

**List of Competencies for On-the-Job Training (OJT)  
Work-Study Diploma in Land Transport Engineering (Vehicle)**

<b>S/N</b>	<b>List of Competencies (Standard)</b>	<b>Company to indicate '✓' for OJT competencies it can provide</b>
1	Conduct toolbox meeting	
2	Conduct workplace safety and health (WSH) checks	
3	Conduct diagnostic consultations	
4	Write technical report	
5	Liaise with OEM on technical matters	
6	Analyse material failure	
7	Perform non-destructive testing	
8	Produce 3D components	
9	Troubleshoot electrical circuits	
10	Inspect electrical circuits	
11	Inspect electrical components serviceability	
12	Install sensors and actuators	
13	Inspect sensors and actuators serviceability	
14	Troubleshoot sensor and actuator circuits	
15	Install motor and control system	
16	Troubleshoot motor control system	
17	Inspect motor serviceability	
18	Plan workshops operations	
19	Prepare maintenance schedule	
20	Prepare operational budget	
21	Establish maintenance and data requirements	
22	Perform data analysis	
23	Propose work improvements	
24	Install engine management system components	
25	Perform maintenance works on engine management system components	
26	Diagnose faults in engine management system	
27	Install vehicle chassis and driveline system components	
28	Perform maintenance works on vehicle chassis and driveline system components	

S/N	List of Competencies (Standard)	Company to indicate '✓' for OJT competencies it can provide
29	Diagnose faults in vehicle chassis and driveline systems	
30	Perform safe shutdown of high voltage system	
31	Diagnose high voltage vehicle system faults (include replacement of faulty components)	
32	Install accessory equipment on off-road vehicles	
33	Perform maintenance works on off-road vehicles	
34	Troubleshoot off-road vehicle faults	
	<b>Sub-total of Competencies (Standard)</b>	
<b>List of Competencies (Company-specific)</b>		
1		
2		
3		
4		
5		
6		
7		
8		
9		
	<b>Sub-total of Competencies (Company-specific)</b>	

**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

Total no. of competencies listed (*standard & company specific*)

Percentage of selected competencies

**Completed By:**

\_\_\_\_\_  
**Name**

\_\_\_\_\_  
**Company**

\_\_\_\_\_  
**Designation**

\_\_\_\_\_  
**Date**

For ITE's Completion			
<b>Reviewed by CED / College</b> <i>(For Company-specific Competencies)</i>		<b>Verified by IBT Officer</b>	
Name:			Name & Date:
Designation:		Date:	

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## WORK-STUDY DIPLOMA IN LAND TRANSPORT ENGINEERING (VEHICLE)

S/N	Module
1.	<p><b>Workplace Safety &amp; Health</b></p> <p>On completion of the module, trainees should be able to implement relevant workplace safety and health regulations and carry out risk assessment and inspection.</p>
2.	<p><b>Technical Communication</b></p> <p>On completion of the module, trainees should be able to effectively communicate and document technical specifications and requirements with stakeholders (both internal and external) in both verbal and written forms.</p>
3.	<p><b>Engineering Materials</b></p> <p>On completion of the module, trainees should be able to perform various non-destructive testing (NDT) methods to detect defects and carry out analysis on the NDT results.</p>
4.	<p><b>DC &amp; AC Circuits</b></p> <p>On completion of the module, trainees should be able to analyze, connect and troubleshoot DC and AC circuits.</p>
5.	<p><b>Sensors &amp; Actuators</b></p> <p>On completion of the module, trainees should be able to install and inspect sensors and actuators, as well as perform circuit troubleshooting.</p>
6.	<p><b>Electrical Machines</b></p> <p>On completion of the module, trainees should be able to install and maintain electrical motors and drive systems.</p>
7.	<p><b>Workshop Operations</b></p> <p>On completion of the module, trainees should be able to plan corrective, preventive and predictive maintenance activities that ensure equipment and systems are fully functional and in optimal operating condition.</p>
8.	<p><b>Data Analytics for Predictive Maintenance</b></p> <p>On completion of the module, trainees should be able to perform data cleaning, transformation and analysis for predictive maintenance.</p>
9.	<p><b>Engine Management System</b></p> <p>On completion of the module, trainees should be able to install, maintain &amp; diagnose engine management system faults.</p>
10.	<p><b>Chassis &amp; Driveline</b></p> <p>On completion of the module, trainees should be able to install, maintain &amp; diagnose transmission, driveline, power steering, suspension, brake and safety system faults.</p>
11.	<p><b>High Voltage Vehicles</b></p> <p>On completion of the module, trainees should be able to diagnose and rectify hybrid and full electric vehicle system faults.</p>

12.	<b>Off-Road Vehicles</b> On completion of the module, trainees should be able to maintain electro-hydraulics control systems of off-road vehicles.
13.	<b>Company Project</b> On completion of the module, trainees should have applied their acquired competencies in an authentic project that would value-add to the company.
14.	<b>On-the-Job Training</b> 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 (DAY RELEASE)\*

\*1 to 2 days / week – depending on course

**Example**  
(using 1 day Off-JT in a 44 hrs/5 day work week)

		10 weeks	4 weeks	10 weeks	2 weeks	10 weeks	4 weeks	10 weeks	2 weeks
1 <sup>st</sup> Year	ITE	1 day/week	June Term Break	1 day/week	Sept Term Break	1 day/week	Dec Term Break	1 day/week	March Term Break
	Company	4 days/week	44 hrs / wk @ Company	4 days/week	44 hrs / wk @ Company	4 days/week	44 hrs / wk @ Company	4 days/week	44 hrs / wk @ Company

2 <sup>nd</sup> Year	ITE	1 day/week	June Term Break	1 day/week	Sept Term Break	1 day/week	Dec Term Break	1 day/week	March Term Break
	Company	4 days/week	44 hrs / wk @ Company	4 days/week	44 hrs / wk @ Company	4 days/week	44 hrs / wk @ Company	4 days/week	44 hrs / wk @ Company

3 <sup>rd</sup> Year	ITE	1 day/week	June Term Break	1 day/week	Sept Term Break
	Company	4 days/week	44 hrs / wk @ Company	4 days/week	44 hrs / wk @ Company

**Legend:**



Company: On-the-Job Training (70-80%)



ITE College: Off-the-Job Training (20-30%)