MAWA EVENTS

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

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FLUID FLOW AND HEAT TRANSFER IN INDUSTRIAL APPLICATIONS

"Master the Science of Flow and Heat for Efficient and Reliable Industrial Operations."

Schedule

Venue (In-house)	Fees
At Your Organization Premises	Ask For The Quotation

► **Available delivery methods:** In-House Training

Introduction

Fluid flow and heat transfer play a vital role in the design, operation, and optimization of industrial systems such as power plants, refineries, chemical processing units, HVAC systems, and manufacturing facilities. Understanding the underlying principles and real-world applications ensures energy efficiency, operational reliability, and cost savings.

The Fluid Flow and Heat Transfer in Industrial Applications course provides a deep understanding of flow behavior, pressure losses, heat exchange mechanisms, and system design. It blends theoretical fundamentals with practical industrial applications to enable engineers and technical professionals to analyze, optimize, and troubleshoot process systems effectively.

Objectives

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

- Understand the fundamental principles of fluid flow and heat transfer.
- Analyze flow regimes, pressure drops, and flow distribution in piping systems.
- Evaluate heat transfer processes including conduction, convection, and radiation.
- Design and optimize heat exchangers and cooling/heating systems.
- Identify causes of flow inefficiencies and heat transfer losses.
- Apply computational and analytical tools for system performance analysis.
- Implement best practices for energy-efficient and reliable operations.
- Troubleshoot flow and thermal issues in industrial systems.

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Why Attend

Efficient fluid and heat management is crucial for ensuring productivity, safety, and energy efficiency in industrial operations. This training equips participants with the analytical and problem-solving skills to identify inefficiencies, design optimized systems, and reduce operational costs. Whether involved in design, maintenance, or process optimization, attendees will gain practical insights to enhance system reliability and performance.

Target Audience

This course is suitable for:

- Mechanical, Process, and Chemical Engineers
- Plant and Maintenance Engineers
- Energy Managers and System Designers
- HVAC Engineers and Technicians
- Oil & Gas, Power, and Manufacturing Professionals
- Project and Operations Managers
- Anyone involved in fluid transport, thermal systems, or industrial operations

Individual Benefits

- Strengthen understanding of fluid dynamics and heat transfer principles.
- Gain hands-on knowledge of industrial equipment and design standards.
- Improve ability to identify and resolve process inefficiencies.
- Enhance career potential in process design and plant optimization.
- Apply practical tools to improve plant safety and energy efficiency.

Organizational Benefits

- Optimize thermal and fluid systems for maximum performance.
- Reduce operational costs and improve energy efficiency.
- Minimize unplanned shutdowns and maintenance issues.
- Enhance overall system safety and reliability.
- Build internal technical capacity for system analysis and improvement.

Instructional Methodology

The training uses an interactive, applied-learning approach that includes:

- Conceptual lectures with real-world industrial examples
- Hands-on exercises and calculations
- Group case studies and problem-solving workshops
- Simulation-based learning for flow and heat analysis
- Q&A and guided discussion sessions

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Course Outline

Module 1: Fundamentals of Fluid Flow and Heat Transfer

Module 2: Fluid Properties, Flow Regimes, and Pressure Losses

Module 3: Flow Measurement and Control Devices

Module 4: Piping System Design and Network Analysis

Module 5: Heat Transfer Mechanisms – Conduction, Convection, Radiation

Module 6: Heat Exchangers – Design, Types, and Performance Evaluation

Module 7: Cooling and Heating Systems in Industry

Module 8: Computational Methods for Flow and Heat Transfer Analysis

Module 9: Troubleshooting Flow and Thermal Performance Issues

Module 10: Energy Efficiency and Best Practices in Industrial Systems

Certification

Upon successful completion, participants will receive a Certificate of Completion in Fluid Flow and Heat Transfer in Industrial Applications, recognizing their knowledge and practical expertise in managing and optimizing flow and thermal systems across industrial environments.

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**