1. Title	Perform metal inert gas (MIG) / gas metal arc welding (GMAW) at specified positions		
2. Code	EMCUIN319A		
3. Range	Perform MIG/GMAW tasks for parent materials like carbon steel and aluminum alloy at specified positions in electrical and mechanical welding workshops or work sites.		
4. Level	3		
5. Credits	20		
6. Competency			Performance Requirements
	6.1	Preparations for MIG/GMAW	♦ Understand various functions of main MIG/GMAW equipment ♦ Understand the classification of welding wire for MIG/GMAW ♦ Understand the impact of MIG/GMAW parameters on weld profile, such as welding current, welding voltage, gas flowrate, welding speed and angle of welding gun, etc ♦ Understand the weldability of aluminium and its alloy ♦ Understand weld defects ♦ Understand weld joints ♦ Understand how to avoid weldment distortion ♦ Understand code of practice for MIG/GMAW
	6.2	Apply MIG/GMAW	♦ Apply techniques of MIG/GMAW in the following areas: • Perform square edge butt weld for aluminium alloy at horizontal position and at flat position • Perform lap weld for aluminium alloys at horizontal position and at flat position • Perform fillet weld for aluminium alloys at horizontal position and at flat position • Perform square edge butt weld at vertical-up position and at overhead position • Perform lap welding at vertical-up position and at overhead position • Perform fillet welding at vertical-up position and at overhead position • Perform one-side full-penetration butt weld on pipe at fixed position of 45 degrees to horizontal
	6.3	Professionalism in MIG/GMAW	♦ Capable to perform MIG/GMAW tasks according to relevant guidelines and code of practice

7. Assessment Criteria	The integrated outcome requirement of this unit of competency is: (i) Capable to complete MIG/GMAW tasks for different parent materials at specified positions by different jointing methods, without causing obvious surface weld defects; and (ii) Capable to perform MIG/GMAW tasks safely.
8. Remarks	The credit value of this unit of competency is set on the presumption that the person already possesses the competency of EMCUIN211A “Basic metal inert gas (MIG)/gas metal arc welding (GMAW)”.