

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

Functional Area - Process Design and Development

Title	Design and plan the manufacturing process of metal stamping products
Code	106602L6
Range	This unit of competency is applicable to each corporation of metal stamping products manufacturing corporation. Practitioners should be capable to master the manufacturing plans and process of metal stamping products.
Level	6
Credit	6 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Understand relevant knowledge of design and plan the manufacturing process of metal stamping products</p> <ul style="list-style-type: none"> • Understand characteristics of all manufacturing process, including preparing materials, all kinds of stamping process (single, complex, continuous, transfer), fitting, polishing, electroplating, coating, surface printing and marking etc. • Understand metal stamping design principle and calculation methods, such as expansion view calculation, deep drawing calculation, cropping calculation, bending stress calculation. • Understand interrelation between the design of different stamping pieces size, thickness, materials and production processes of products and punch load (i.e. tonnage), speed, breadth and length of machines, and other specifications. • Know engineering analysis methods and tools, such as processing roadmap, work flowcharts, work factor analysis and work measurement. • Understand the latest design and manufacturing technology (i.e. micro-stamping) of metal stamping, as well as CAD/CAE/CAM software (i.e. Pamstamp and Dynaform). <p>2. Design and plan the manufacturing process of metal stamping products</p> <ul style="list-style-type: none"> • Analyse and review customer s requirements on metal stamping products • According to customer s requirements on cost, environmental protection, quality, functions and appearance etc, propose the best manufacturing plan and procedure for materials, equipment and stamping technologies • Analyse and design metal stamping products manufacturing procedure and formulate schedule • Balance the manufacturing time and product quality, so as to optimise manufacturing procedure. • Communicate with customers, product development and marketing staff, give feedback to improve product design, so as to improve product quality, lower cost and optimise productivity. <p>3. Professional handling of design and plan the manufacturing process of metal stamping products</p> <ul style="list-style-type: none"> • Carefully consider elements of safety, risk, capacity, quality, environmental protection etc, design, plan and optimise stamping products manufacturing procedure, ensure safety operation and also meet all aspects of requirements
Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <ul style="list-style-type: none"> • Capable to design and plan the best manufacturing plan and process of metal stamping products in accordance with customer s different requirements. • Capable to formulate manufacturing schedule and flexibly revise it with idiopathic cases.

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Remark	Preparation:including purchasing sheet metal materials and dividing the material into an appropriate size.
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