

# Business and Advanced Technology Centre



## INTRODUCTION

Petroleum production facilities, refineries, chemical and petrochemical complexes are major processing plants in the oil and gas industry. Designing and operating these processing plants require not only experience but also comprehensive understanding of the various stages of plant lifecycle. Plant lifecycle begins from *feasibility study, engineering design, fabrication, construction, installation, commissioning, operation and maintenance*. Each stage of the plant lifecycle activities require knowledge and experience of the industry's stringent standard practice and codes.

*Executive Diploma in Plant Technology* is a study of the engineering knowledge and industry practice that are required at all stage of plant lifecycle. This program is designed to produce quality personnel to meet the industry requirements.

## WHO SHOULD ATTEND THIS PROGRAM?

- Plant operators and maintenance personnel
- Technical personnel who are involved in engineering design, fabrication, construction, installation, commissioning, or project management
- Diploma holder or higher in the same field

## OUTCOME OF PROGRAM

- Be able to gain employment in the other stages of plant life cycle
- Be able to execute and supervise engineering projects either in engineering design, fabrication or commissioning
- Be able to manage plant operation and maintenance effectively
- Pursue their career as designer in engineering consultants

## ENTRY REQUIREMENT

- Min. diploma in any engineering fields or
- Draftsman, fabricators supervisor, plant operator or plant technician with min 5 years experience in relevant discipline

## CLASSES

ONE weekend in a month class

## LOCATION

Kajang

## TUITION FEE STRUCTURE

Application Fee	RM	100
Registration Fee*	RM	3 000
Modules Fee	RM	13 900
Project Fee	RM	1 000
<b>Total</b>	<b>RM</b>	<b>18 000</b>

\*Deposit RM500 if payment via EPF or Loan

**OCTAGON**  
PETROLEUM TECHNOLOGY

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**BATC**  
Business & Advanced  
Technology Centre

# Executive Diploma in Plant Technology (Instrumentation & Control)

## WHY UTM EXECUTIVE DIPLOMA PROGRAMME

- **Prestigious University Diploma**—Executive Diploma awarded by UTM
- **Flexibility**—Modular based. Flexi time and location
- **Course Duration**— 13 months to 36 months
- **Experienced trainers and lecturers** — Combination of UTM lecturers, experienced professional, expatriates and specialist
- **No Exams**— No need of memorization
- **100% Assignment Based Assessment**—Course is assessed through Post Module Assessment and Project
- **Experienced Based Learning**— Experience as prerequisite
- **Comprehensive study materials**—lecture notes etc.
- **Executive Environment**—Executive lecture room with audio visual aid
- **Financial Assistance**—Study loans, bank loans and EPF withdrawal
- **New Academic Pathway**— Bachelor, Masters and EngD
- **Cost Saving** — No extra tuition fee for repeated module
- **Industry Specific Syllabus**—Focus on industry knowledge and practice.

## 12 MODULES

### CORE MODULES

- Petroleum Engineering
- Plant Layout Development and 3D Application
- Asset Management Integrity, HSE and Economics
- Project Planning, Management and Control
- Quality Management
- Information System Strategy

### TECHNICAL MODULES

- Instrumentation Material Control and Procurement
- Instrument Design Work Management
- Instrument Engineering Drawings
- Instrument Engineering Drawing and Modelling Work
- Instrument Control and Process Industry
- Instrument Fabrication, Installation and Commissioning

### Exec. Diploma in Plant Technology Area Specializations:

- (Piping & Plant Layout)
- (Process)
- (Electrical)
- (Mechanical)
- (Offshore Structure)
- (Instrumentation & Control)

## Executive Diploma in Plant Technology (Instrumentation & Control)



### SYLLABUS

Candidates must take six (6) core modules and six (6) technical modules and undertake a major project submitted in the form of a dissertation

#### 1.0 CORE MODULES

##### Module 1: Petroleum Engineering

This module is an introduction and orientation of the overall plant engineering activities focusing on the petroleum industry beginning from *exploration, appraisal, development, production, facilities operation and abandonment*. In addition to covering the different oil processing facilities, it also covers the different stages of project development beginning from engineering, fabrication, construction, installation, commissioning to operation and maintenance. The understanding of the overall picture of petroleum engineering activities is important to help technical personnel to play out their role in each stage of the plant lifecycle.

