1. Title	Draw simple air-conditioning and refrigeration engineering drawings		
2. Code	EMACDE201A		
3. Range	Draw simple air-conditioning and refrigeration engineering sketches or drawings at design studios, drawing office or work sites.		
4. Level	2		
5. Credit	9		
6. Competency		<u>Performance Requirements</u>	
	6.1	Knowledge of drawing air-conditioning and refrigeration engineering drawings	♦ Understand of the development drawings of air ducts ♦ Understand of the electrical control circuit wiring diagrams of air-conditioning and refrigeration equipment ♦ Understand of the layout and line drawing of central air-conditioning air system and water systems ♦ Understandthe assembly drawings of facilities ♦ Understand the definitions of tolerance, limits and fits ♦ Understand of the layout of refrigerant systems
	6.2	Draw simple air-conditioning and refrigeration engineering drawings	♦ Draw the development drawings of different types of air ducts, including: • Cylindrical and rectangular air ducts including straight duct、bend、offset、reducer and rectangular-round transformation • Cross-sectional drawings of air ducts and their accessories ♦ Draw the electrical control circuit wiring diagrams of air-conditioning and refrigeration equipment, including: • Power supply wiring diagrams • Electrical control circuit wiring diagrams of single-phrase and three-phase electric motors • Electrical control circuit diagrams of window-type and split-type air-conditioners, refrigerators, freezers and chiller plant ♦ Draw the layout of central air-conditioning air system ♦ Draw the layout of central air-conditioning water systems ♦ Draw assembly drawings of simple mechanical parts
	6.3	Professionalism in drawing air-conditioning and refrigeration engineering drawings	♦ Draw air-conditioning and refrigeration engineering drawings independently according to drawing standards required by EMSD ♦ Understand the code of practice of EMSD on air-conditioning and refrigeration in order to perform the task of drawing basic air-conditioning and refrigeration engineering drawings

7. Assessment Criteria	The integrated outcome requirement of this unit of competency is: (i) Capable to complete the task of drawing simple air-conditioning and refrigeration engineering drawings systematically and efficiently.
8. Remarks	(i) This unit of competency is applicable to practitioners engaged in general design, installation, testing, commissioning, operation, repair, maintenance and sales of air-conditioning and refrigeration equipment; and (ii) The credit value of this unit of competency is set on the presumption that the person already possesses elementary knowledge of engineering drawing.