

1. Title	Design air-conditioning systems and equipment
2. Code	EMCUDE303A
3. Range	Understand the working principles of air-conditioning systems and equipment, and apply relevant knowledge and skills in air-conditioning and refrigeration engineering design.
4. Level	3
5. Credit	6
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Classification and working principles of air-conditioning systems</p> <ul style="list-style-type: none"> ◆ Understand the classification and working principles of air-conditioning systems and equipment <ul style="list-style-type: none"> • Classification of air-conditioning systems according to the following: <ul style="list-style-type: none"> ▸ Application of air-conditioning ▸ Degree of centralization of air handling equipment ▸ Fluid media used in the thermal distribution system Method of adjusting air volume ▸ Type of return air system ▸ Air velocity in air ducts • Understand the advantages and disadvantages of common air-conditioning systems • Understand the applicability of common air-conditioning systems • Understand the working principles of the component units of central air-conditioning system, including: <ul style="list-style-type: none"> ▸ Illustrating with diagrams the component units of a typical central air-conditioning system and its mode of operation ▸ Construction and working principles of chiller plant ▸ Construction and working principles of air handling equipment ▸ Construction and working principles of air delivery system ▸ Structure and working principles of chilled water system ▸ Construction and working principles of automatic control equipment • Working principles of unitary air-conditioning system, including: <ul style="list-style-type: none"> ▸ Construction and working principles of window type air-conditioner ▸ Construction and working principles of split type air-conditioner

	<ul style="list-style-type: none"> ▸ Construction Structure and working principles of packaged type air-conditioner
6.2	<p>Design air-conditioning systems</p> <ul style="list-style-type: none"> ◆ Calculate parameters for comfort air-conditioning design according to design criteria ◆ Calculate parameters for different types of industrial air-conditioning designs according to design criteria
7. Assessment Criteria	<p>The integrated outcome requirement of this unit of competency is:</p> <p>(i) Capable to calculate parameters for comfort air-conditioning design and different types of industrial air-conditioning designs according to design criteria.</p>
8. Remarks	<p>The credit value of this unit of competency is set on the presumption that the person already possesses basic air-conditioning knowledge.</p>