

1. Title	Design water systems of central air-conditioning system
2. Code	EMACDE502A
3. Range	Apply specialized knowledge of air-conditioning and refrigeration in analyzing, organizing and evaluating a wide of range of information, data analysis and innovative ideas, at design studios, to perform tasks of designing water systems of central air-conditioning system.
4. Level	5
5. Credit	12
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Knowledge of designing water systems of central air-conditioning system</p> <ul style="list-style-type: none"> ◆ Understand the zoning of water systems of central air-conditioning system and its characteristics ◆ Understand the working principles of characteristics of different types of chilled water systems ◆ Understand the working principles of different types of cooling water systems <p>6.2 Methods and procedures of designing water systems of central air-conditioning system</p> <ul style="list-style-type: none"> ◆ Decide the zoning of the chilled water system of central air-conditioning system according to building environment and design requirements ◆ Design the central air-conditioning chilled water system , including: <ul style="list-style-type: none"> • Calculating the operating parameters of chilled water system • Deciding the dimensions of chilled water piping ◆ Design the condensing water system of central air-conditioning system, including: <ul style="list-style-type: none"> • Calculating the operating parameters of the condensing water system • Deciding the equipment specifications for the cooling tower and condensing water system ◆ Design a condensate water discharge system, including: <ul style="list-style-type: none"> • Calculating the condensate water volume of the air-handling equipment • Calculating the condensate drain pipe diameter ◆ Select water pumps and other water system equipment, including: <ul style="list-style-type: none"> • Calculating the resistance of the chilled water system • Designing the chilled water piping layout that has the least pressure loss • Deciding the chilled water pump specifications • Deciding the specifications of the expansion tank and other equipment

	<p>6.3 Professionalism in designing water systems of central air-conditioning system</p> <p>◆ Design water systems of central air-conditioning system according to legal requirements, codes of practice and the design guidelines</p>
<p>7. Assessment Criteria</p>	<p>The integrated outcome requirements of this unit of competency are:</p> <p>(i) Capable to apply specialized and innovative techniques to complete tasks of designing water systems of central air-conditioning system; and</p> <p>(ii) Capable to communicate with the sector and clients on issues relevant to the design of water systems of central air-conditioning system.</p>
<p>8. Remarks</p>	<p>The credit value of this unit of competency is set on the presumption that the person already possesses general knowledge of water systems of central air-conditioning system.</p>