1. Title	Design ventilation systems	
2. Code	EMACDE606A	
3. Range	Apply highly specialized technical research and scholastic skills, and make complex information analysis, planning and judgement, so as to perform tasks of designing ventilation systems in design studios.	
4. Level	6	
5. Credit	12	
6. Competency		Performance Requirements
	6.1 knowledge of ventilation system design	♦ Understand the working principles and selection criteria of total ventilation systems ♦ Understand the working principles and selection criteria of spot ventilation systems ♦ Understand the working principles, characteristics and application range of various types of air-purifying equipment
	6.2 Methods and procedures of ventilation system design	♦ Design total ventilation systems, including: • Calculating amount of air change for total ventilation • Designing replacement ventilation systems • Designing accident ventilation systems • Designing tunnel ventilation systems ♦ Design compound-type (hybrid/mixed mode) ventilation systems ♦ Design spot ventilation systems, including: • Spot air delivery system • Spot air exhausting system • Air exhausting cowl ♦ Use hi-tech simulation calculation method / software for professional evaluation, analysis and design of ventilation systems ♦ Select appropriate air-purifying equipment (including dust extractor and harmful gas purifier) so as to meet the design requirements ♦ Design ventilation ducts, including: • Determining the configuration of air ducts and accessories • Determining the diameter and size of air ducts • Calculating the energy loss for air flow inside the air duct • Selecting appropriate air-handling unit and motor • Evaluating the ventilation duct system according to the design requirements, operation requirements and economical requirements

	6.3 Professionalism in ventilation system design	♦ Perform tasks of designing ventilation systems according to legal requirements and codes of practice
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 ventilation systems	
8. Remarks	The credit value of this unit of competency is set on the presumption that the person already possesses general knowledge of ventilation systems.	