply**

Apply tools for collecting data such as data sheets and check sheets.

E3. STATISTICS

The Learning Element 'Statistics' reviews the basic terms of sample and descriptive statistics.

U7.E3.PC1 **Descriptive statistics** **Understand**

Understand the basic terms of statistics e.g. proportion, mean, standard deviation and range.

U7.E3.PC2 **Variation** **Understand**

Understand the difference between special cause and common cause variation.

E4. DISTRIBUTIONS

The Learning Element 'Distributions' reviews a number of continuous and discrete distributions.

U7.E4.PC1 **Common continuous distributions** **Understand**

Understand and interpret Normal distribution.

U7.E4.PC2 **Common discrete distributions** **Understand**

Understand Poisson and Binomial distributions.

E5. MEASUREMENT SYSTEMS

The Learning Element 'Measurement Systems' reviews how to evaluate measurement systems.

U7.E5.PC1 **Measurement methods** **Understand**

Understand the different measurement methods for continuous and discrete data.

U7.E5.PC2 **Measurement Systems Analysis** **Understand**

Understand the basic principles of performing a Measurement System analysis.
Understand the difference between repeatability and reproducibility (R&R) and the meaning of the number of distinct categories.

ANALYZE

E6. HYPOTHESIS TESTING & CONFIDENCE INTERVALS

The Learning Element 'Hypothesis Testing & Confidence Intervals' reviews test methods that are used to test a hypothesis. This Learning Element also discusses Confidence Intervals that indicate the reliability of test conclusions.

U7.E6.PC1 **Hypothesis testing** **Understand**
Understand the basic principles of hypothesis testing.

U7.E6.PC2 **Confidence Intervals** **Understand**
Understand the basic principles of confidence intervals.

U7.E6.PC3 **Sample size** **Understand**
Understand sample size has an influence on the confidence of statistical conclusions.

E7. CORRELATION AND REGRESSION

The Learning Element 'Correlation and Regression' describes the predictive models using regression techniques to determine the relation between factors on a response.

U7.E7.PC1 **Correlation coefficient** **Understand**
Interpret the correlation coefficient.

U7.E7.PC2 **Regression analysis** **Apply**
Apply linear regression to understand the relationship between factors and response.

E8. PROCESS CAPABILITY AND PERFORMANCE

The Learning Element 'Process Capability and Performance' explains process capability and performance in relation to specification limits.

U7.E8.PC1 **Process capability studies** **Understand**
Understand basic principles of process capability studies. Understand the importance of stability in process capability studies.

U7.E8.PC2 **Process capability indices** **Understand**
Interpret Cp and Cpk to assess process capability.

U7.E8.PC3 **Short-term and long-term capability** **Understand**
Understand the difference between long-term and short-term capability.

U7.E8.PC4 **Process performance indices** **Understand**
Interpret Pp and Ppk to assess process performance.

IMPROVE

E9. DESIGN OF EXPERIMENTS (DOE)

The Learning Element 'Design of Experiments' reviews efficient ways of experimenting. Design of Experiments examines the influence of factors and interactions on a process.

U7.E9.PC1 **Principles of experiments and terminology** **Understand**

Understand the importance of efficient ways of experimenting.

CONTROL

E10. STATISTICAL PROCESS CONTROL (SPC)

The Learning Element 'Statistical Process Control' explains the controls methods used to identify out-of-control situations and deviations over time. Different types of SPC charts are reviewed.

U7.E10.PC1 **SPC Objectives and benefits** **Understand**

Understand the objectives and benefits of SPC.

U7.E10.PC2 **Control charts** **Understand**

Understand the different types of control charts such as Xbar-R.

APPENDIX A – BLOOM'S TAXONOMY FOR PERFORMANCE CRITERIA

In addition to specifying content, each performance criteria in this skill set also indicates the intended complexity level of the test questions for each topic. These levels are based on 'Levels of Cognition' (from Bloom's Taxonomy – Revised, 2001), and can be used to create learning outcomes for students **Fout! Verwijzingsbron niet gevonden.**.

The Taxonomy of Educational Objectives, often called Bloom's Taxonomy, is a classification of the different objectives that educators set for students (learning objectives). The taxonomy was proposed in 1956 by Benjamin Bloom, an educational psychologist at the University of Chicago. During the nineties, Lorin Anderson a former student of Bloom revisited the cognitive domain in the learning taxonomy **Fout! Verwijzingsbron niet gevonden.**. Bloom's Taxonomy divides educational objectives into three 'domains': Affective, Psychomotor and Cognitive. This Skill set only notices the Cognitive domain. The 'Levels of Cognition' are in rank order - from least complex to most complex. The Orange Belt skill set only uses the levels 'Remember', 'Understand' and 'Apply.

Remember
Recall or recognize terms, definitions, facts, ideas, materials, patterns, sequences, methods, principles, etc. The LSSA uses the following verb at this level: Recall.

Understand
Read and understand descriptions, communications, reports, tables, diagrams, directions, regulations, etc. The LSSA uses the following verbs at this level: Describe, Follow, Identify, Interpret, Participate, Understand.

Apply
Know when and how to use ideas, procedures, methods, formulas, principles, theories, etc. The LSSA uses the following verbs at this level: Apply, Assure, Calculate, Define, Demonstrate, Divide, Eliminate, Empower, Facilitate, Implement, Motivate, Organize, Plan, Prepare, Present, Promote, Propagate, Review, Select, Standardize, Support, Use.

Analyze
Break down information into its constituent parts and recognize their relationship to one another and how they are organized; identify sublevel factors or salient data from a complex scenario. The LSSA uses the following verbs at this level: Analyze, Construct, Design, Develop, Distinguish, Evaluate, Lead, Manage, Translate.

Evaluate
Make judgments about the value of proposed ideas, solutions, etc., by comparing the proposal to specific criteria or standards. The LSSA does not uses this level in their skill sets.

Create
Put parts or elements together in such a way as to reveal a pattern or structure not clearly there before; identify which data or information from a complex set is appropriate to examine further or from which supported conclusions can be drawn. The LSSA does not uses this level in their skill sets.

It is important for businesses and organizations to continuously focus on customer satisfaction by supplying products or services with outstanding quality, cost efficiently and within the agreed lead time. Improving quality and efficiency is the domain of ‘Process Improvement’.

Realising these objectives is effectively achieved by applying Lean Six Sigma: a combination of Lean Manufacturing and Six Sigma approaches. Within Lean Six Sigma, individuals can be trained at various ‘Belt levels’. These levels are called Black Belt, Green Belt, Orange Belt and Yellow Belt.

The LSSA – Lean Six Sigma Academy – was established in September 2009, with the main objective to determine a common certification standard for Lean Six Sigma job roles. This has been realised by developing four skill sets with clear criteria and an online exam portal. This document describes the second revision of the Orange Belt skill set.

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