##### Module 2: Project Planning, Management and Control

Understanding of project planning, management and control is very crucial to ensure that; project is delivered on time, within budget and meeting the required quality. Competent project managers need to apply the principles of project planning, management and control and drive the project team to execute the project. The course is intended to provide the knowledge, understanding and the tools required for the successful and effective project planning, management and control.

##### Module 3: Quality Management

Quality is every employee's responsibility. Therefore, every person within an organization needs to understand and be able to apply basic quality concepts to their daily work activities and interactions, both internal and external. This module is designed to introduce the quality concepts and tools, the fundamental quality practices and principles to employees new to the quality and to refresh the skills of those with some previous background in quality. It is designed for organizations dedicated to improving and maintaining the highest level of quality excellence from the ground up. The course is effective for employee training, orientation programs or reinforcing common quality competencies throughout your organization. It also satisfies Section 6.2 resource management requirements for the new ISO 9001:2000 standard which covers *competence, awareness and training*.

##### Module 4: Plant Layout Development and 3D Application

This module introduces the students the sequence of Plant Layout Development and Optimization. It includes the general process involved in developing a plant layout. It also introduces the process of optimizing the plant space utilization required by all engineering disciplines.

##### Module 5: Asset Management Integrity, HSE and Economics

This module covers the study of economic justification before executing any activities relating to the different stages of the processing plant resource lifecycle. This module begins by describing the overall processing plant resource lifecycle. It also covers the description of work scopes of all the engineering disciplines. It also looks at the HSE requirements of a project and cost estimation of project. Finally, it reviews the preparation of production forecast, the cash flow of project; and project economic criteria and approval.

#### 2.0 ELECTIVE MODULES

Module : Information System Strategy

Module : Creativity and Innovation Strategy

Module : Business Strategic Management

Module : Financial Analysis and Control System

#### 3.0 TECHNICALS MODULES

##### Module 7: Instrumentation Material Control and Procurement

In this module, the students are trained how to prepare the bill of material or bulk MTO List (Material Take-off). The module will give them the exposure of the procurement standard practices stating from the preparing of the material specification, purchasing, expediting, inspecting and controlling material at site for instrument installation. Finally, the students are taught how to prepare the final material documentation requirement before the actual documents handover to client.

##### Module 8: Instrument Design Work Management

In this module the students are exposed to the different roles and responsibilities of the individual instrument design engineering team and their activities. Through a correct understanding of the team work flow, designers can have an effective project design control to ensure effective instrument design engineering execution as per contract work scope. This can be achieved through a process that includes clarifying the project scope of work, schedule, manpower planning and preparation of specifications as per project (client's) compliances.

##### Module 9: Instrument Basic Engineering Drawings

In this module the students are exposed to the various types of Instrument Basic Engineering Drawings and their main functions. The Instrument basic drawings or principle drawings shall function as main guidelines and reference tools to ensure that the student shall develop the correct instrument detailed design drawings as per project requirement. Proper understanding of these basic drawings shall enable the students to have a better control in developing further the more detailed design drawings such as Wiring Termination diagrams, MTO Summary List, cable schedules, junction box schedules, installation details...etc.

##### Module 10: Instrument Engineering Drawing and Modelling Work

In this module the student are exposed to the process of managing instrument engineering drawing and modelling. It will cover managing instrument engineering drawings and 3D modelling production as per project requirement. The instrument engineering drawing will be the main reference for fabricator to install, erect and commission the instrument and control system of plant

##### Module 11: Instrument Control and Process Industry

In this module the students are exposed to the various type of instrumentation for process industry. It will cover selection of instrument and method of control as per project requirements.

##### Module 12: Instrumentation Fabrication, Installation and Commissioning

This module covers the process of installation of the different type of instruments to build a complete of Instrumentation and control system. Fabrication of instrument is to fabricate instruments by sequence activities by qualified field personnel. This module also introduces the fabrication drawings, supervision and commissioning to ensure the integrity of the system. A designer should know this because to ensure the fabrication and installation as per client design practice and Instrument Installation standard.

**For Registration and Enquiries. APPLY NOW**

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