

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

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)	0
List of Competencies (Company-specific)		
1		
2		
3		
4		
5		
6		
	Sub-total of Competencies (Company-specific)	0

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

0

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

24

Percentage of selected competencies

0%

Completed By:

Name

Company

MODULE SYNOPSIS – WSDip in Electronics & Computer Engineering (Applied Electronics & AI)

Course Objective

The course equips trainees with the skills, knowledge and professional attributes to design, deploy and manage AI-enabled and IoT-based systems with digital connectivity, to optimise operational efficiency and reliability in a digitalised work environment. This specialisation equips trainees with the skills, knowledge and professional attributes to integrate, deploy and manage electronic systems and connectivity, as well as apply AI solutions and automation, to achieve continuous process improvement in a digitalised work environment.

Modules Synopsis

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.

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.

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.

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.

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.

Automation & Programming

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

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.

Autonomous System Applications

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

MODULE SYNOPSIS – WSDip in Electronics & Computer Engineering (Applied Electronics & AI)

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.