1. Title	Perform manual metal arc welding (MMAW)/shielded metal arc welding (SMAW) at specified positions	
2. Code	EMCUIN316A	
3. Range	Perform MMAW/SMAW at specified positions of common carbon steel, high carbon steel or stainless steel, in electrical and mechanical welding workshops or work sites.	
4. Level	3	
5. Credits	20	
6. Competency		Performance Requirements
	6.1 Knowledge of MMAW/ SMAW	♦ Understand the applications of electrodes of arc welding ♦ Know about properties of different type of metals, such as carbon steel and stainless steel ♦ Understand the technical requirements of different steels on different electrodes ♦ Understand the impact of different parameters, such as current, welding speed, angle and size of electrode ♦ Understand the type and functions of MMAW/SMAW and arc characteristics ♦ Understand the importance of weld joint ♦ Understand the classification, specifications and standards of different electrodes, such as high tensile steel and low alloy steel ♦ Understand the welding residues stresses ♦ Understand how to avoid weldment distortion ♦ Understand relevant code of practice for MMAW/ SMAW
	6.2 Methods and procedures of operating MMAW/ SMAW	♦ Capable to apply MMAW/SMAW in the following tasks: • Perform two sides double V groove weld at flat position • Perform two sides double V groove weld at horizontal position • Perform two sides fillet weld at horizontal/vertical position • Perform two sides double V groove weld at vertical up position • Perform two sides fillet weld at vertical up position • Perform two sides double V groove weld at overhead position • Perform two sides fillet weld at overhead position
	6.3 Professionalism in MMAW/ SMAW	♦ Capable to perform MMAW/ SMAW according to relevant safety guidelines and code of practice

7. Assessment Criteria	The integrated outcome requirement of this unit of competency is: (i) Capable to complete MMAW/SMAW at specified positions by different jointing methods, without causing obvious surface weld defects; (ii) Capable to identify the classification, specifications and applications of different electrodes; and (iii) Capable to perform MMAW/SMAW safely.
8. Remarks	The credit value of this unit of competency is set on the presumption that the person already possesses the competency of EMCUIN225A "Basic manual metal arc welding (MMAW)/shielded metal arc welding (SMAW)".