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

Functional Area - Product Design and Development

Title	3D modeling and reverse engineering of plastic products
Code	106389L3
Range	This unit of competency is applicable to design and development departments of plastic products manufacturing corporations. Practitioners should be familiar with manufacturing and production procedures of plastic products, as well as carry out 3D models and reverse engineering of plastic products.
Level	3
Credit	6 （For Reference Only）
Competency	Performance Requirements 1. Understand 3D models and reverse engineering of plastic products • Understand all possibilities of manufacturing methods and production procedures of plastic products. • Understand design concept and needed design software of 3D simulation and reverse engineering, such as PRO/E UG Solidworks Catia. PRO/E UG Solidworks Catia • Understand reverse engineering measurement system, contact measurement method and non-contact measurement method. • Understand the advantages and disadvantages of measurement system. 2. Carry out 3D models and reverse engineering • Operate manual and automatic instruments or other relevant tools to accurately measure 3D plastic products size, such as calipers, optical projectors, 3D coordinate measuring machines, laser scanning systems and rapid optical camera system. • Use suitable software to collect and handle data, so as to avoid inaccuracy. • Use suitable software to carry out 3D reconstruction of models. • Select suitable laboratory and instruments to analyse plastic products materials. • Suggest plastic products production methods and technologies. 3. Professional handling of 3D models and reverse engineering of plastic products • Ensure the data collected from 3D simulation and reverse engineering is completed and accurate
Assessment Criteria	The integrated outcome requirements of this unit of competency are: • Capable to describe products size measuring methods and instruments. • Capable to set up and design completed and accurate 3D models and drawings, as well as mark production methods and procedures.
Remark	