

1. Title	Basic manual metal arc welding (MMAW)/shielded metal arc welding (SMAW)	
2. Code	EMCUIN225A	
3. Range	Perform basic MMAW/SMAW on typical carbon-steel metals at electrical and mechanical welding workshops or work sites.	
4. Level	2	
5. Credit	6	
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Code of practice and safety regulations for MMAW/SMAW</p> <ul style="list-style-type: none"> <li>◆ Understand relevant code of practice and safety regulations for MMAW/SMAW, including: <ul style="list-style-type: none"> <li>• Wearing proper personal protective gear</li> <li>• Protecting against electric shock</li> <li>• Protecting against fire and explosion</li> <li>• Protecting against harmful arc ray effectively</li> <li>• Protecting against harmful gases and poisonous fumes</li> </ul> </li> <li>◆ Know about the preparations for MMAW/ SMAW, including: <ul style="list-style-type: none"> <li>• Understanding the general application and their limitations of MMAW/SMAW</li> <li>• Understanding the types of MMAW/SMAW machines and their functions</li> <li>• Knowing about the specifications, applications, uses and storage of common mild-steel electrodes (such as E6013) for MMAW/SMAW</li> <li>• Knowing about the maintenance of MMAW/SMAW equipment</li> </ul> </li> </ul> <p>6.2 Methods and procedures for operating MMAW/SMAW</p> <ul style="list-style-type: none"> <li>◆ Apply MMAW/SMAW technique in welding <ul style="list-style-type: none"> <li>• Select proper parameters for welding, such as polarity, current, welding speed and angle of electrode</li> <li>• Perform tasks including: <ul style="list-style-type: none"> <li>▸ Performing linear surface buildup at flat position</li> <li>▸ Joining two or more work pieces together at flat position</li> <li>▸ Performing two sides square edge butt welding at flat position</li> <li>▸ Performing fillet weld at flat position</li> </ul> </li> </ul> </li> <li>◆ Maintenance of electric arc welding equipment <ul style="list-style-type: none"> <li>• Undertake maintenance of MMAW/SMAW equipment</li> <li>• Use and store common instruments and welding materials</li> </ul> </li> </ul> <p>6.3 Professionalism in MMAW/SMAW</p> <ul style="list-style-type: none"> <li>◆ Perform MMAW/SMAW tasks according to relevant safety guidelines and code of practice</li> </ul>	

7. Assessment Criteria	The integrated outcome requirements of this unit of competency are:  (i) Capable to complete basic MMAW/SMAW tasks without causing obvious surface weld defects; and  (ii) Capable to perform MMAW/SMAW tasks safely.
8. Remarks	This unit of competency is applicable to general electrical and mechanical welding practitioners.