DPEMM2616: Maintenance Management

MODULE DETAILS		**Maintenance Management DPEMM2616** Nominal duration in hours: 36 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 basics of maintenance, as well as maintenance planning, scheduling, practice, strategies, tools, and techniques.	
MODULE PURPOSE		The purpose of this module for the participants to develop a broad perspective of key maintenance management objectives and principles, and to assess maintenance effectiveness using key performance indicators and best practices.	
MODIFICATION HISTORY		Rev 4.0	
PREREQUISITE MODULES		Process Management DPEPM2615	
SUMMARY OF LEARNING OUTCOMES		1. Compare fundamental strategies and techniques of industrial plant maintenance 2. Outline the essential characteristics of maintenance planning, scheduling, and execution 3. Identify trends in the application of new technologies in maintenance practices	
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	Compare fundamental strategies and techniques of industrial plant maintenance	1.1	Outline general maintenance objectives and principles
		1.2	Compare attributes of reactive, preventive, and predictive maintenance
		1.3	Explain the relationship between maintenance management and operational efficiency
		1.4	Explain critical components of effective maintenance management systems (MMS)
2	Outline the essential characteristics of maintenance planning, scheduling, and execution	2.1	Identify goals and attributes of effective maintenance plans and schedules
		2.2	Identify and explain tools and software available for managing plant maintenance
		2.3	Explain the concept of reliability-centred maintenance
		2.4	Determine priorities for allocating labour, materials, and equipment for maintenance tasks

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3.	Identify trends in the application of new technologies in maintenance practices	3.1	Analyse plant maintenance regimes to identify applications for Artificial Intelligence (AI)
		3.2	Identify applications for the use of IoT to improve maintenance outcomes
		3.3	Explain the application of condition monitoring techniques in maintenance decision-making
		3.4	Describe sustainable practices and their impacts for maintenance management
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.	

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	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.