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IACPE No 19, Jalan Bilal Mahmood 80100 Johor Bahru Malaysia	Typical Modules Track for Chemical Engineering CPE	

Chemical Engineering CPE Typical Modules

Required Modules for all CPE Level I

1. Fundamentals of Solid and Fluid Mechanics
2. Fundamentals of Thermodynamics Heat and Mass Transfer
3. Fundamentals of Engineering Materials and their Strength
4. Fundamentals of Physics and Electromagnetism
5. Fundamentals of Inherently Safer Equipment Design
6. Professional Engineering Ethics Part I

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Chemical Engineering Level II

Study and understand the three (3) required and four (4) of the other chosen Engineering Training Modules


Three Required Modules

1. Piping Fluid Flow Hydraulics Line Sizing and Material Selection
2. Project Management
3. Statistical Process Control

Four Modules of Your Choice

1. Pump Hydraulics Line Sizing and Selection (Recommended Selection)
2. Piping Fluid Flow Measurement Sizing and Material Selection (Recommended Selection)
3. Piping Safety Relief Valve Sizing and Material Selection (Recommended Selection)
4. Instrumentation Control Valve Sizing and Material Selection (Recommended Selection)

Special Project based on your selection of modules

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Chemical Engineering Level III

Study and understand the three (3) required and four (4) of the other chosen Engineering Training Modules

Three Required Modules

1. Production Control Engineering
2. Professional Engineering Ethics Part II
3. Professional Reports and Presentations

Four Modules of Your Choice

1. Distillation Column Sizing and Selection (Recommended Selection)
2. Separator Vessels Sizing and Selection (Recommended Selection)
3. Process Control Systems Sizing and Selection (Recommended Selection)
4. Reactor Systems Sizing and Selection (Recommended Selection)

One Hour Oral Exam by Board Members (Four 15 minute Sessions)

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Engineering Training Modules Choices

Introduction to Chemical Engineering

Introduction to Civil Engineering

Introduction to Mechanical Engineering

Introduction to Information Technology

Introduction to Electrical Engineering

Introduction to Environmental Management

Supply Chain Management

Human Factors and Ergonomics Engineering

Facility Management


Waste Water Treatment Theory and Application

Solid Waste Management Theory and Application

Water Supply and Treatment Theory and Application

Environmental Impact Assessment and Mitigation theory and application

Air Pollution Management theory and application

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Tribology Theory and Application

HVAC Theory and Application

Piping Fluid Flow Measurement Sizing and Material Selection

General Instrumentation Sizing and Material Selection

Instrumentation Control Valve Sizing and Material Selection

Pump Hydraulics Line Sizing and Selection

Heat Exchanger Sizing and Selection

Compressor Sizing and Selection

Distillation Column Sizing and Selection

Corrosion Theory and Control

Separator Vessels Sizing and Selection

Boilers Sizing and Selection


Furnace Sizing and Selection

Flare System Sizing and Selection

Storage Tank Systems Sizing and Selection

Reactor Systems Sizing and Selection

Cooling Tower Systems Sizing and Selection

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Gas Drying Systems Sizing and Selection

Gas Sweetening Systems Sizing and Selection

Refrigeration Systems Sizing and Selection

Geotechnical Theory and Application

Hydrology Theory and Application

Piping Safety Relief Valve Sizing and Material Selection

Teaching the proper way to size and install a Safety Relief Valve.

Electrical Theory and Application

Electrical Circuits and Application

Electrical Power Supply and Regulation

Process Control Systems Sizing and Selection

Safety in Over-Pressure Relieving Systems


Separator Vessels Sizing and Selection

Bio molecular Engineering

Metallurgical Theory and Applications

Machine Design Theory and Applications

Site Surveys, soil investigation and layout

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Foundations, concreting and reinforcement

Civil Structural Design and Mechanics

Transportation Engineering Planning and Design

Air Pollution Management theory and application

Environmental Impact Assessment and Mitigation theory and application

Water Supply and Treatment Theory and Application