

List of Competencies for On-the-Job Training (OJT)
Work-Study Diploma in Mechanical & Electrical Services Supervision

S/N	List of Competencies (Standard)	Company to indicate '✓' for OJT competencies it can provide
1	Verify stakeholders for projects	
2	Verify project specifications and construction requirements	
3	Verify M&E systems for projects	
4	Extract information from construction drawings	
5	Manage BIM for collaboration with stakeholders	
6	Extract building and trade information from BIM	
7	Monitor implementation of WSH at work site	
8	Prepare project correspondences	
9	Maintain project documentation	
10	Inspect underground pipes layout and inspection chamber	
11	Inspect above ground sanitary & plumbing pipes installation	
12	Inspect gas pipes installation	
13	Inspect electrical system	
14	Inspect extra-low voltage system	
15	Inspect building management system	
16	Inspect water/air cooled central chilled water distribution system	
17	Inspect air distribution systems	
18	Inspect ACMV Electrical Control Panels	
19	Inspect fire detection and alarm systems	
20	Inspect fire protection and fire suppression systems	
21	Inspect emergency voice communication systems	
22	Inspect lifts and escalators installation	
23	Plan work schedule and resources for project works	
24	Supervise M&E project works	
25	Supervise readiness of M&E systems for Registered Inspector, Integrated System Tests & TOP inspection	
	Sub-total of Competencies (Standard)	

S/N	List of Competencies (Standard)	Company to indicate '✓' for OJT competencies it can provide
List of Competencies (Company-specific)		
1		
2		
3		
4		
5		
6		
7		
	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

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

Percentage of selected competencies

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
Designation:		Date:	& Date:

WORK-STUDY DIPLOMA IN MECHANICAL & ELECTRICAL SERVICES SUPERVISION

Module Objectives

Building Technology

On completion of this module, trainees should be able to identify various stages of building development, main building elements, construction process and interfacing of building services with building elements during construction.

Workplace Safety and Health

On completion of this module, trainees should be able to ensure safe work procedures are put in place at the worksite, in accordance with Workplace Safety & Health (WSH) Act.

Technical Communication

On completion of this module, trainees should be able to apply both oral and written communication at work and in project documentation and presentation.

Engineering and Construction Drawings

On completion of this module, trainees should be able to interpret, amend, update and extract information from 2D M&E drawings. They should also be able to interpret construction drawings for M&E works.

Water, Sanitary and Gas Systems

On completion of this module, trainees should be able to inspect the installation of water supply, sanitary and gas systems in buildings including supervision of testing gas pipes and fittings.

M&E Services Documentation

On completion of this module, trainees should be able to prepare M&E services documentation and contract specifications. They should also be able to prepare and complete mandatory documents for the purpose of statutory submissions.

Electrical System

On completion of this module, trainees should be able to inspect electrical power distribution systems to ensure compliance with statutory requirements. They should also be able to inspect lightning protection and earthing systems.

Air-Conditioning and Mechanical Ventilation System

On completion of this module, trainees should be able to inspect and test Air-conditioning and Mechanical Ventilation (ACMV) systems to ensure compliance with contract specifications.

Fire Protection System

On completion of this module, trainees should be able to inspect and test active and passive fire protection systems. They should also be able to provide support in the commissioning of fire protection systems.

Intelligent Building and Extra Low Voltage Systems

On completion of this module, trainees should be able to inspect and test building automation system, including energy management system, general security system, broadband network and different types of control and sensors used in M&E automation systems.

Lift and Escalator Systems

On completion of this module, trainees should be able to inspect installation of escalators and lifts.

M&E Services Supervision and Management

On completion of this module, trainees should be able to plan, supervise and coordinate M&E services to meet contractual schedule and apply project management skills to monitor and manage progress of work at various stages of construction.

Building Information Modelling (BIM)

On completion of this module, trainees should be able to interpret, amend, update and extract information from Building Information Modelling (BIM) models for Mechanical, Electrical and Plumbing (MEP) systems.

On-the-Job Training I

On completion of the first year OJT, trainees should be able to apply relevant foundational skills and knowledge from their first year of study to carry out basic M&E services supervision and coordination at the worksite.

On-the-Job Training II

On completion of the second year OJT, trainees should be able to apply relevant skills and knowledge from their second year of study to carry out M&E services supervision and coordination independently at the worksite.

On-the-Job Training III

On completion of the third year OJT, trainees should be able to apply relevant skills and knowledge from their third year of study to carry out M&E services supervision and coordination independently at the worksite.

Training Pattern for WSDip in Mechanical & Electrical Services Supervision

Hybrid Release

- **1 weeks Block Release** for Off-the-Job training at college (Monday to Friday) followed by **Day Release (1 day per week in at ITE College East)** for the rest of the training duration.

** Off-JT day must be a paid working day, included in employment contract.*

Year	January to March	April to June	July to September	October to December
Year 1		1 week Off-the-Job Training (Mon to Fri) in college from course commencement in Apr. 1 day per week Off-the-Job training thereafter for the rest of the semester.	1 day per week off-the-Job Training for the entire semester	1 day per week off-the-Job Training for the entire semester
Year 2	1 day per week off-the-Job Training for all four (4) semesters			
Years	1 day per week off-the-Job Training for all three (3) semesters			