

1. Title	Assess the performance of three-phase AC circuits
2. Code	EMELDE315A
3. Range	Apply basic electrical theories to assess the performance of three-phase AC circuits for general electrical and mechanical works, such as: finding cable faults and selecting cables, assessing the loading conditions of three-phase circuits and current distribution, etc.
4. Level	3
5. Credit	6
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Understand basic AC circuits theories ♦ Understand basic AC and DC circuit theories including: the voltage, current, circuit impedance, power and power factor of three-phase three-wire balanced load AC circuits and three-phase four-wire unbalanced load circuits</p> <p>6.2 Assess the performance of three-phase AC circuits ♦ Apply basic AC circuits theories to assess the performance three-phase AC circuits including:</p> <ul style="list-style-type: none"> • The relationship between line voltage and phase voltage of three-phase three-wire star and delta connection load, the relationship between line current and phase current, and drawing relevant phaser diagrams • Data of voltage, current, circuit impedance, power and power factor of three-phase three-wire star and delta connected balanced load circuits (max. two electrical components per phase load), and drawing relevant phaser diagrams • Data of voltage, current, circuit impedance, power and power factor of three-phase four-wire star connected unbalanced load circuits(max. two electrical components per phase load), and drawing relevant phaser diagrams
7. Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <p>(i) Capable to apply basic AC circuit theories to assess the performance of three-phase balanced power system in various aspects; and</p> <p>(ii) Capable to apply basic AC circuit theories to assess the performance of three-phase unbalanced power systems in various aspects.</p>
8. Remarks	