List of Competencies for On-the-Job Training (OJT)
Work-Study Diploma in Microelectronics (Equipment)

Applicants applying for this course must be free from colour appreciation deficiency.
A score of 100% from the **Colour Blindness Test** is mandatory for course admission.

S/N	List of Competencies (Standard)	Company to indicate '✓' for OJT competencies it can provide
Perform semiconductor manufacturing protocol		
1	Execute safe work practices	
2	Execute risk control measures	
3	Execute good manufacturing practices	
Perform semiconductor manufacturing technology		
4	Execute semiconductor manufacturing processes	
5	Measure process parameter with metrology technique	
6	Optimise semiconductor manufacturing processes	
Conduct system maintenance		
7	Perform routine check on semiconductor system	
8	Maintain semiconductor equipment	
9	Perform functional test on semiconductor equipment	
Review quality improvement with Data Analytics		
10	Apply quality management tools for continuous process improvement	
11	Analyse manufacturing performance	
12	Recommend parameters for manufacturing enhancement	
Implement industrial automation system		
13	Perform operational test on industrial automation system	
14	Troubleshoot industrial automation system	
15	Recommend automation enhancement	
Implement IoT system		
16	Integrate devices in IoT system	
17	Perform operational checks on application program for IoT system	
18	Verify IoT system performance with test result	
Perform robotic control		
19	Implement operational test on robotic system	
20	Troubleshoot robotic system	

S/N	List of Competencies (Standard)	Company to indicate '✓' for OJT competencies it can provide
21	Implement preventive maintenance on robotic system	
Develop project management plan		
22	Conduct project planning	
23	Produce technical reports	
24	Conduct technical presentation	
	Sub-total of Competencies (Standard)	
List of Competencies (Company-specific)		
1		
2		
3		
4		
5		
6		
	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. <u>Alternate competencies are capped at 25%</u>.
[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**

MODULE SYPNOSIS – WSDip in Microelectronics (Equipment)

Course Objective

This course is designed to set you up for a successful career in the semiconductor manufacturing industry. You will learn important skills like equipment engineering, how to solve maintenance problems, and how to create plans that improve performance.

Modules Synopsis

Semiconductor Manufacturing Protocol

On completion of the module, trainees should be able to identify workplace hazard and apply proper usage of the personal protective equipment (PPE). They should also be able to execute good manufacturing practices.

Semiconductor Technology

On completion of the module, trainees should be able to perform semiconductor manufacturing process and apply metrology methodology for semiconductor manufacturing.

Data Analytics for Quality Improvement

On completion of the module, trainees should be able to apply data analytic skills for semiconductor manufacturing.

Computer Programming & IoT Integration

On completion of the module, trainees should be able to write application program to integrate IoT devices into system using programming concept and language.

Project Management & Technical Writing

On completion of the module, trainees should be able to plan, execute and monitor manufacturing process to meet project scope, schedule and cost requirements; as well as, write and present technical report, apply communication and supervision skills to build essential relationships at the workplace.

Company Project

On completion of this module, trainees should be able to plan, supervise and execute microelectronics equipment-related projects for manufacturing process improvement.

Equipment Maintenance

On completion of the module, trainees should be able to implement equipment maintenance operations to optimise performance

Industrial Automation

On completion of the module, trainees should be able to set up and maintain automation and sensor system.

Robotic Controls

On completion of the module, trainees should be able to apply the concepts of logic and sequential control in industrial automation.

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 SCHEDULE

WSDip in Microelectronics (Equipment)

Day Release - Trainees attend 1 to 2 days of lessons per week at ITE, with the remaining work-week spent at the workplace for On-the-Job Training.

April'26 Intake	April – June 2026		July – September 2026		October – December 2026		January – March 2027	
1st Year Off-JT @ ITE	2 days/week	ITE Vacation (June) 4 weeks	2 days/week	ITE Vacation (Sept) 2 weeks	2 days/week	ITE Vacation (Dec) 4 weeks	2 days/week	ITE Vacation (March) 2 weeks

April'26 Intake	April – June 2027		July – September 2027		October – December 2027		January – March 2028	
2nd Year Off-JT @ ITE	2 days/week	ITE Vacation (June) 4 weeks	2 days/week	ITE Vacation (Sept) 2 weeks	1 day/week	ITE Vacation (Dec) 4 weeks	1 day/week	ITE Vacation (March) 2 weeks

April'26 Intake	April – June 2028		July – September 2028		
3rd Year Off-JT @ ITE	2 days/week	ITE Vacation (June) 4 weeks	2 days/week	ITE Vacation (Sept) 2 weeks	**WSDip Programme 2026** **Start: 1 April 2026** **End: 30 September 2028** **Duration: 2.5 years** ⚠️ **Final results release may be later than programme end date**