

**List of Competencies for On-the-Job Training (OJT)
Work-Study Diploma in AI & Data Intelligence (Data Engineering Specialisation)**

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
Develop program codes		
1	Create program logic	
2	Write program codes	
3	Debug program	
Manage compliance to governance processes		
4	Analyse relevant data and AI governance principles	
5	Implement data guidelines and AI ethics principles	
6	Manage non-compliance incidents	
Perform data analysis and visualisation		
7	Perform data processing	
8	Perform data visualisation	
9	Perform data analysis	
Perform data preparation		
10	Inspect data quality	
11	Perform feature extraction	
12	Prepare Train-Test-Validate subsets	
Manage dataset		
13	Perform data collection	
14	Process collected data	
15	Validate processed data	
Manage database systems		
16	Analyse data requirements	
17	Design database models	
18	Optimise data migration	
Manage end-to-end data pipelines		
19	Design data consumption process	
20	Build data pipeline	
21	Monitor data pipeline	

S/N	List of Competencies (Standard)	Company to indicate '✓' for OJT competencies it can provide
Develop data solutions		
22	Design data solution	
23	Develop prototypes for data solution	
24	Optimise solution performance	
	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: June'23

WORK-STUDY DIPLOMA IN AI & DATA INTELLIGENCE (DATA ENGINEERING SPECIALISATION)

Programming for Data & AI

On completion of the module, trainees should be able to develop program codes by creating program logic, writing program codes and debugging program.

AI Governance

On completion of the module, trainees should be able to manage compliance to data and AI governance processes, as well as mitigate non-compliance incidents.

Advanced Data Insights

On completion of the module, trainees should be able to perform data processing, analysis and visualisation using data analytics tools.

Data Preparation & Feature Engineering

On completion of the module, trainees should be able to inspect data quality and perform feature extraction, as well as prepare train-test-validate subsets for model building.

Data Management & Analysis

On completion of the module, trainees should be able to manage dataset by collecting, processing and validating data to discover patterns and insights.

Database Essential

On completion of the module, trainees should be able to manage database systems by designing database models and optimising data migration.

Data Pipeline Management

On completion of the module, trainees should be able to manage end-to-end data pipelines by designing data consumption process, as well as building and monitoring data pipeline.

Data Solution Design & Development

On completion of the module, trainees should be able to address a problem statement through data solution development. They should also be able to design data solution, develop prototypes and optimise solution performance.

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.

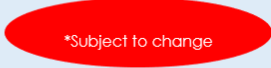
On-the-Job Training

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.

Training Pattern for WSDip in AI & Data Intelligence

Block Release

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

Year	Term 1 (APRIL)	OJT	Term 2	OJT
Year 1	6 weeks, 5 days/week at ITE CW	20 Weeks On Job Training	6 weeks, 5 days/week at ITE CW	13 Weeks On Job Training
	OJT	Term 3	OJT	Term 4
Year 2	26 Weeks On Job Training	6 weeks, 5 days/week at ITE CW	11 Weeks On Job Training	6 weeks, 5 days/week at ITE CW
	Term 5	OJT		
Year 3	2 weeks, 5 days/week at ITE CW	24 Weeks On Job Training		