

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

Functional Area - Product Manufacturing

Title	Conduct advanced EDM machining, master various machining data, to enhance quality of mould components and parts
Code	106591L4
Range	This unit of competency is applicable to the process design and development departments and product manufacturing departments / production departments of companies engaged in the tooling industries. Practitioners should be capable to understand the knowledge of advanced EDM machining and are able to perform high-level EDM operations, including electrical discharge machining (EDM) milling
Level	4
Credit	3
Competency	Performance Requirements - Understand relevant knowledge of advanced EDM machining - Understand methods of generate surface textures using different EDM parameters - Understand principles, characteristics, and application methods of various advanced EDM processes, including EDM milling - Understand impact of machining fluid on workpiece and machining quality - Understand parameter settings and optimisation techniques for EDM milling operations - Understand influence of different workpiece materials and engineering designs on EDM milling parameter settings - Understand types, specifications, structures, applications, machining principles, and differences from conventional EDM machines for CNC EDM milling equipment - Understand various machining commands, program structures, and programming methods used in CNC EDM milling equipment - Understand intelligent solutions applied in CNC EDM milling machines, including data collection, data organisation, and predictive maintenance - Conduct advanced EDM machining - Able to set appropriate machining parameters in accordance with workpiece materials and engineering designs, and prepare various EDM milling programs - Able to set suitable machining parameters and correction values based on the tolerance, surface texture, and surface finish requirements indicated in engineering drawings for precision and ultra-precision products and components - Able to accurately install and align the workpiece and electrode - Able to assess machining performance of electrodes used in CNC EDM milling equipment - Able to operate CNC equipment to perform EDM milling machining - Able to carry out daily maintenance of CNC EDM milling equipment, handle abnormal situations during machining, and ensure that the machining accuracy, surface texture, surface finish, and quality meet the requirements of precision and ultra-precision machining - Able to select appropriate electrodes and machining conditions as the basis for estimating machining time

	• Able to estimate machining time based on factors such as drawings, electrode movement, and machining conditions • Able to perform preliminary analysis of data collected from CNC EDM milling machines, assess EDM milling quality and equipment performance, and adjust production parameters in real-time to optimise production • Able to extract production data from the PLC or external sensors of the manufacturing equipment 3. Professional handling of advanced EDM machining • Able to follow safety guidelines and relevant procedures for various advanced EDM machining processes, and perform EDM machining in accordance with design drawings, specifications, and production efficiency requirements
Assessment Criteria	The integrated outcome requirements of this unit of competency are: • Able to operate CNC EDM milling equipment to perform EDM milling machining • Able to handle abnormal situations in CNC EDM milling equipment and perform maintenance, ensure machining accuracy, surface finish, and other quality requirements
Remark	This is the updated version of UoC 106591L5 Individuals who possess the above knowledge and competency are also required to possess the knowledge and competency of “ Perform advanced EDM and master various machining parameters to improve quality of mould components (106511L3) ”