

ADVANCED DIPLOMA OF PLANT ENGINEERING

MODULE DETAILS	<p>MODULE 10: Process Plant Layout and Piping Design</p> <p>Nominal duration: 3 weeks (24 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>This module covers the fundamental principles and concepts used in process plant layout and piping design.</p>	
PRE-REQUISITE MODULE(S)	<p>Module 9: Thermodynamics, Compressors, Fans and Blowers.</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 the relationship between process plant layout and P&IDs 2. Interpret the documentation related to process equipment layout 3. Examine and discuss the documentation related to piping systems 	
Learning Outcome 1	<p>Examine the relationship between process plant layout and P&IDs</p>	
Assessment Criteria	1.1	Explain the composition of chemical plants in terms of layout and workflow

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	1.2	Interpret chemical processing methods in terms of their Process Flow Diagrams (PFDs)
	1.3	Interpret plant designs in terms of Process and Instrumentation Diagrams (P&IDs)
Learning Outcome 2	Interpret the documentation related to process equipment layout	
Assessment Criteria	2.1	Outline the equipment used in process plants with specific reference to: (a) Process equipment (b) Mechanical equipment (c) Equipment drawings (d) Equipment foundations and supports
	2.2	Examine the following plant and piping design documentation and tools (T10.2.2]: (a) Equipment arrangement drawings (b) Equipment lists (c) Isometrics (d) Bills of Material (BoM) (e) 3D models (f) Piping specifications and codes
	2.3	Generate and/or interpret plant layout and plot plans
Learning Outcome 3	Examine and discuss the documentation related to piping systems	
Assessment Criteria	3.1	Examine and discuss the fundamentals of pipe
	3.2	Describe piping system components
	3.3	Interpret 2D and 3D pipe routing plans
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		



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Management System (LMS).