

**List of Competencies for On-the-Job Training (OJT)
Work-Study Diploma in Vertical Transportation**

S/N	List of Competencies (Standard)	Company to indicate '✓' for OJT competencies it can provide
1	Implement safe work procedures	
2	Perform workplace safety and health inspection	
3	Eliminate unsafe work practices	
4	Maintain machine room equipment	
5	Maintain landing equipment	
6	Maintain lift car equipment	
7	Maintain hoistway equipment	
8	Maintain lift pit equipment	
9	Maintain lift safety equipment	
10	Maintain traction machine	
11	Maintain lift controller	
12	Maintain emergency devices	
13	Maintain lift car systems	
14	Maintain hall & hoistway systems	
15	Maintain lift pit systems	
16	Coordinate lift/escalator installation works	
17	Evaluate readiness of lift hoistway	
18	Supervise lift/escalator equipment installation works	
19	Plan lift/escalator maintenance schedule	
20	Manage work schedule, project timelines and site crew	
21	Facilitate mandatory inspection by relevant government authorities	
22	Check motor drives and micro-controller application	
23	Check printed circuit board (PCB) and electronics components	
24	Troubleshoot electronics faults	
25	Maintain escalator/moving walk systems	
26	Supervise inspection and testing of escalator/moving walk systems	
27	Evaluate compliance of escalator/moving walk systems	
28	Prepare documentation for lift inspection and testing	

S/N	List of Competencies (Standard)	Company to indicate '✓' for OJT competencies it can provide
29	Supervise inspection and testing of lift system	
30	Evaluate compliance of lift system	
31	Coordinate with relevant parties on lift/escalator incident	
32	Evaluate cause(s) of lift/escalator incident	
33	Prepare lift/escalator incident report	
34	Conduct lift traffic analysis	
35	Apply advanced lift/escalator technologies	
36	Troubleshoot serious lift/escalator fault	
	Sub-total of Competencies (Standard)	
List of Competencies (Company-specific)		
1		
2		
3		
4		
5		
6		
7		
8		
9		
	Sub-total of Competencies (Company-specific)	

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

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

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Percentage of selected competencies

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Completed By:

Name

Company

Designation

Date

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

Version: June'23

WORK-STUDY DIPLOMA IN VERTICAL TRANSPORTATION

MODULE OBJECTIVES

Core Modules

Lift Safety and Orientation

On completion of the module, trainees should be able to implement strategies and processes to ensure all works comply with requirements of the Workplace Safety and Health (WSH) Act, which would include environmental management, explosion protection, fire protection, chemical hazard management, material handling, Personal Protective Equipment (PPE), risk management and work at height.

Lift Mechanical System

On completion of the module, trainees should be able to perform repair and diagnostic of mechanical system in lift, including motors, braking gears, buffers, cables, lift controller, counterweight, doors, door mechanisms, drive sheaves, guide rails, landing equipment, lift car, overspeed governor, roping system, safety/arresting gear and traction machine.

Escalator Technology

On completion of the module, trainees should be able to interpret technical requirements and engineering drawings of escalator system, and perform basic maintenance in compliance with relevant specifications, regulations and codes of practice.

Lift Electrical System

On completion of the module, trainees should be able to perform repair and diagnostic of electrical system in lift, including motors, traction machine, electrical supply, power quality, electrical controls, safety gear, predictive failure for buffer, door safety devices, door mechanisms, emergency battery operated power supply, automatic rescue devices, transducers, overspeed governor and safety/arresting circuits.

Lift and Escalator Installation

On completion of the module, trainees should be able to interpret technical requirements and engineering drawings for new lift and escalator installation. They should also be able to supervise installation work according to contract requirements, and in compliance with relevant specifications, regulations and codes of practice.

Lift and Escalator Maintenance

On completion of the module, trainees should be able to interpret technical requirements and engineering drawings for lift and escalator maintenance. They should also be able to plan, schedule and supervise preventive and corrective maintenance works according to contract requirements, and in compliance with relevant specifications, regulations and codes of practice.

Lift Electronics and Controls

On completion of the module, trainees should be able to troubleshoot electronics and controls in lift, including field bus and equipment - lift controller, display indicators, communication and intercom, fire/BMS link interface and group control.

Lift and Escalator Inspection and Testing

On completion of the module, trainees should be able to schedule and conduct interim inspection prior to testing. They should also be able to prepare records for commissioning and supervise annual load test according to contract requirements, and in compliance with relevant specifications, regulations and codes of practice.

Incident Investigation and Technical Communication

On completion of the module, trainees should be able to communicate, liaise and coordinate with client and external agency/authority in the event of a lift incident. They should also be able to investigate and identify cause(s), and prepare lift incident report.

Lift Traffic Pattern Analysis

On completion of the module, trainees should be able to conduct lift traffic analysis, identify problem in lift control and operation, and recommend solution to improve lift operation and traffic pattern to client.

Application of Smart Technology

On completion of the module, trainees should be able to acquire and apply knowledge and skills in IT, virtual reality and augmented reality solution to improve productivity.

Advanced Lift and Escalator Technologies

On completion of the module, trainees should be able to apply fundamental knowledge of lift and escalator technology and their operations, including major lift and escalator systems/components, as well as relevant statutory regulations. In addition, trainees should be able to diagnose, troubleshoot serious lift fault with the aid of event log, schematic diagram and specialised instrument

Supervisory Skills & Project Management

On completion of the module, trainees should be able to interpret technical and maintenance requirements in contracts for lift and escalator, plan lift/escalator maintenance schedule according to contract requirements, and in compliance with relevant specifications, regulations and codes of practice. They should also be able to manage work schedule, project timelines and site crew including facilitate mandatory inspection by relevant government authorities.

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.

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Semester	Semester 1													Semester 2																																						
	2 Weeks		8 Weeks				4 Weeks		8 Weeks				2 Weeks		2 Weeks		10 Weeks					4 Weeks		8 Weeks				2 Weeks		2 Weeks																						
Year 1	Full time in ITE		1 day per week OffJT in ITE and 4 days per week OJT at Company				OJT at Company		1 day per week OffJT in ITE and 4 days per week OJT at Company				OJT at Company		1 day per week OffJT in ITE and 4 days per week OJT at Company					OJT at Company		1 day per week OffJT in ITE and 4 days per week OJT at Company				OJT at Company		OJT at Company																								
Semester	Semester 3													Semester 4																																						
	10 Weeks					4 Weeks		8 Weeks				2 Weeks		2 Weeks		10 Weeks					4 Weeks		8 Weeks				2 Weeks		2 Weeks																							
Year 2	1 day per week OffJT in ITE and 4 days per week OJT at Company					OJT at Company		1 day per week OffJT in ITE and 4 days per week OJT at Company				OJT at Company		1 day per week OffJT in ITE and 4 days per week OJT at Company					OJT at Company		1 day per week OffJT in ITE and 4 days per week OJT at Company				OJT at Company		OJT at Company																									
Semester	Semester 5																																																			
	10 Weeks					4 Weeks		8 Weeks				2 Weeks		2 Weeks																																						
Year 3	1 day per week OffJT in ITE and 4 days per week OJT at Company					OJT at Company		1 day per week OffJT in ITE and 4 days per week OJT at Company				OJT at Company																																								

Total required Off OJT hrs = 900 hrs
 Total required OJT hrs = 3100 hrs
 Grand Total Training hrs = 900 hrs + 3100 hrs = 4000 hrs

-  Full-time training in ITE
-  One day per week - day-release in ITE
-  On-the-Job training in company
-  - Examination week