1. Title	Apply building physics to sustainable architectural design	
2. Code	EMACDE701A	
3. Range	Apply highly specialized and advanced technical research and scholastic skills, and make complex information analysis, planning and judgement, so as to carry out sustainable environmental design in design studios.	
4. Level	7	
5. Credit	36	
6. Competency		<u>Performance Requirements</u>
	6.1 Knowledge of applying building physics to sustainable architectural design	♦ Understand the physical phenomenon and characteristics of motion of sound, light and heat ♦ Understand the application value of building physics ♦ Understand the comprehensive building plan, the architectural design and the selection of building equipment ♦ Understand the details and requirements of sustainable architectural design
	6.2 Methods and procedures of applying building physics to sustainable architectural design	♦ Use building's physical environment simulation software for building's physical environment simulation analysis, including: • Analysis of building's heat environment and comfortableness • Analysis of building's light environment and base sunshine and shadow • Analysis of building's sound environment and building's energy consumption ♦ Use data of building's physical environment simulation analysis and a range of advanced technologies to design innovative, sustainable buildings by making full use of natural resources, highly-efficient and energy-saving equipment
	6.3 Professionalism in applying building physics to sustainable architectural design	♦ Understand the legal requirements and code of practice, analyze and evaluate a wide range of information, and apply highly specialized knowledge and skills to design sustainable buildings that are innovative, green, safe, practical and comfortable
7. Assessment Criteria	The integrated outcome requirement of this unit of competency is: (i) Capable to apply highly specialized technical research and scholastic skills, and make complex information analysis, planning and judgement, so as to complete the design of sustainable buildings that are innovative, green, safe, practical and comfortable.	
8. Remarks	The credit value of this unit of competency is set on the presumption that the person already possesses professional knowledge of air-conditioning and refrigeration systems.	