



Mechanical Engineering

# Process Plant Start-up and Commissioning

## Course Introduction

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Embarking on the start-up and commissioning of new plant and equipment constitutes a significant technical and managerial undertaking. With this understanding, the Process Plant Start-up and Commissioning training course grapples with the technical intricacies of commissioning and initiating various equipment and asset types commonly encountered within processing plant environments, while also delving into process and facility-wide commissioning strategies and pertinent management concerns.

This training course offers a holistic approach to understanding and executing the pivotal activities necessary for the secure, efficient, and timely commissioning and start-up of a fresh plant or facility. Throughout the program, participants will be exposed to vital insights regarding the six fundamental stages characterizing the commissioning process, along with techniques for effectively managing the delicate balance between technical and managerial challenges inherent in the commissioning phase. Moreover, the course will delve into equipping attendees with the necessary skills to handle machinery and equipment-specific commissioning issues, while also providing tools for effectively managing risks and troubleshooting the various problems likely to arise during the commissioning process.

## Target Audience

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1. Commissioning & Start-up Engineers – Overseeing safe and efficient plant initiation.
2. Mechanical & Process Engineers – Ensuring system integrity and performance.
3. Maintenance & Reliability Engineers – Preparing for long-term equipment operation.
4. Project & Plant Managers – Managing schedules, risks, and resource allocation.

# Learning Objectives

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- Identify the six key stages of the commissioning process.
- Create an overall commissioning and plant start-up strategy.
- Address machinery and equipment specific commissioning issues.
- Handle issues related to the commissioning of Electrical, Instrumentation, and Utilities Systems.
- Formulate an overall commissioning management plan, resource plan, and budget.
- Implement troubleshooting and problem-solving strategies for common start-up and commissioning issues.
- Mitigate risks associated with commissioning.

## Course Outline

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### • 01 DAY ONE

#### Introduction and Preparation for Start Up and Commissioning

- Introduction to Process Plant Start Up and Commissioning
- Organisation, Roles and Leadership
- Support Functions
- Cost Estimation
- Spare Parts Planning

### • 02 DAY TWO

#### Commissioning Strategy and Process

- Commissioning Strategy
- Commissioning Strategy Case Study
- Mechanical Completion & Integrity Checking
- Pre-commissioning and Operational Testing
- Start-up / Initial Operation, Testing and Acceptance

### • 03 DAY THREE

## Process Plant and Machinery Specific Issues

- Process Plant and Machinery Commissioning
- Instrumentation and Control Systems
- Preparing and Isolating Process Plant

### • 04 DAY FOUR

#### Project Managing Start-Up / Commissioning Projects

- Work Breakdown Structures
- The Critical Path Method of Planning and Control
- Short-Cut Planning Methods
- Budgeting, Progress and Cost Control
- Earned Value Analysis

### • 05 DAY FIVE

#### Problem Solving, Risk and Safety Management

- Introduction to Problem Solving and Troubleshooting
- Troubleshooting in Commissioning and Start Up Situations
- Safety and Environment Management
- Managing Risk
- Conclusion

## Confirmed Sessions

| FROM           | TO             | DURATION | FEES       | LOCATION        |
|----------------|----------------|----------|------------|-----------------|
| July 14, 2025  | July 18, 2025  | 5 days   | 4250.00 \$ | UAE - Abu Dhabi |
| Sept. 8, 2025  | Sept. 12, 2025 | 5 days   | 4250.00 \$ | UAE - Dubai     |
| Sept. 29, 2025 | Oct. 3, 2025   | 5 days   | 4250.00 \$ | UAE - Dubai     |

