

COURSE STRUCTURE and SYNOPSIS of CORE MODULES for *WORK-STUDY DIPLOMA IN MICROELECTRONICS (PROCESS TRACK)*

S/N	Module	Hours
1	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.	100
2	Semiconductor Technology On completion of the module, trainees should be able to perform semiconductor manufacturing process and apply metrology methodology for semiconductor manufacturing.	100
3	Data Analytics for Quality Improvement On completion of the module, trainees should be able to apply data analytic skills for semiconductor manufacturing.	100
4	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.	100
5	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.	100
6	Company Project On completion of this module, trainees should be able to plan, supervise and execute microelectronics equipment-related projects for manufacturing process improvement.	100
7	Process Integration On completion of the module, trainees should be able to understand basic semiconductor process integration and analyze data to improve yield and performance.	100
8	Quality Engineering On completion of the module, trainees should be able to analyse defect density, perform capability analysis and monitor abnormal control charts trends in manufacturing process.	100
9	Process Automation On completion of the module, trainees should be able to apply robotic system and electro-mechanical control systems which includes common input/output devices, pneumatics, electro-pneumatics systems and PLC in process control system.	100

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.	3100
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