

1. Title	Use typical electrical meters
2. Code	EMCUDE101A
3. Range	With regard to electrical and mechanical engineering services, have basic understanding in electrical terms, units and calculations, and electrical components; and use typical electrical meters for general measurement.
4. Level	1
5. Credits	3
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Basic electrical concepts</p> <ul style="list-style-type: none"> <li>◆ Understand basic electrical concepts, including: <ul style="list-style-type: none"> <li>• Stating briefly the names and uses of common electrical components from distribution board to all final circuits</li> <li>• Distinguish and apply basic electrical terms such as electric current, electric voltage, electric resistance, electric energy and electric power, etc., and their basic units and calculations</li> </ul> </li> <li>◆ Understand the working principles of common meters, including: <ul style="list-style-type: none"> <li>• Structure and working principles of moving coil, moving iron and electric meter</li> <li>• Uses and the pros and cons of the above three types of meters</li> <li>• Structure, working principles and uses of traditional multimeter</li> </ul> </li> <li>◆ Understand the code of safety and operation for using common meters</li> </ul> <p>6.2 Use of meters</p> <ul style="list-style-type: none"> <li>◆ Use typical meters <ul style="list-style-type: none"> <li>• Capable to use multimeters safely and correctly to measure electric current, electric voltage and electric resistance of simple circuits</li> <li>• Capable to use appropriate common meters safely and correctly to measure electric energy ( kWh ) and electric power ( kW )</li> <li>• Know how to maintain typical meters</li> </ul> </li> </ul>
7. Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <p>(i) Capable to use multimeters to measure electric current, electric voltage and electric resistance of simple circuits according to the code of safety and operation, and make simple calculations of electricity; and</p> <p>(ii) Capable to use appropriate typical meters to measure electric energy and electric power of simple circuits according to the code of safety and operation.</p>
8. Remarks	This unit of competency is applicable to new entrants of electrical and mechanical engineering services.