Work-Study Diploma in Chemical Process Technology

Course Objective

The course equips trainees with the skills, knowledge and professional attributes to execute and maintain safe and reliable plant/laboratory operations which includes performing unit and utility operations, basic maintenance work, process control system operations and biopharmaceutical operations, in accordance to Standard Operating Procedures (SOP). Trainees are also equipped to manage quality assurance and quality control processes to meet customers' requirement.

Module Synopsis

Module 1: Occupational Safety, Health & Environmental Management
On completion of this module, trainees should be able to maintain a safe and reliable workplace by managing compliance with Workplace Safety and Health (WSH) system and Environmental Management System/Environment, Health and Safety (EMS/EHS) guidelines as well as handle hazardous materials.

Module 2: Separation Unit Operations & Maintenance
On completion of the module, trainees should be able to perform process units and utilities operations, perform basic frontline maintenance as well as perform maintenance activities for process equipment and work areas.

Module 3: Material Energy Balance & Heat Transfer
On completion of the module, trainees should be able to perform material and energy transfer in process unit operations.

Module 4: Applied Physics & Chemistry in Process Plant
On completion of the module, trainees should be able to perform quality testing using physics and chemistry concepts.

Module 5: Biopharmaceutical Operations
On completion of the module, trainees should be able to implement materials management procedure, perform preparation and maintenance of production equipment and produce biopharmaceutical products.

Module 6: Quality Assurance & Quality Control Management
On completion of the module, trainees should be able to perform quality assurance for manufacturing/production processes and perform sampling for quality control.

Module 7: Reaction Unit Operations & Process Control Systems
On completion of the module, trainees should be able to perform start-up operations, perform monitoring and control operations and perform shutdown operations as well as operate a process control system.

Module 8: Applied Fluid Mechanics & Thermodynamics
On completion of the module, trainees should be able to perform analyses of process unit operations using fluid mechanics and thermodynamics principles.

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