

1. Title	Basic tungsten inert gas(TIG) / gas tungsten arc welding(GTAW)
2. Code	EMCUIN212A
3. Range	Perform TIG/GTAW tasks for electrical and mechanical works on parent materials like carbon steel, stainless steel and aluminum alloy, at electrical and mechanical welding workshops or work sites.
4. Level	2
5. Credits	5
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Code of practice and preparations for TIG/GTAW</p> <ul style="list-style-type: none"> ◆ Understand relevant code of practice for TIG/GTAW, including to: <ul style="list-style-type: none"> • Operate TIG/GTAW equipment and accessories correctly and safely • Wear proper personal protective gear • Protect against electric shock • Protect against fire and explosion • Protect against harmful arc ray effectively • Protect against harmful gases and poisonous fumes • Follow the safety requirements and instructions on TIG/GTAW ◆ Know about the preparations for TIG/GTAW, including: <ul style="list-style-type: none"> • Understand the general applications and their limitations of TIG/GTAW • Understand the types of TIG/GTAW machines and polarity requirements • Identify the requirements on welding materials of TIG/GTAW, such as tungsten electrode, welding rod and shielding gas <p>6.2 Apply TIG/GTAW in welding</p> <ul style="list-style-type: none"> ◆ Apply TIG/GTAW in the following areas: <ul style="list-style-type: none"> • Perform square edge butt weld at flat position and horizontal positions • Perform lap weld at flat position and horizontal positions • Perform fillet weld at flat position and horizontal positions ◆ Identify various types of common and simple surface weld defects at welded joints, such as under cut, overlap and porosities ◆ Avoid causing the simple surface weld defects mentioned above <p>6.3 Professionalism in TIG/GTAW</p> <ul style="list-style-type: none"> ◆ Perform TIG/GTAW tasks according to relevant safety guidelines and code of practice
7. Assessment Criteria	<p>The integrated outcome requirement of this unit of competency is:</p> <p>(i) Capable to complete basic TIG/GTAW tasks without causing obvious surface weld defects; and</p> <p>(ii) Capable to perform TIG/GTAW tasks safely.</p>
8. Remarks	This unit of competency is applicable to general electrical and mechanical welding practitioners.