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

Functional Area - Process Design and Development

Title	Setting of flexible small and medium batch manufacturing methodologies and process for metal sheet, pipe and wire parts, screen and select appropriate processing equipment
Code	106489L4
Range	This unit of competency is applicable to the engineering or manufacturing development department of the corporation of metal stamping product. Practitioners should be capable to master the flexible small and medium batch manufacturing methodologies and process for metal sheet, pipe and wire parts
Level	4
Credit	6 （For Reference Only）
Competency	Performance Requirements 1. Understand the flexible small and medium batch manufacturing methodologies and process for metal sheet, pipe and wire parts • Recognise the production methods of Lean Manufacturing and Flexible Manufacturing System (FMS) • Recognise all kinds of workshop equipment enhancement methods, such as Poka Yoke and single-minute exchange of die (SMED) • Understand the application and specifications of different types of high flexibility production equipment, including CNC Turret Punching Press, CNC Press Brake, Water Jet Cutting Machine and Laser Cutting and Welding Machine • Understand the types, principles and specifications of different CNC and manual tube bending machines and pie end forming equipment • Understand the structure, type, application and specifications of Multi-Slide Forming Machine of metal sheet, pipe and wire parts • Understand the advantages, disadvantages, equipment upgrades and maintenance ways of different high flexibility of production equipment in the market • Understand the die structure, design specifications and common defects and problem-solving methods of turret punching, bending, bent pipe, tube end forming, wire forming and bending die 2. Develop flexible small and medium batch manufacturing methodologies and process for metal sheet, pipe and wire parts • Review the internal process, merge and simplify the unnecessary process and design appropriate Flexible Manufacturing Cell • Analyse the equipment demand of Flexible Manufacturing Cell • Co-ordinate with every departments to carry out procurement, made-to-order or modify various equipment and processing, enhance the flexibility of production line • According to different orders of small and medium batch of metal sheet, pipe and wire parts, carry out integration of shopfloor logistics and staff allocation to enhance the flexibility of production line / • Select the appropriate machinery, so as to reach flexible small and medium batch manufacturing of metal sheet, pipe and wire parts 3. Professional handling of development of flexible small and medium batch manufacturing methodologies and process for metal sheet, pipe and wire parts • Carefully consider elements of safety, risk, capacity, quality, environmental protection and cost etc, design, plan and optimise flexible small and medium batch manufacturing methodologies and process for metal sheet, pipe and wire parts, ensure safety operation and also meet all aspects of requirements

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Assessment Criteria	The integrated outcome requirements of this unit of competency are: • Capable to base on customers different product requirements, set flexible small and medium batch manufacturing methodologies and process for metal sheet, pipe and wire parts, screen and select appropriate processing equipment
Remark	