



Competency Unit:

RABQSA-SSY – Six Sigma Yellow Belt

Effective date: 1 October 2007

| Competency                              | Performance Criteria   | Evidence Guide   |
|---|--|--|
| 1: Describe the Value of Lean Six Sigma | 1.1: Describe why Six Sigma is an important tool for business: <ul style="list-style-type: none"> <li>• Philosophy of six sigma</li> <li>• Origins of six sigma</li> </ul> | Demonstrate the impact that six sigma has on businesses operations.<br><br>Demonstrate knowledge of the origins of Six Sigma, including: <ul style="list-style-type: none"> <li>• Motorola</li> <li>• GE</li> <li>• Statistical Origin</li> </ul>  |
|   | 1.2: Explain Organizational drivers and metrics: <ul style="list-style-type: none"> <li>• Identify key drivers for business</li> </ul>                                     | Identify KPIs that are important for an organization in order to measure its progress against strategic objectives: <ul style="list-style-type: none"> <li>• Profit</li> <li>• Market share</li> <li>• Customer satisfaction</li> <li>• Efficiency</li> <li>• Product differentiation</li> </ul> |
|   | 1.3: Describe the importance of utilizing organizational goals: <ul style="list-style-type: none"> <li>• Project selection</li> </ul>                                      | Demonstrate knowledge of the project selection process and when to apply DMAIC (Define, Measure, Analyze, Improve, Control) as opposed to other problem solving tools. Identify organizational goals as they relate to the project selection process.  |
| 2: Identify LEAN principles             | 2.1: Identify Lean concepts and tools.   | Describe Lean concepts and how to apply common tools to reduce waste. These include: <ul style="list-style-type: none"> <li>• Value chain</li> <li>• Flow</li> <li>• Pull</li> <li>• Perfection</li> <li>• Kaizen</li> <li>• 5S</li> <li>• Error-proofing</li> </ul>                             |
|   | 2.2: Recognition of value-add vs. non-value-add activities: <ul style="list-style-type: none"> <li>• Identify waste</li> </ul>   | Be able to identify waste in terms of excess inventory, space, test inspection, rework, transportation, and storage.   |
| 3: Utilize DMAIC – Define               | 3.1: Outline process elements: <ul style="list-style-type: none"> <li>• Components</li> <li>• Boundaries</li> </ul>  | Define and describe process components and boundaries. Explain how processes cross various functional areas and the challenges that result for process improvement efforts.  |



| Competency                 | Performance Criteria   | Evidence Guide   |
|----------------------------|--|--|
|                            | 3.2: Identify owners and stakeholders: <ul style="list-style-type: none"> <li>• Process owners</li> <li>• Stakeholders</li> <li>• Internal customers</li> <li>• External customers</li> </ul>  | Identify process owners, internal and external customers, and other stakeholders in a project and describe how projects impact customers.  |
|                            | 3.3: Define the problem and set objective <ul style="list-style-type: none"> <li>• Problem statement</li> <li>• Goal statement</li> </ul>  | Identify the problem and precisely describe what is wrong with what and how it impacts on internal and external customer.<br><br>Identify at what point it would be considered that the problem has been solved. e.g., by writing a project objective. |
|                            | 3.4 Display customer data using various methods <ul style="list-style-type: none"> <li>• Graphical</li> <li>• Fact Based</li> </ul>  | Demonstrate knowledge of the SMART (specific, measurable, attainable, relevant, and time-bound) acronym as it applies to objectives.<br><br>Use graphical tools to display customer feedback.  |
|                            | 3.5: Define team roles and responsibilities: <ul style="list-style-type: none"> <li>• Belts</li> <li>• Champions</li> <li>• Executive</li> <li>• Coach</li> <li>• Facilitator</li> <li>• Sponsor</li> <li>• Process owner</li> </ul> | Describe and define the roles and responsibilities of participants in six sigma, including black belt, master black belt, green belt, champion, executive, coach, facilitator, team member, sponsor, and process owner.                                |
|                            | 3.6: Define and apply team tools.  | Define and apply team tools such as brainstorming, nominal group technique, and multi-voting.  |
| 4: Utilize DMAIC – Measure | 4.1: Develop process modeling: <ul style="list-style-type: none"> <li>• Maps</li> <li>• Flow charts</li> </ul>   | Develop and review process maps, written procedures, work instructions, flowcharts.  |
|                            | 4.2: Develop process input and output variables using Supplier-Input-Process-Output-Customer (SIPOC).  | Identify and develop process input variables and process output variables by using tools such as SIPOC.  |

| Competency                 | Performance Criteria  | Evidence Guide   |
|----------------------------|---|--|
|                            | 4.3: Collect and summarize data using: <ul style="list-style-type: none"> <li>• Data collection methods</li> <li>• Graphical methods</li> </ul> | Define methods for collecting data such as data collection plans and check sheets. Define techniques such as random sampling, stratified sampling, and sample homogeneity.<br><br>Demonstrate an understanding of graphical techniques: <ul style="list-style-type: none"> <li>• Frequency distributions</li> <li>• Run charts</li> <li>• Pareto charts</li> </ul> |
| 5: Utilize DMAIC – Analyze | 5.1: Identify potential root causes.  | Understand methods such as cause and effect, fishbone diagrams, 5 why and brainstorming to identify potential causes.  |
| 6: Utilize DMAIC – Improve | 6.1: Identify and develop a list of potential solutions   | Understand how to use tools such as brainstorming, assumption busting, solution selection and decision making.   |
|                            | 6.2: Identify change management issues.   | Identify and define change management tools that could be used, including: <ul style="list-style-type: none"> <li>• Force field analysis</li> <li>• Stakeholder analysis</li> </ul>  |
| 7: Utilize DMAIC – Control | 7.1: Identify the actions required to implement and sustain the improvement.  | Describe tools and methods such as: <ul style="list-style-type: none"> <li>• Process mapping</li> <li>• Documentation</li> <li>• Communication</li> <li>• Monitoring</li> <li>• Charts (e.g., control and trend charts)</li> </ul>   |