

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

Functional Area - Product Manufacturing

Title	Perform electrical discharge machining (EDM) and monitor various machining data to improve quality of mould components
Code	106405L2
Range	This unit of competency is applicable to the product manufacturing departments / production departments of companies engaged in the tooling industries. Practitioners should be capable to understand the knowledge and processes of various electrical discharge machining (EDM) and are able to operate different types of EDM machines to perform EDM operations on mould components
Level	2
Credit	3
Competency	Performance Requirements - Understand relevant knowledge of electrical discharge machining (EDM) processes - Understand principles, characteristics, application methods, and relevant surface requirements standards for electrical discharge machining (EDM) - Understand how to read engineering drawings and tolerances - Understand workpiece clamping methods used in EDM machines - Understand types, specifications, and applications of standard fixtures - Understand impact of different processing fluids on workpieces integrity and processing quality - Understand electrode materials, types, properties, and selection conditions of different copper, graphite, and other materials - Understand impact of different workpiece materials and engineering design on machining parameter settings - Understand types, structures, specifications, processing and maintenance principles of electrical discharge machining (EDM) machines, as well as processing fluid circulation system - Understand types, structures, specifications, applications, processing and maintenance principles of CNC electrical discharge machining (EDM) machines, as well as setting and methods for required processing parameters - Understand various machining instructions, machining program structure, and programming methods of CNC electrical discharge machining (EDM) - Understand applicable intelligent solutions for electrical discharge machining tools, such as data acquisition, data processing, and maintenance prediction - Understand methods for obtaining production data from electrical discharge machining (EDM) machines - Perform electrical discharge machining - Able to set appropriate machining parameters and create machining programs according to the workpiece material and engineering design - Able to set suitable machining parameters and correction values in accordance with the tolerances indicated on the engineering drawings - Able to correctly load, unload, and align the workpiece and electrode - Able to operate EDM machines to perform various EDM processes

	• Able to assess machining performance of EDM electrodes • Able to operate CNC EDM machines to perform various EDM processes, include round, sector, vector, and offset boring operations • Able to adjust, correct, and maintain EDM machines, and perform troubleshooting • Able to initially process and organise collected data from EDM machines, perform preliminary analysis, evaluate machining quality and machine performance, and adjust production parameters in real-time according to department requirements to optimise production • Able to extract production data from the PLC or external sensors of the production equipment 3. Professional handling of electrical discharge machining (EDM) processes • Able to comply with EDM requirements, safety guidelines, and relevant procedures, and perform EDM operations according to design drawings, specifications, and production efficiency requirements
Assessment Criteria	The integrated outcome requirements of this unit of competency are: • Able to program EDM process according to machining requirements • Able to operate EDM machine correctly and safely to perform EDM operations, achieving good production efficiency, product quality, and precision requirements • Able to handle common abnormal conditions of EDM machines and perform correction, adjustment, and maintenance
Remark	This is the updated version of UoC 106405L3