

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

Functional Area - Process Design and Development

Title	Research, development, plan, and schedule mould manufacturing processes to ensure all aspects, include cost control, environmental protection, mould functionality, and appearance, meet the standards
Code	106583L6
Range	This unit of competency is applicable to the product design and development departments, process design and development departments / engineering departments, and product manufacturing departments / production departments of companies engaged in the tooling industries. Practitioners should be capable to understand the knowledge of mould manufacturing process and can design suitable manufacturing processes based on the characteristics of the mould and its manufacturing process
Level	6
Credit	6
Competency	Performance Requirements - Understand relevant knowledge of mould manufacturing processes and procedures - Understand deeply on the characteristics of each mould manufacturing process, include material preparation, milling, turning, heat treatment, electrical discharge machining, wire cutting, grinding, polishing, etc. - Understand deeply on classification, techniques, and methods of roughing and precision machining - Understand deeply on functions of different models - Understand deeply on performance and differences between different machine tool models - Understand methods for implementing intelligent processes in mould manufacturing, include data acquisition, data processing, and preventative maintenance - Plan for mould manufacturing process - Able to review customer, mould, and finished product requirements, create and define suitable manufacturing processes, machine types, and models for processing - Able to analyse actual condition of different equipment in the factory, adjust and optimise mould manufacturing process - Able to assess mould processing time and completion time - Able to analyse and review mould delivery dates and equipment utilisation rates, formulate mould production schedules, and flexibly revise them according to unforeseen circumstances - Able to develop key performance indicators (KPIs) for production efficiency and quality, as well as measurement methods and plans, continuously monitor performance, update indicators, and establish new specifications - Able to utilise production data acquired by built - in or external sensors to evaluate production efficiency and quality in real time, serving as a basis for optimising production processes - Able to standardise key quality control points and corresponding monitoring methods at each stage of manufacturing process - Able to monitor the latest status of all equipment in the factory, record and analyse data, handle various emergencies to reduce impact of equipment failures or other problems on overall production schedule

	• Able to continuously learn about new technologies in mould manufacturing, transform processes, improve efficiency according to needs and technological advancements 3. Professional handling of plan for mould manufacturing process • Able to consider factors such as safety, risk, production capacity, quality, environmental protection, cost, and level of automation, etc. in detail, and set, plan, optimise, standardise, and transform the mould manufacturing process to ensure safe operation, balance and meet various requirements, and keep the process up to date
Assessment Criteria	The integrated outcome requirements of this unit of competency are: • Able to adapt to various requirements and actual factory conditions, determine and standardise suitable production equipment and processes, conduct research and innovation based on market, efficiency, and technological changes to optimise process efficiency • Able to create and develop mould production schedules, and flexibly revise them to accommodate unforeseen circumstances
Remark	This is the updated version of UoC 106583L5 Material preparation: include purchase mould steel and cut steel into appropriate dimension