

1. Title	Apply basic knowledge of air-conditioning and refrigeration systems
2. Code	EMACDE101A
3. Range	Apply basic knowledge of air-conditioning and refrigeration system, at design studios, air-conditioning and refrigeration system work sites or sales outlets, in the basic design, installation, commissioning, maintenance, testing, project management, operation management, marketing and sales of air-conditioning and refrigeration systems.
4. Level	1
5. Credit	5
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Basic knowledge of air-conditioning and refrigeration system</p> <ul style="list-style-type: none"> ◆ Understand code of industry safety and working procedures of air-conditioning and refrigeration engineering ◆ Understand definition of basic air-conditioning and refrigeration units, including: <ul style="list-style-type: none"> • Temperature • Heat • Specific heat • Latent heat ◆ Calculate the heat exchange problem of water, including: <ul style="list-style-type: none"> • Conversions of Fahrenheit degree, Celsius degree and absolute temperature • Conditions for the formation of three states of matter • Calculation of heat released after water has changed from vapour to solid state and cooled down ◆ Understand the working principles of the four major components for compression refrigeration cycle and the process of the compression refrigeration cycle ◆ Understand the classification of general air-conditioning systems, including unitary air-conditioners and different types of central air-conditioning systems ◆ Understand the nomenclatures and functions of typical air-conditioning equipment ◆ Understand the properties, codes and classification of typical refrigerants, including: <ul style="list-style-type: none"> • Properties of refrigerants • Nomenclatures and codes of typical refrigerants • Colours of cylinders for different types of refrigerants

	<p>6.2 Application of basic knowledge of air-conditioning and refrigeration system</p> <p>◆ Apply basic knowledge of air-conditioning and refrigeration system to solve the problems involved in design, installation, commissioning, maintenance, project management, operation management and sales of air-conditioning and refrigeration works; communicate with the sector and clients</p>
7. Assessment Criteria	<p>The integrated outcome requirement of this unit of competency is:</p> <p>(i) Capable to apply basic knowledge to solve the problems involved in air-conditioning and refrigeration system ; have general communication with the sector and clients.</p>
8. Remarks	<p>This unit of competency is applicable to practitioners of general air-conditioning and refrigeration works.</p>