DPEPV2607: Pressure Vessels and Boilers

MODULE DETAILS		**Pressure Vessels and Boilers DPEPV2607** 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 the types and attributes of pressure vessels, industrial boilers, steam generation, boiler safety, boiler control, combustion equipment, and combustion control.	
MODULE PURPOSE		The purpose of this module is for participants to develop knowledge of pressure vessel design and selection, steam generation fundamentals, and legal and safety requirements for boilers in general.	
MODIFICATION HISTORY		Rev 4.0	
PREREQUISITE MODULES		Pumps and Seals DPEPA2606	
SUMMARY OF LEARNING OUTCOMES		1. Outline types, attributes, and applications of pressure vessels 2. Outline principles of industrial boilers and steam generation 3. Describe requirements for boiler safety and control 4. Describe combustion equipment and control systems	
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 types, attributes, and applications of pressure vessels	1.1	Identify types of pressure vessel
		1.2	Identify and describe pressure vessel components
		1.3	Explain applications of pressure vessels
		1.4	Explain safety issues related to pressure vessels
		1.5	Outline national Standards and Regulations applicable to pressure vessels
2	Outline principles of industrial boilers and steam generation	2.1	Outline the fundamental principles of combustion and steam generation
		2.2	Explain boiler types and their components
		2.3	Describe inspection procedures for boilers

DPEPV2607: Pressure Vessels and Boilers

		2.4	Explain attributes of steam piping
3.	Describe requirements for boiler safety and control	3.1	Outline fundamental requirements for boiler safety
		3.2	Identify Standards and Regulations that apply to boiler safety
		3.3	Explain methods used for boiler control
4.	Describe combustion equipment and control systems	4.1	Explain the types and applications of combustion equipment
		4.2	Outline systems used for combustion control
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. 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.