

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

Functional Area - Process Design and Development

Title	Design and plan manufacturing process for metal stamping products to ensure the standards are met in terms of cost control, environmental protection, product functionality, and appearance
Code	106602L5
Range	This unit of competency is applicable to the product design and development departments, process design and development / engineering departments, and product manufacturing / production departments of enterprises engaged in the metal stamping and sheet metal industries. Practitioners should be capable to master various manufacturing solutions and processes for metal stamping products
Level	5
Credit	6
Competency	Performance Requirements - Understand relevant knowledge of designing and planning manufacturing process of metal stamping products - Understand characteristics of each manufacturing process, including material preparation, various forms of stamping (including single-head, compound, continuous, and transfer stamping), grinding, polishing, electroplating, coating, surface printing, and marking - Understand the design principles and calculation methods of metal stamping, including the calculation of development diagrams, deep drawing parameters, shearing forces, and bending stresses - Understand the relationship between design of products with different stamping sizes, thicknesses, materials, and production processes, and stamping press load (i.e., tonnage), speed, machine length and width, and other specifications - Be familiar with engineering analysis methods and tools, including process route diagrams, workflow diagrams, work element analysis, and work measurement - Understand the latest technologies in the design and manufacturing of metal stamping products (including precision stamping), and be proficient in using computer-aided design, engineering analysis, and manufacturing software (CAD / CAE / CAM), including Pamstamp, Dynaform, etc. - Be familiar with intelligent implementation methods in the metal stamping product manufacturing process, including data acquisition, data processing, and preventative maintenance - Design and plan of metal stamping product manufacturing process - Able to analyse and review customer requirements for metal stamping products - Able to propose the best manufacturing solutions and processes in terms of materials, equipment, and stamping technology based on customers' requirements for cost, environmental protection, quality, function, and appearance of stamped products - Able to analyse and define the manufacturing process of metal stamping products and formulate manufacturing schedules, and make flexible adjustments according to unforeseen circumstances - Able to utilise production data acquired by built-in or external sensors to evaluate production efficiency or quality in real time - Able to balance manufacturing time and product quality to optimise the manufacturing process - Able to communicate and provide feedback to customers, product development, and marketing personnel can improve product design, thereby enhancing product quality, reducing costs, and

	optimising production efficiency 3. Professional handling of designing and planning processes for metal stamping product manufacturing • Able to consider multiple factors such as safety, risk, production capacity, quality, environmental protection, and cost, and designs, plans, and optimises the stamping product manufacturing process to ensure safe operation and coordinate and meet the requirements of all parties
Assessment Criteria	The integrated outcome requirements of this unit of competency are: • Able to design and plan the optimal manufacturing process for metal stamping products according to the different requirements of customers • Able to formulate manufacturing schedule and make flexible adjustments in response to unforeseen circumstances
Remark	This is the updated version of UoC 106602L6 Material preparation: This includes purchasing sheet metal materials and cutting them into appropriate sizes