1. Title	Apply basic AC and DC circuit theories to design simple extra-low voltage installations
2. Code	EMELDE302A
3. Range	Applicable to the design work for extra-low voltage installations of buildings. Apply basic knowledge of electricity and AC and DC circuit theories to design simple extra-low voltage installations of buildings.
4. Level	3
5. Credit	6
6. Competency	Performance Requirements 6.1 Understand basic knowledge of electricity and AC and DC circuit theories ♦ Understand basic knowledge of electricity relevant to AC and DC such as: impedance triangle and power triangle, voltage, current, active power, surface power and non-active power, etc. ♦ Understand basic AC and DC circuit theories such as: Kirchhoff's first and second law, Norton's theorem, etc. and calculate general AC circuits ♦ Understand phasor diagrams of AC circuits and use vector drawing method to calculate all branch current, voltage, etc. 6.2 Apply basic AC and DC theories to design simple extra-low voltage installation systems of buildings ♦ Apply basic AC and DC theories to design simple extra-low voltage installation systems of buildings including: • Extra-low voltage electrical installations for medical use • Extra-low voltage installations inside buildings such as: communication system, CCTV, public antenna's power supply and wiring systems
7. Assessment Criteria	The integrated outcome requirements of this unit of competency are: (i) Capable to apply basic knowledge of electricity and AC and DC circuit theories; and (ii) Capable to simple extra-low voltage installation systems of buildings.
8. Remarks	