WORK-STUDY DIPLOMA IN AIRCRAFT ENGINE MAINTENANCE

MODULE OBJECTIVES

Module 1: Aircraft Engine Structure Maintenance
On completion of the module, trainees should be able to repair sheet metal structure and aircraft composite material components as well as performing tungsten inert gas (TIG) welding to repair component defects.

Module 2: Aircraft Engine Geometric Assessment
On completion of the module, trainees should be to able inspect aircraft engine components, perform chemical and mechanical cleaning on engine components, and perform measurements on aircraft engine components.

Module 3: Aircraft Engine Electrical System Maintenance
On completion of the module, trainees should be able to inspect aircraft engine electrical system, perform aircraft engine electrical system maintenance and prepare aircraft engine electrical components for OEM repair in accordance with statutory and organisational requirements.

Module 4: Non-Destructive Testing
On completion of the module, trainees should be able to perform various non-destructive testing (NDT) methods to detect defects in aircraft engine components.

Module 5: Aircraft Engine Plant Operations
On completion of the module, trainees should be able to handle aircraft engine received from customer, disassemble and assemble modules and parts of aircraft engine, and dispatch serviced aircraft engine to customer.

Module 6: Aircraft Engine Test Cell Operations
On completion of the module, trainees should be able to rig and de-rig aircraft engine for test-cell operations, interpret test results, as well as performing troubleshooting and rectification of aircraft engine test-cell operations.

Module 7: Aircraft Engine Component Repair Operations
On completion of the module, trainees should be able to perform machining, electroplating and hot processes such as heat treatment, fluorocarbon cleaning, vapour aluminising to repair engine parts.

Module 8: Aircraft Engine Maintenance & Automation
On completion of the module, trainees should be able to set up and perform automated systems for thermal spray, polishing and laser welding on engine parts.

Module 9: 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.

Module 10: 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.

OJT LIST OF COMPETENCIES

Course Title: Aircraft Engine Maintenance **Level:** Work-Study Diploma

List of Competencies (Standard)	
A: Maintain Aircraft Engine Structure	
1.	Repair aircraft sheet metal structure
2.	Perform tungsten inert gas (TIG) welding
3.	Repair aircraft composite material components
B: Perform Cleaning and Geometric Measurement on Aircraft Engine Components	
4.	Perform chemical and mechanical cleaning on engine components
5.	Inspect aircraft engine components
6.	Perform measurement on aircraft engine components
C: Maintain Aircraft Engine Electrical System and Components	
7.	Inspect aircraft engine electrical system
8.	Perform aircraft engine electrical system maintenance
9.	Prepare aircraft engine electrical components for OEM repair
D: Perform Non-Destructive Testing on Engine Parts	
10.	Perform dye-penetrant testing
11.	Perform eddy current testing
12.	Perform ultrasonic testing
13.	Perform radiographic testing*
E: Perform Aircraft Engine Plant Operation	
14.	Handle aircraft engine received from customer*
15.	Disassemble aircraft engine
16.	Assemble aircraft engine
17.	Dispatch aircraft engine to customer*
F: Perform Testing of Aircraft Engine	
18.	Rig aircraft engine for test-cell*
19.	Troubleshoot aircraft engine in test-cell*
20.	De-rig aircraft engine from test-cell*
G: Repair Aircraft Engine Components	
21.	Perform machining on engine parts
22.	Perform electroplating on engine parts*
23.	Perform hot processes on engine parts*
H: Perform Automated Thermal Spray and Polishing on Aircraft Engine Components	
24.	Set up automated system for thermal spray and polishing*
25.	Perform automated thermal spray on engine parts*
26.	Perform automated polishing on engine parts*
27.	Perform automated laser welding*