MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

FUNDAMENTALS OF CHEMICAL ENGINEERING

"Building Core Competencies in Chemical Engineering Principles and Applications"

Schedule

Date	Venue	Fees (Online)
07 – 08 Sep 2026	Online	USD 700 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

Chemical engineering is the foundation for designing, operating, and optimizing chemical processes in industries such as oil and gas, pharmaceuticals, petrochemicals, and manufacturing. This 2-day online course provides participants with a solid understanding of core chemical engineering concepts, including process calculations, thermodynamics, fluid flow, and material balances.

Through interactive sessions, real-world examples, and practical exercises, participants will develop essential skills for analyzing, designing, and managing chemical processes efficiently. By the end of the program, attendees will be equipped to apply fundamental principles to practical engineering problems and improve operational performance.

Objectives

By the end of this course, participants will be able to:

- Understand fundamental concepts of chemical engineering, including mass and energy balances.
- Apply principles of thermodynamics, fluid mechanics, and heat transfer in process analysis.
- Analyze and solve basic chemical engineering problems.
- Interpret process flow diagrams and understand unit operations.
- Enhance their practical knowledge for industrial applications and process optimization.

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Why Attend

- Gain a solid foundation in chemical engineering principles.
- Improve problem-solving skills related to industrial processes.
- Learn to interpret and analyze process calculations and diagrams.
- Enhance career readiness for roles in chemical, petrochemical, and process industries.
- Network with peers and share knowledge on engineering best practices.

Target Audience

This program is designed for:

- Junior chemical engineers and process engineers
- Engineering graduates entering process industries
- Technical professionals in oil, gas, and chemical sectors
- HSE, maintenance, and operations staff requiring chemical process knowledge
- Professionals seeking to strengthen fundamental chemical engineering competencies

Individual Benefits

Key competencies that will be developed include:

- Mastery of chemical engineering fundamentals and calculations.
- Ability to perform mass and energy balances in process systems.
- Skills to analyze thermodynamics, fluid flow, and heat transfer.
- Capability to understand and interpret process diagrams and operations.
- Improved problem-solving and analytical thinking in chemical processes.

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Enhanced operational efficiency and process understanding.
- Improved accuracy in process calculations and design support.
- Greater capability to troubleshoot and optimize chemical processes.
- Stronger alignment of technical knowledge with industrial practices.
- Increased readiness to support engineering projects and initiatives.

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Overview of chemical engineering principles and unit operations
- Case Studies – Real-world process engineering problems and solutions
- Workshops – Hands-on exercises in calculations, process analysis, and optimization
- Peer Exchange – Group discussions on challenges and practical applications
- Tools – Templates and problem-solving techniques for process calculations and design

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Course Outline

Detailed 2-Day Course Outline

Training Hours: 7:30 AM – 3:30 PM Daily Format: 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Break: 01:00 – 02:00

Day 1: Introduction and Core Concepts

- Module 1: Overview of Chemical Engineering Principles (07:30 – 09:30)
- Module 2: Material Balances and Process Calculations (09:45 – 11:15)
- Module 3: Thermodynamics and Fluid Mechanics Basics (11:30 – 01:00)
- Module 4: Workshop: Process Calculations Exercise (02:00 – 03:30)

Day 2: Unit Operations and Practical Applications

- Module 1: Heat Transfer and Mass Transfer Fundamentals (07:30 – 09:30)
- Module 2: Introduction to Unit Operations (09:45 – 11:15)
- Module 3: Process Flow Diagrams and Industrial Applications (11:30 – 01:00)
- Module 4: Workshop: Problem Solving and Case Study Analysis (02:00 – 03:30)

Certification

Participants will receive a Certificate of Completion in Fundamentals of Chemical Engineering, validating their expertise in chemical engineering principles, process calculations, and industrial applications.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

In-House / Customized Training Interested in running this course for your team? Please contact us:	TEL: **+601116373203**	EMAIL: **info@mawaevents.net**