DPEHV2608: Heating, Ventilation and Air Conditioning

MODULE DETAILS		**Heating Ventilation and Air Conditioning DPEHV2608** Nominal duration in hours: 48 This time commitment includes the structured activities, preparation reading, and attendance at each webinar, completing exercises, practical assessments, and proctored assessments. It is also expected that students spend additional time on readings, personal study, independent research, and learning, practicing on remote labs and required software and working on any projects and assignments. This module covers heating, cooling, and air conditioning (HVAC) fundamentals, psychrometric charts, design conditions, cooling load calculations, as well as HVAC system types, design, and operation.	
MODULE PURPOSE		This module enables the participants to develop introductory knowledge about the fundamental principles and attributes of heating, ventilation, and air conditioning (HVAC).	
MODIFICATION HISTORY		Rev 4.0	
PREREQUISITE MODULES		Pressure Vessels and Boilers DPEPV2607	
SUMMARY OF LEARNING OUTCOMES		1. Outline the fundamental principles and applications for HVAC and psychrometric charts 2. Determine constraints on HVAC design indicated by data from cooling load calculations 3. Outline attributes and standards for indoor air quality 4. Outline, in general terms, HVAC system types, design and operation	
LEARNING OUTCOMES		**ASSESSMENT CRITERIA**	
Learning outcomes specify what students will be able to do as a result of the learning.		Assessment criteria provide the criteria by which achievement of the learning outcomes will be judged.	
1	Outline the fundamental principles and applications for HVAC and psychrometric charts	1.1	Identify and explain basic concepts in HVAC
		1.2	Interpret and utilise a psychrometric chart
2	Determine constraints on HVAC design indicated by data from cooling load calculations	2.1	Outline general constraints on HVAC design for indoor and outdoor spaces
		2.2	Analyse HVAC system design implications of data derived from cooling load calculations
3.	Outline attributes and standards for indoor air quality	3.1	Explain key principles of central air conditioning systems
		3.2	Define Indoor Air Quality (IAQ) and determine applicable Standards
		3.3	Identify the effects of IAQ on occupants
		3.4	Outline basic assessment techniques for IAQ

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		3.5	Outline architectural, engineering, and interior design considerations for IAQ
4.	Outline, in general terms, HVAC system types, design and operation	4.1	Describe general types of HVAC systems
		4.2	Compare design and operation parameters for general types of HVAC systems
DELIVERY MODE		Online and/or face-to-face	
SPECIALISED RESOURCES		N/A	
ASSESSMENT STRATEGY		**METHODS OF ASSESSMENT** Assessors must gather a range of evidence that is valid, sufficient, current, and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, structured assessments, samples, and questioning. This will include short answer questions on the knowledge content, the use of remote and virtual labs, and writing tasks to apply the learning to academic tasks. **CONDITIONS OF ASSESSMENT** **Assessor Requirements:** Assessors must satisfy the assessor requirements in the standards for registered training organisations (RTOs) current at the time of assessment. Assessors must also hold a tertiary qualification in engineering or related field. The RTO must also ensure that assessors are able to demonstrate how they keep their industry knowledge up to date through ongoing professional development. The RTO must take appropriate steps, as an ongoing procedure, to verify information about each assessor's qualifications, vocational competencies, and current industry skills. **Assessment Conditions:** Questioning techniques should not require language, literacy, and numeracy skills beyond those required in this module. The candidate must have access to all tools, equipment, materials, and documentation required.	

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	The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals, and reference materials. Assessments may be open book assessment and may be completed off campus. Invigilation software will be used for some assessments to ensure authenticity of work completed. Model answers and marking guide must be provided for all knowledge-based assessments to ensure reliability of assessment judgements when marking is undertaken by different assessors.