

Course Structure and Synopsis of Proposed Modules for Work-Study Diploma in AI & Data Intelligence (Data Engineering Specialisation)

| S/N | Module | Hours |
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| 1 | <p>Programming for Data & AI</p> <p>On completion of the module, trainees should be able to develop program codes by creating program logic, writing program codes and debugging program.</p> | 100 |
| 2 | <p>AI Governance</p> <p>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.</p> | 100 |
| 3 | <p>Advanced Data Insights</p> <p>On completion of the module, trainees should be able to perform data processing, analysis and visualisation using data analytics tools.</p> | 100 |
| 4 | <p>Data Preparation & Feature Engineering</p> <p>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.</p> | 100 |
| 5 | <p>Data Management & Analysis</p> <p>On completion of the module, trainees should be able to manage dataset by collecting, processing and validating data to discover patterns and insights.</p> | 100 |
| 6 | <p>Database Essential</p> <p>On completion of the module, trainees should be able to manage database systems by designing database models and optimising data migration.</p> | 100 |
| 7 | <p>Data Pipeline Management</p> <p>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.</p> | 100 |
| 8 | <p>Data Solution Design & Development</p> <p>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.</p> | 100 |
| 9 | <p>Company Project</p> <p>On completion of the module, trainees should have applied their acquired competencies in an authentic project that would value-add to the company.</p> | 100 |
| 10 | <p>On-the-Job Training</p> <p>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.</p> | 3100 |