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

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
1	Produce designed parts and assemblies using CAD software	☐
2	Evaluate product designs for ease of manufacturing/assembly	☐
3	Produce additive manufacturing prototype	☐
4	Determine manufacturing processes	☐
5	Produce injection moulded component	☐
6	Produce sheet metal component	☐
7	Produce machine-specific codes using CAM	☐
8	Produce CNC machined components	☐
9	Optimise manufacturing processes	☐
10	Conduct quality inspections	☐
11	Implement quality assurance practices	☐
12	Implement quality improvement	☐
13	Operate automation and IoT system	☐
14	Operate articulated robot	☐
15	Operate autonomous mobile robot	☐
16	Manage digital manufacturing system	☐
17	Conduct manufacturing data analytics	☐
18	Optimise system performance	☐
19	Conduct life cycle analysis	☐
20	Implement lean methodologies	☐
21	Execute sustainability initiatives	☐
22	Manage production plans and schedules	☐
23	Manage project plans and schedules	☐
24	Present production status and project outcomes	☐
	Sub-total of Competencies (Standard)	0
List of Competencies (Company-specific)		
1		
2		

S/N	List of Competencies (Standard)	Company to indicate '✓' for OJT competencies it can provide
3		
4		
5		
6		
	Sub-total of Competencies (Company-specific)	0

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	0
Total no. of competencies listed *(standard & company specific)*	24
Percentage of selected competencies	0%

Completed By:

_____ _____

Name **Company**

Version: Oct'25

MODULE SYNOPSIS – WSDip in Advanced Manufacturing

Course Objective

This course equips trainees with the skills, knowledge and professional attributes to support manufacturing operations. It focuses on designing and producing components using CAD and advanced technologies, while integrating quality assurance, lean principles, and sustainability to optimise process efficiency.

Modules Synopsis

Computer Aided Design & Additive Manufacturing

On completion of the module, trainees should be able to produce parts and assemblies using CAD, evaluate product designs for ease of manufacturing/assembly and produce additive manufacturing prototypes.

Manufacturing Technologies

On completion of the module, trainees should be able to determine manufacturing processes, produce injection moulded component and produce sheet metal component.

Advanced Machining

On completion of the module, trainees should be able to produce machine-specific codes using CAM, produce CNC machined components and optimise manufacturing processes.

Quality Assurance & Management

On completion of the module, trainees should be able to conduct quality inspections, implement quality assurance practices and implement quality improvement.

Automation & Robotic Systems

On completion of the module, trainees should be able to operate automation and IoT system, articulated robot and autonomous mobile robot.

Smart Manufacturing

On completion of the module, trainees should be able to manage digital manufacturing system, conduct manufacturing data analytics and optimise system performance.

Lean & Sustainable Manufacturing

On completion of the module, trainees should be able to conduct life cycle analysis, implement lean methodologies and execute sustainability initiatives.

Production & Project Management

MODULE SYNOPSIS – WSDip in Advanced Manufacturing

On completion of the module, trainees should be able to manage production plans and schedules, manage project plans and schedules and present production status and project outcomes.