

1. Title	Determine air-conditioning load
2. Code	EMACDE404A
3. Range	Apply specialized knowledge and techniques at design studios, analyze a wide range of information and determine the air-conditioning load for different types of buildings so as to design air-conditioning systems.
4. Level	4
5. Credit	9
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Knowledge of air-conditioning load</p> <ul style="list-style-type: none"> <li>◆ Understand the impact of air-conditioning load on an air-conditioning system</li> <li>◆ Understand the design parameters for indoor and outdoor air-conditioning systems in Hong Kong</li> <li>◆ Understand the relationship between indoor cooling load and heat generation</li> </ul> <p>6.2 Methods and procedures of determining air-conditioning load</p> <ul style="list-style-type: none"> <li>◆ Use the coefficient of cooling load to determine air-conditioning load, including: <ul style="list-style-type: none"> <li>• Assessing and analyzing the environmental and structural information of the building</li> <li>• Calculating the heat generation due to conduction from peripheral structures of the building (including external and internal walls, roof and windows)</li> <li>• Calculating the heat generation due to penetration of sunlight through windows</li> <li>• Calculating the heat generation due to indoor heat sources (including equipment, lighting and human bodies)</li> <li>• Calculating the cooling load caused by infiltration and ventilation</li> <li>• Determining the total cooling load of the building's air-conditioning system</li> </ul> </li> <li>◆ Estimate and calculate the total cooling load of the building's air-conditioning system</li> </ul> <p>6.3 Professionalism in determining air-conditioning load</p> <ul style="list-style-type: none"> <li>◆ Determine air-conditioning load according to legal requirements, codes of practice and design guidelines</li> </ul>
7. Assessment Criteria	<p>The integrated outcome requirement of this unit of competency is:</p> <p>(i) Capable to apply specialized knowledge and techniques, analyze a wide range of information and determine the air-conditioning load for different types of buildings.</p>
8. Remarks	The credit value of this unit of competency is set on the presumption that the person already possesses basic knowledge of air-conditioning and refrigeration.