Specification of Competency Standards
for the Manufacturing Technology Industry
Unit of Competency

Functional Area - Product Design and Development

Title	Carry out ecodesign and lifecycle management
Code	106560L5
Range	This unit of competency is applicable to all corporations of Manufacturing Technology Industry. Practitioners should be capable to master the relevant environmental protection regulations and internal operational requirements, analyse the impact of the product lifecycle on Ecology from different perspectives and carry out environmental friendly design management
Level	5
Credit	9 （For Reference Only）
Competency	Performance Requirements 1. Understand relevant knowledge of ecodesign and lifecycle management - Recognise corporate environmental policies - Recognise the relevant manufacturing technologies and processes - Understand the methods and techniques to systematise product lifecycle management - Understand the corporate operational conditions - Understand the international eco-design guidelines of ISO14006 and the requirements of other product lifecycle management standard, so as to meet the design and manufacturing system development - Understand the principles, methods and tools of product life cycle management 2. Formulate the procedures of product lifecycle - Carry out analysis of potential ecological environmental impact on products, target the main sources which would bring important and potential environmental impacts of products on the environment - Carry out analysis from the perspective of the product lifecycle, determine the most important stage of environmental impact, such as the stages of raw materials, production, delivery, usage and recycling or disposal - Carry out analysis from the perspective of the product design, determine which components or parts bring the biggest impact to the environment, so as to improve the product design or select other materials - Corporate with production department, ensure that the production processes meet environmental standards and regulatory requirements - Corporate with logistics or product delivery department, ensure that the logistics arrangement meets environmental standards and regulatory requirements - Apply lifecycle management tools or computer system for product ecology diagnosis, and analyse the data of energy consumption and carbon emissions of product life-cycle - According to a wide range of data, improve the product lifecycle design so as to meet the product environmental protection standards and regulatory requirements, such as WEEE, REACH and RoHS - Compare the difference between environmental product lifecycle design and prototype programs on environmental impacts, based on the comparison results and carry out analysis and propose further ways for improvement 3. Professional handling of ecodesign and lifecycle management - Meet the product environmental legislation and corporate environmental policies and regulations - Keep track of the development trend of the environmental friendly design and lifecycle management for products, ensure that the corporate environmental management is with the times

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Assessment Criteria	The integrated outcome requirements of this unit of competency are:
	- Capable to carry out different considerations when the product concept design starts, in accordance with selection of raw materials, product design, production methods and arrangements of product delivery, consider the product usages and recycling or disposal stages, so as to reduce the impact of product lifecycle on the environment - Capable to refer to ISO 14006 or other relevant international standards to carry out environmental design management for product, and continuously improve the product design process, and integrate the environmental factors such as energy saving, emission reduction and other elements into the product design and development
Remark	