List of Competencies for On-the-Job Training (OJT)
Work-Study Diploma in Mechanical Systems Engineering

S/N	List of Competencies (Standard)	Company to indicate '✓' for OJT competencies it can provide
1	Conduct inspection on equipment and system components	☐
2	Implement maintenance procedures	☐
3	Repair equipment and system components	☐
4	Generate 2D drawing	☐
5	Create 3D model	☐
6	Prepare technical data package	☐
7	Maintain optimal workplace conditions	☐
8	Implement risk management	☐
9	Coordinate maintenance work	☐
10	Monitor performance of equipment and system components	☐
11	Set-up mechanical equipment and system	☐
12	Perform testing and commission of mechanical equipment and system	☐
13	Install mechanical components	☐
14	Conduct testing on sensors and monitoring systems	☐
15	Troubleshoot faults, malfunctions and maintenance issues	☐
16	Perform rectification of analog systems	☐
17	Calibrate equipment and system components	☐
18	Conduct testing on robotics system	☐
19	Program robot positions	☐
20	Configure robotic system parameters	☐
21	Conduct testing on automation system	☐
22	Perform troubleshooting on embedded systems and components	☐
23	Support programming of automation system	☐
24	Maintain robotic and automation systems	☐
25	Implement quality control and assurance procedures	☐
26	Conduct compliance check/audit	☐
27	Implement continuous improvement activities	☐
28	Conduct risk assessment	☐

S/N	List of Competencies (Standard)	Company to indicate '✓' for OJT competencies it can provide
29	Implement risk management plan and controls	☐
30	Respond to emergency situations and crisis	☐
31	Develop maintenance plan and schedule	☐
32	Perform resource planning	☐
33	Manage team and vendor performance	☐
	Sub-total of Competencies (Standard)	0
List of Competencies (Company-specific)		
1		
2		
3		
4		
5		
6		
7		
8		
9		
	Sub-total of Competencies (Company-specific)	0

Note:

a) Company must be able to provide OJT for at least **75%** of the List of Competencies (Standard).

b) If company is unable to meet the 75%, please propose alternate **course-related** competencies which are unique to company operations. Alternate competencies are capped at 25%.
[i.e. 50% of the list of competencies (standard) + 25% alternate competencies (Company-specific)].

c) All alternate competencies (Company-specific) must be reviewed and endorsed by ITE.

d) Trainees must receive OJT and be assessed for **All** competencies selected in this List.

Total no. of competencies selected by company for OJT	0
Total no. of competencies listed *(standard & company specific)*	33
Percentage of selected competencies	0%

Completed By:

_____	_____
Name	**Company**

MODULE SYPNOSIS – WSDip in Mechanical System Engineering

Course Objective

This Work-Study Diploma course aims to equips trainees with the engineering skills, knowledge and professional attributes to install, maintain and troubleshoot mechanical equipment and smart systems, implement quality control and risk management procedures, and manage engineering activities to maximise resources and minimise equipment downtime, ensuring the optimal operating condition of the mechanical system.

Modules Synopsis

Mechanical Systems Maintenance
On completion of this module, trainees should be able to implement testing procedures and analyse results for follow-up measures, and implement repair and maintenance procedures to ensure the functionality and safe operation of equipment and systems.
Engineering Drawing
On completion of this module, trainees should be able to interpret engineering blueprints and equipment specifications, draw engineering components and generate 3D models. He/She should also be able to update engineering drawing, convert 3D model to 2D drawing using CAD software and prepare technical data package for fabrication.
Mechanical Systems in Operation
On completion of this module, trainees should be able to set up an optimal operating/workplace environment ensuring adherence to industry specific processes and procedures. He/She should also be able to implement a safety culture, monitor performance of equipment and system components, coordinate maintenance work and prepare technical reports for follow-up.
Mechanical Installation
On completion of this module, trainees should be able to apply the principles of equipment lifecycle to perform installation. He/She should also be able to perform testing and commissioning of mechanical equipment and systems in compliance with regulatory requirements and practices, and update technical documentation.
Instrumentation & Control
On completion of this module, trainees should be able to perform troubleshooting and root cause analyses on sensors and monitoring systems to identify potential malfunctions and provide solutions. He/She should also be able to perform rectification and calibration to ensure the continuous operations of analog equipment, components and systems.
Robotics Systems Engineering
On completion of this module, trainees should be able to diagnose faults and troubleshoot any abnormality detected on robotic and automation systems. He/She should also be able to support programming of automation system for optimal performance, and maintain the robotic and automation system for operation.
Smart Systems Engineering
On completion of this module, trainees should be able to diagnose faults and troubleshoot any abnormality detected on robotic and automation systems. He/She should also be able to support programming of automation system for optimal performance, and maintain the robotic and automation system for operation.
Quality & Project Management

MODULE SYPNOSIS – WSDip in Mechanical System Engineering

On completion of this module, trainees should be able to implement and monitor adherence to Quality Assurance/ Quality Control (QA/QC) procedures and Quality System Management (QSM) requirements. He/She should be able to carry out continuous improvement activities to optimise the quality and efficiency of system and maintenance workflows.
Risk Control & Management
On completion of this module, trainees should be able to conduct equipment and system risk and reliability analyses to mitigate risks. He/She should also be able to implement and communicate risk management plans and control measures to stakeholders, and support crisis response and recovery.
Engineering Resource Management
On completion of this module, trainees should be able to coordinate with internal and external stakeholders to plan and prioritise maintenance activities based on maintenance data analytics. He/She should also be able to perform resource planning to support asset lifecycle activities, as well as manage the maintenance team and vendors ensuring resourcing plans are adhered to meet operational targets.
Company Project
On completion of the module, trainees should have applied their acquired competencies in an authentic project that would value-add to the company.
On-the-Job Training
On completion of the module, trainees should be able to apply the skills and knowledge acquired at ITE College and workplace to take on the full job scope, including supervisory function, where appropriate, at the company.

TRAINING PATTERN SCHEDULE

WSDip in Mechanical System Engineering

Day Release - Trainees attend 1 to 2 days of lessons per week at ITE, with the remaining work-week spent at the workplace for On-the-Job Training.

April'26 Intake	April – June 2026	ITE Vacation (June) 4 weeks	July – September 2026	ITE Vacation (Sept) 2 weeks	October – December 2026	ITE Vacation (Dec) 4 weeks	January – March 2027	ITE Vacation (March) 2 weeks
1st Year Off-JT @ ITE	1 day/week (Friday)		1 day/week (Friday)		1 day/week (Friday)		1 day/week (Friday)	
April'26 Intake	**April – June 2027**	**ITE Vacation (June) 4 weeks**	**July – September 2027**	**ITE Vacation (Sept) 2 weeks**	**October – December 2027**	**ITE Vacation (Dec) 4 weeks**	**October – December 2028**	**ITE Vacation (March) 2 weeks**
2nd Year Off-JT @ ITE	1 day/week (Friday)		1 day/week (Friday)		1 day/week (Friday)		1 day/week (Friday)	
April'26 Intake	**April – June 2028**	**ITE Vacation (June) 4 weeks**	**July – September 2028**	**ITE Vacation (Sept) 2 weeks**				
3rd Year Off-JT @ ITE	1 day/week (Friday)		1 day/week (Friday)					

WSDip Programme 2026
Start: 1 April 2026
End: 30 September 2028
Duration: 2.5 years
⚠ Final results release may be later than programme end date