

List of Competencies for On-the-Job Training (OJT)**Work-Study Diploma in Electronics & Computer Engineering**

Note: LOC is subject to changes due to curriculum review/ development

S/N	List of Competencies (Standard)	Company to indicate '✓' for OJT competencies it can provide
	Common	
	Manage equipment maintenance and product operations	
1.	Monitor equipment operations and performance	
2.	Test electronic circuit for product operation	
3.	Manage equipment and product failures	
	Manage IoT network and connectivity	
4.	Deploy network infrastructure	
5.	Deploy IoT infrastructure	
6.	Monitor IoT data transmission	
	Perform data analysis and visualisation	
7.	Perform data processing	
8.	Perform data visualisation	
9.	Perform data analysis	
	A) Specialisation – Applied Electronics & AI	
	Manage system integration	
10.	Design integrated system	
11.	Implement integrated system	
12.	Maintain system performance	
	Manage IoT solutions	
13.	Deploy IoT solutions	
14.	Implement remote monitoring	
15.	Maintain IoT security and solutions	
	Manage automation process	
16.	Design automation process	
17.	Validate automation process	
18.	Optimise automation process	
	Deploy AI/ML solutions	
19.	Automate data processing	

S/N	List of Competencies (Standard)	Company to indicate '✓' for OJT competencies it can provide
20.	Evaluate AI/ML models	
21.	Deliver AI/ML solutions	
	Deploy autonomous system	
22.	Set up autonomous system	
23.	Program autonomous system	
24.	Integrate autonomous system	
	Sub – total of Competencies (Standard)	
List of Competencies (Company-specific)		
1		
2		
3		
4		
5		
6		
	Sub-total of Competencies (Company-specific)	

Note:

- Company must be able to provide OJT for at least **75%** of the List of Competencies (Standard).
- 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)].
- All alternate competencies (Company-specific) must be reviewed and endorsed by ITE.
- 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 & Date:
Designation:		Date:	

Version: Sept'23

WORK-STUDY DIPLOMA IN ELECTRONICS & COMPUTER ENGINEERING (APPLIED ELECTRONICS & AI)

MODULE OBJECTIVES

Core Modules

Module 1: Electronics & Electrical Principles

On completion of the module, trainees should be able to manage operations and performance for equipment and products. They should also be able to manage equipment and product failures by implementing Electrostatic Discharge (ESD) Control measures and evaluating performance metrics.

Module 2: IoT Devices & Networking

On completion of the module, trainees should be able to manage IoT network and connectivity by programming and deploying IoT devices, configuring IoT network connectivity and monitoring IoT data transmission for quality IoT data communication.

Module 3: Data Analysis & Visualisation

On completion of the module, trainees should be able to extract and transform data into useful information, as well as create visual elements, to aid in business decision-making. They should also be able to manage projects through collaboration and teamwork.

Module 4: Applied Electronics

On completion of the module, trainees should be able to install and troubleshoot various detection sensors, including video imaging, Lidar, ultrasonic as well as inertial measurement unit.

Module 5: IoT Connectivity & Integration

On completion of the module, trainees should be able to deploy and manage IoT solutions, as well as implement remote monitoring, and maintaining IoT security.

Module 6: Automation & Programming

On completion of the module, trainees should be able to manage automation process by designing, validating and optimising automation process.

Module 7: AI & Machine Learning

On completion of the module, trainees should be able to deploy and deliver AI/Machine Learning (ML) solutions by automating data processing and evaluating AI/ML models.

Module 8: Autonomous System Applications

On completion of the module, trainees should be able to set up, program and integrate autonomous robots for applications.

Module 9: 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.

Module 10: 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 for WSDip in Electronics & Computer Engineering (Applied Electronics & AI Specialisation)

- **Day Release (1-2 days per week at ITE College West)** for the entire 2.5 years course.
* *Off-JT day must be a paid working day, included in employment contract.*

TRAINING PATTERN

		10 weeks	4 weeks	10 weeks	2 weeks	10 weeks	4 weeks	10 weeks	2 weeks
1 st Year	ITE	1-2 days/week	June Term Break	1-2 days/week	Sept Term Break	1-2 days/week	Dec Term Break	1-2 days/week	March Term Break
	Company	3-4 days/week		3-4 days/week		3-4 days/week		3-4 days/week	
2 nd Year	ITE	1-2 days/week	June Term Break	1-2 days/week	Sept Term Break	1-2 days/week	Dec Term Break	1-2 days/week	March Term Break
	Company	3-4 days/week		3-4 days/week		3-4 days/week		3-4 days/week	
3 rd Year	ITE	1-2 days/week	June Term Break	1-2 days/week	Sept Term Break				
	Company	3-4 days/week		3-4 days/week					

FEEDER COURSES

ITE graduates from any one of the following courses + pass company screening & interview;

Nitec with GPA ≥ 2 :

- All courses from School of Electronics & Info-Comm Technology
- All courses from School of Engineering

Higher Nitec

- All courses from School of Electronics & Info-Comm Technology
- All courses from School of Engineering

OR

In-service employees+ with:

- Equivalent qualifications such as Workplace Literacy & Numeracy (WPLN) Level 5 and above
- Relevant work experience
- Strong employer endorsement

+In-service employee may be invited for an admission interview