DPEFP2604: Fluid Power Systems and Components

MODULE DETAILS		**Fluid Power Systems and Components DPEFP2604** Nominal duration in hours: 84 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 fundamentals of fluid power systems, hydraulics (sources, applications, pumps, actuators, cylinders, valves), and pneumatics (sources, applications, actuators, valves, and auxiliary components).	
MODULE PURPOSE		The purpose of this module for participants to develop knowledge of the basic hydraulic and pneumatic system principles and techniques to design, install and troubleshoot such systems.	
MODIFICATION HISTORY		Rev 4.0	
PREREQUISITE MODULES		Mechanical Equipment and Technology DPEME2603	
SUMMARY OF LEARNING OUTCOMES		1. Outline the fundamentals of fluid power systems 2. Describe the components and applications of hydraulic systems 3. Describe the components and applications of pneumatic systems 4. Interpret basic hydraulic and pneumatic circuit schematics	
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 the fundamentals of fluid power systems.	1.1	Explain the advantages and applications of fluid power
		1.2	Explain types of hydraulic fluids and their properties
		1.3	Illustrate the principles and phenomena related to fluid power
2	Describe the components and application of hydraulic systems	2.1	Explain sources and applications of hydraulic power
		2.2	Describe pumps and actuators used in hydraulic systems
		2.3	Describe types and construction of hydraulic cylinders
		2.4	Describe hydraulic valve types and their respective symbols
		2.5	Explain the functions of auxiliary components used in hydraulic systems
3.	Describe the components and application of pneumatic systems	3.1	Explain the sources and applications of pneumatic power
		3.2	Describe linear and rotary pneumatic actuators
		3.3	Describe pneumatic valve types and their respective symbols
		3.4	Explain the functions of auxiliary components used in pneumatic systems
4.	Interpret basic hydraulic and pneumatic	4.1	Identify hydraulic and pneumatic circuit schematic symbols

DPEFP2604: Fluid Power Systems and Components

	circuit schematics	4.2	Explain the basic rules and principles of hydraulic circuit schematics
		4.3	Compare and interpret an equivalent schematic with actual basic physical hydraulic or pneumatic circuits
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.	

DPEFP2604: Fluid Power Systems and Components

	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.