

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

Functional Area - Process Design and Development

Title	Develop and formulate automated processing procedures, methods, and equipment for plastic products to improve production efficiency, stability, and safety
Code	106492L5
Range	This unit of competency is applicable to the process design and development departments / engineering departments in enterprises engaged in plastics industries. Practitioners should be capable to review existing plastic product processing flows and develop suitable automated equipment
Level	5
Credit	4
Competency	Performance Requirements - Understand relevant knowledge of equipment and applications of various automated processing methods - Understand types, specifications, and applications of various automated processing and parts handling equipment for plastic products, including transfer robots, multi-axis robots, conveyor belts, levelling machines, and feeders - Understand advantages, disadvantages, upgrade and maintenance methods of various automated processing and parts handling equipment for plastic products on the market - Understand types, specifications, functions, and applications of various automated testing equipment for plastic products, including stacked parts detectors, high-speed optical camera measuring instruments, and integrated measuring instruments. Also understand the advantages, disadvantages, upgrade methods, and maintenance procedures for various automated testing equipment for plastic products on the market - Understand data acquisition principles and basic algorithms of automated testing equipment - Understand types, specifications, and applications of commonly used pneumatic, hydraulic, vibratory feeders, and programmable logic controller (PLC) components and systems - Understand the data acquisition and analysis principles and basic algorithms of various injection moulding automated processing equipment for handling and testing parts - Develop and select automated processing procedures, methods, and equipment, and ensure their proper operation - Able to develop and select automated processing procedures, methods, and equipment for plastic products, based on factors such as meeting design requirements, production volume, and quality - Able to ensure the processes and equipment are free of defects and minimise the probability of failure - Able to evaluate the effectiveness of automating the development of plastic products and continuously improve them - Able to ensure the defect rate of products can be minimised after the development of automated processes and equipment - Able to draw layout diagrams and process flow charts for automated equipment, and specify technical specifications - Able to develop, design, and install suitable data acquisition and analysis systems for automated production systems

	3. Professional handling of professional standards development and formulation for automated processes and equipment for various plastic products • Able to identify potential safety issues and possible accidents, optimise developed and formulated systems, and improve the efficiency, stability, and safety of automated systems, thereby further promoting the intelligentisation of production lines
Assessment Criteria	The integrated outcome requirements of this unit of competency are: • Able to develop automated processing and testing of plastic products in line with enterprise development and product needs • Able to develop and formulate automated processing and testing procedures, methods, and equipment for plastic products, thereby improving production efficiency and reducing costs • Able to formulate the technical specifications for data collection, transmission, and analysis based on the goals of intelligentisation
Remark	This is the updated version of UoC 106492L4