

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

Functional Area - Process Design and Development

Title	Develop lean manufacturing and flexible manufacturing processes, layouts, and facilities; analyse flexible manufacturing requirements; select equipment; and achieve flexible manufacturing goals
Code	106500L5
Range	This unit of competency is applicable to the process design and development departments / engineering departments of enterprises in the manufacturing technology industry. Practitioners should be capable to develop lean manufacturing and flexible manufacturing processes, layouts, and facilities tailored to the specific conditions of the production line
Level	5
Credit	6
Competency	Performance Requirements - Understand relevant knowledge of lean production and flexible manufacturing - Understand production methods such as lean manufacturing and flexible manufacturing - Understand various workshop equipment improvement methods, including mistake-proofing (Poka Yoke) and quick mould change (single-minute exchange of dies, SMED) - Understand processing equipment on the market that can improve production line flexibility - Understand the types, specifications, and applications of various automated processing and parts handling peripheral equipment, including transfer robots, multi-axis robots, conveyor belts, and feeders - Understand the types, specifications, functions, and applications of various automated product testing equipment, including optical high-speed camera measuring instruments and integrated measuring instruments - Understand the equipment used to collect various production data in real time, including various sensors, network systems, dashboards, and data analysis and labelling software - Apply lean manufacturing and flexible manufacturing - Able to coordinate with existing production lines to arrange processes, design and improve production lines to achieve production goals such as lean manufacturing and flexible manufacturing - Able to conduct in-depth analysis of bottleneck processes and make optimisations - Able to conduct in-depth analysis of equipment requirements of flexible production units and select appropriate equipment - Able to collect information on processing equipment within the industry that can improve production line flexibility and assess its suitability - Able to examine and evaluate the effects of lean production and flexible manufacturing, including indicators such as whether finished goods inventory has decreased and whether production cycles have been shortened - Able to monitor and analyse various production data in real time, and modify product processes and production schedules based on the results - Professional handling of development, production, and flexible manufacturing - Able to consider wide range of factors such as safety, risk, capacity, quality, environmental protection, and cost, and determine the processes, layout, and facilities for lean production and flexible

	manufacturing, coordinating and meeting the requirements of all parties
Assessment Criteria	The integrated outcome requirements of this unit of competency are: • Able to deeply analyse equipment requirements of flexible production units, evaluate and select suitable equipment according to lean manufacturing and flexible manufacturing methods, and set up and improve production lines to achieve production goals such as lean manufacturing and flexible manufacturing
Remark	This is the updated version of UoC 106500L4