

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	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Knowledge of MMAW/ SMAW</p> <ul style="list-style-type: none"> ◆ 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 <p>6.2 Methods and procedures of operating MMAW/ SMAW</p> <ul style="list-style-type: none"> ◆ Capable to apply MMAW/SMAW in the following tasks: <ul style="list-style-type: none"> • 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 <p>6.3 Professionalism in MMAW/ SMAW</p> <ul style="list-style-type: none"> ◆ Capable to perform MMAW/ SMAW according to relevant safety guidelines and code of practice 	

7. Assessment Criteria	<p>The integrated outcome requirement of this unit of competency is:</p> <ul style="list-style-type: none">(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	<p>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)”.</p>