

ADVANCED DIPLOMA OF PLANT ENGINEERING

MODULE DETAILS	<p>Module 4: Pressure Vessels and Boilers</p> <p>Nominal duration: 4 weeks (32 hours total time commitment)</p> <p>This time commitment includes the preparation reading, attendance at each webinar (1 hour plus 15-30 minutes for discussion), and the time necessary to complete the assignments and further study.</p>
MODULE PURPOSE	<p>To provide participants with a detailed overview of pressure vessel design and selection, steam generation fundamentals, and legal and safety requirements for boilers in general.</p>
PRE-REQUISITE MODULE(S)	<p>Module 3: Electrical Equipment and Technology</p>
ASSESSMENT STRATEGY / CONDITIONS OF ASSESSMENT	<p>To evaluate the achievement of the learning outcomes; written assignments, group projects and practical exercises are set. The Training and Assessment Matrix (TAM) documents the assessment criteria included in these assessments, based on the learning outcomes. The Training and Assessment Strategy (TAS) documents the overall training strategy for this Advanced Diploma course. The conditions of assessment are outlined in the Assessment Guidelines, TAM and TAS. Written assignments, group projects and practical exercises are required to meet assessment criteria outlined in the Assessment Guidelines, TAM and TAS.</p>
SUMMARY OF LEARNING OUTCOMES	<ol style="list-style-type: none"> 1. Examine and discuss the salient features of pressure vessels 2. Examine and discuss Industrial boilers and steam generation 3. Examine and discuss boiler safety and control 4. Describe combustion equipment and control systems
Learning Outcome 1	<p>Examine and discuss the salient features of pressure vessels</p>

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Assessment Criteria	1.1	Examine the design, identification and selection of pressure vessels
	1.2	Identify and describe pressure vessel components
	1.3	Discuss the application of pressure vessels
	1.4	Discuss safety issues related to pressure vessels
Learning Outcome 2	Examine and discuss Industrial boilers and steam generation	
Assessment Criteria	2.1	Describe the basics of combustion and steam generation
	2.2	Examine the different boiler types and their components
	2.3	Describe the inspection procedures for boilers
	2.4	Discuss the attributes of steam piping
Learning Outcome 3	Examine and discuss boiler safety and control	
Assessment Criteria	3.1	Examine the various aspects of boiler safety
	3.2	Describe the methods used for boiler control
Learning Outcome 4	Describe combustion equipment and control systems	
Assessment Criteria	4.1	Describe the designs, types and application of combustion equipment
	4.2	Examine the systems used for combustion control
Delivery mode		
A combination of asynchronous and synchronous e-learning delivery comprising a judicious mix of interactive online web conferencing, simulation (virtual labs) software, remote online labs, online videos, PowerPoint slides, notes, reading and study materials (in PDF, HTML and Word format) accessed through the Moodle Learning Management System (LMS).		