

ADVANCED DIPLOMA OF PLANT ENGINEERING

MODULE DETAILS	<p>Module 12: Noise and Vibration</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 examines noise and vibration fundamentals, vibration analysis and equips participants with the knowledge required to diagnose failures in mechanical systems.</p>	
PRE-REQUISITE MODULE(S)	<p>Module 11: Heating, Ventilation and Air Conditioning</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 fundamentals of noise and vibration [T12.1] 2. Describe the techniques for vibration monitoring and analysis [T12.2] 3. Discuss the methods for troubleshooting mechanical system faults and diagnosing failures [T12.3] 	
Learning Outcome 1	<p>Examine and discuss the fundamentals of noise and vibration</p>	
Assessment Criteria	1.1	Examine and discuss the basics of acoustics

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	1.2	Discuss the basics of vibration
	1.3	Examine the fundamentals of human response to sound and vibration
	1.4	Discuss the essentials of noise and vibration control
Learning Outcome 2	Describe the techniques for vibration monitoring and analysis	
Assessment Criteria	2.1	Discuss vibration analysis as a predictive maintenance tool
	2.2	Describe fault detection and diagnosis using vibration analysis
	2.3	Outline vibration monitoring and analysis techniques
Learning Outcome 3	Discuss the methods for troubleshooting mechanical system faults and diagnosing failures	
Assessment Criteria	3.1	Describe typical problems affecting mechanical equipment
	3.2	Describe fault indicators
	3.3	Describe methods for diagnosing failures
	3.4	Outline mechanical troubleshooting techniques
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).		