**MAWA EVENTS**

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

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# DELAYED COKER UNIT (DCU)

*""Enhancing Safety, Efficiency, and Yield in Delayed Coking Operations""*

## Schedule

| Date | Venue | Fees (Face-to-Face) |
|---|---|---|
| 25 – 26 Nov 2026 | Dubai, UAE | USD 1995 per delegate |
| 02 – 03 Dec 2026 | Doha, Qatar | USD 1995 per delegate |

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

## Introduction

The Delayed Coker Unit (DCU) plays a critical role in converting heavy residues from the bottom of the barrel into lighter, more valuable products such as gas oils and petroleum coke. As a high-temperature, high-pressure, and high-risk operation, DCU performance has a direct impact on refinery economics, energy efficiency, and plant safety.

This intensive 2-day course provides engineers, operators, and technical managers with the essential knowledge to understand, operate, troubleshoot, and optimize delayed coking processes. Emphasis is placed on safety management, feed handling, drum switching, and coke cutting operations, along with troubleshooting techniques and environmental considerations.

## Objectives

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

- Understand the role of the DCU in the refinery upgrading process
- Describe DCU configuration, operating conditions, and process flow
- Manage coking cycles, drum switching, and coke removal procedures
- Identify and troubleshoot common operational and safety issues
- Optimize yields, energy use, and reliability while ensuring regulatory compliance

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## Why Attend

- Build technical understanding of delayed coking processes and equipment
- Reduce safety risks and environmental incidents during coking operations
- Enhance yield and energy performance through cycle optimization
- Improve team coordination during drum switching and decoking procedures
- Gain practical troubleshooting insights from real-world case studies

## Target Audience

This program is designed for:

- Process Engineers and Unit Operators in Refining
- Operations and Shift Supervisors
- Mechanical, Instrumentation, and Maintenance Engineers
- Production Planners and Process Technologists
- Health, Safety, and Environmental (HSE) Specialists

## Individual Benefits

Key competencies that will be developed include:

- Detailed understanding of delayed coking thermodynamics and reactions
- Operation of heaters, fractionator, and coke drums
- Monitoring and control of coking cycles and equipment health
- Troubleshooting of coke buildup, overpressure, and mechanical issues
- Improved decision-making during abnormal operations and upsets

## Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved safety and efficiency of DCU operations
- Reduced unplanned shutdowns and equipment failures
- Better yield of valuable products and coke quality
- Enhanced operational readiness and incident response capability
- Compliance with environmental and process safety regulations

## Instructional Methodology

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

- Strategy Briefings – DCU process design, coke formation, and operation best practices
- Case Studies – Plant incidents, troubleshooting, and optimization examples
- Workshops – Operating scenarios, coke drum planning, and safety assessments
- Peer Exchange – Cross-functional discussion of refinery integration challenges
- Tools – Drum switch logs, process monitoring checklists, startup/shutdown SOPs

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## Course Outline

DETAILED 2-DAY COURSE OUTLINE

**Training Hours:** 07:30 AM – 03:30 PM **Daily Format:** 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

**Day 1: Fundamentals of Delayed Coking and Operations**

- Module 1: Overview of DCU Process and Role in Refinery (07:30 – 09:30) • Coking fundamentals, feedstock characteristics, and product yields • DCU flow scheme and integration with downstream units
- Module 2: Major Equipment and Operation Cycle (09:45 – 11:15) • Coke drums, furnace, fractionator, gas recovery, and blowdown systems
- Module 3: Coking Reactions and Coke Drum Operation (11:30 – 01:00) • Thermal cracking mechanisms, drum filling, pressure control
- Module 4: Workshop – Process Flow Review and Cycle Mapping (02:00 – 03:30) • Mapping a coking cycle and identifying risk points

**Day 2: Safety, Troubleshooting and Optimization**

- Module 5: Drum Switching, Decoking and Safety Procedures (07:30 – 09:30) • Decoking steps, hydraulic cutting, steam purge, interlocks
- Module 6: Common Issues and Troubleshooting Techniques (09:45 – 11:15) • Overpressure, temperature excursions, coke buildup, and blockages
- Module 7: Environmental and Energy Optimization (11:30 – 01:00) • Flare minimization, emissions control, energy recovery strategies
- Module 8: Workshop – Troubleshooting Scenario Simulation (02:00 – 03:30) • Group response to an abnormal DCU event and corrective actions

## Certification

Participants will receive a Certificate of Completion in Delayed Coker Unit (DCU) Operations, validating their ability to operate, monitor, and troubleshoot DCUs safely and effectively within a refinery setting.

## 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**<br>Interested in running this course for your team?<br>Please contact us: | TEL:<br>**+601116373203** | EMAIL:<br>**info@mawaevents.net** |
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