

Unit of Competency**Functional Area: Quality Management**

Title	Develop quality management systems for product development
Code	105336L5
Range	This unit of competency is applicable to practitioners to establish quality management system for product development and translate customer requirements into products. The tasks also involve the development of quality management system for product development to show performance trends and identify problems.
Level	5
Credit	8 (for reference only)
Competency	<p>Performance Requirement</p> <ol style="list-style-type: none"> 1. Possess knowledge of quality management in product design <ul style="list-style-type: none"> • Use quality management methods to perform functional design • Employ a range of skills to implement customer needs in the product development process 2.1. Establish quality management system in product development processes <ul style="list-style-type: none"> • Generate product idea through internal sources (e.g. marketing, research and development) and external sources (e.g. customers and contract manufacturers) • Use relevant approaches (e.g. survey, trend publications) to gather information to project future customer needs • Use relevant tools (e.g. technology feasibility statement) to select technology for product development • Identify key quality characteristics and potential for variability of available materials • Select materials that provide the best performance for customers at acceptable costs • Use such approaches as technology development for process selection to determine process to transform materials into products • Define final product in final drawings and specifications for the product and product families • Manage marketing and distribution related activities to develop marketing plan, identify supply chain channels and distribute networks • Design after-sales process including maintenance, warranties, repair process • Estimate demand for the product and finances of the company and select manufacturing system design to manufacture high-quality and low-cost products 2.2. Develop performance management system <ul style="list-style-type: none"> • Identify appropriate tools/methods to measure: <ul style="list-style-type: none"> • Quality, e.g. percent reduction in nonconformities, percent reduction in corrective action cycle time • Cost, e.g. Percent increase in inventory turnover, percent reduction in data transactions • Flexibility, e.g. percent reduction in setup time, percent increase in common materials used per product • Reliability, e.g. percent increase in on-time delivery, percent reduction in down time • Innovation, e.g. percent increase in new product sales revenue, percent increase in new patents granted • Integrate all the measures into a total system of measure • Track the metrics to show performance trends • Identify problem areas • Develop improvement procedures 3. Translate customer needs into functional product design <ul style="list-style-type: none"> • Use such methods as quality functional development (QFD) to translate customer requirements into designs • Use such tools as product design specification (PDS) to ensure the design and development of the product meets the customer requirements

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Assessment Criteria	The integrated outcome requirements of this unit of competency are: <ul style="list-style-type: none">• Capable of establishing quality management system in product development processes• Capable of translating customer needs into designs in quality management system
Remark	