

Course No. 1706

EPC Project Management & Execution Training Course

ENGINEERING MANAGEMENT
INDUSTRIAL ENGINEERING, MAINTENANCE & OPERATIONS

DURATION

5 Days

DELIVERY

Classroom



Course Overview

The EPC Project Management & Execution Training Course provides a comprehensive and practical framework for managing and executing Engineering, Procurement, and Construction (EPC) projects from initial planning through completion, commissioning, and handover. The course focuses on integrating technical, commercial, contractual, procurement, construction, cost, schedule, quality, and risk management requirements throughout the project lifecycle.

EPC projects involve multiple disciplines, contractors, suppliers, stakeholders, interfaces, and contractual obligations. Effective execution therefore requires strong project governance, clear responsibilities, disciplined planning, effective coordination, and continuous monitoring of cost, schedule, quality, safety, and technical performance.

The program covers the complete EPC project lifecycle, including project initiation, execution strategy, engineering management, procurement planning, construction management, project controls, contract administration, risk management, change management, quality assurance, HSE, commissioning, and project closeout. Participants will learn how to integrate these functions into a unified execution framework.

A strong emphasis is placed on practical project execution and performance control. Participants will develop the ability to identify execution risks, manage interfaces, control changes, monitor contractor performance, resolve project issues, and maintain alignment between engineering, procurement, construction, and commissioning activities.

Through EPC case studies, project planning exercises, execution simulations, risk workshops, progress-control exercises, and project management scenarios, participants will develop the practical capabilities required to manage complex EPC projects and improve project delivery performance.

Objectives

- Analyze the complete EPC project lifecycle and key project management requirements.
- Develop effective EPC project execution strategies aligned with project objectives and contractual requirements.

- Plan and coordinate engineering activities across multiple technical disciplines.
- Develop procurement strategies and manage supplier and contractor interfaces.
- Apply effective construction planning, coordination, and execution practices.
- Control project cost, schedule, progress, resources, and overall performance.
- Identify, assess, and mitigate technical, commercial, contractual, and execution risks.
- Manage project changes, variations, claims, and contractual interfaces effectively.
- Strengthen communication and coordination between engineering, procurement, construction, and commissioning teams.
- Monitor contractor and subcontractor performance using appropriate KPIs and control mechanisms.
- Apply effective quality, HSE, commissioning, and project closeout practices.
- Develop an integrated EPC Project Management & Execution framework by the end of the course.

Who Should Attend

This training course is designed for Project Managers, EPC Managers, Engineering Managers, Construction Managers, Project Engineers, Planning Engineers, Project Controls Professionals, Procurement Managers, Contract Managers, and professionals involved in EPC project delivery.

The course is particularly relevant to professionals working in oil and gas, energy, petrochemicals, infrastructure, utilities, industrial construction, manufacturing, and large-scale engineering projects. It is also suitable for professionals representing owners, EPC contractors, consultants, suppliers, and subcontractors.

The program will benefit professionals responsible for coordinating multidisciplinary EPC activities, managing contractors and suppliers, controlling project performance, and ensuring successful project delivery from engineering through construction, commissioning, and handover.

Learning Outcomes

- Explain the EPC project lifecycle and the relationship between engineering, procurement, and construction.
- Develop an integrated EPC project execution strategy and execution plan.
- Coordinate multidisciplinary engineering activities and manage technical interfaces.
- Develop procurement plans and manage supplier and contractor performance.
- Apply effective construction planning, sequencing, coordination, and site management practices.
- Monitor project progress, cost, schedule, resources, and productivity.
- Identify and manage EPC project risks and critical execution issues.
- Manage changes, variations, claims, and contractual interfaces.
- Develop effective project communication, coordination, and reporting mechanisms.
- Apply KPIs and project controls to monitor contractor and project performance.
- Integrate quality, HSE, commissioning, startup, and handover requirements into project execution.
- Develop a practical EPC project execution and performance improvement plan.

Course Outline

DAY 01

EPC Project Management Foundations & Execution Strategy

- EPC project lifecycle and delivery models
- Roles and responsibilities of owners, EPC contractors, consultants, suppliers, and subcontractors
- EPC project governance and management structures
- Developing the Project Execution Plan
- Defining project objectives, scope, deliverables, milestones, and responsibilities
- Managing project interfaces and coordination requirements

PRACTICAL APPLICATION

Develop an EPC project execution strategy and high-level Project Execution Plan

DAY 02

Engineering Management & Procurement Execution

- Managing multidisciplinary engineering activities
- Engineering deliverables, design reviews, approvals, and technical interfaces
- Engineering progress monitoring and document control
- Procurement planning and purchasing strategies
- Vendor selection, expediting, inspection, and supplier performance
- Managing long-lead items and procurement risks

PRACTICAL APPLICATION

Develop an integrated engineering and procurement execution schedule

DAY 03

Construction Management & Project Controls

- Construction planning, sequencing, and work packaging
- Site mobilization, resource planning, and construction coordination
- Contractor and subcontractor management
- Project planning and scheduling
- Cost control, progress measurement, and productivity monitoring
- Earned Value and performance analysis

PRACTICAL APPLICATION

Develop a construction execution plan and project performance control framework

DAY 04

EPC Risk, Contracts, Changes & Performance Management

- EPC project risk identification, assessment, and mitigation
- Contract administration and commercial management
- Change orders, variations, claims, and extensions of time
- Managing technical and contractual interfaces

DAY 04 — CONTINUED

- Contractor performance management and KPIs
- Project reporting, escalation, and corrective action

PRACTICAL APPLICATION

Analyze an EPC project disruption and develop an integrated risk, change, and recovery strategy

DAY 05

Commissioning, Handover & EPC Project Excellence

- Quality assurance and quality control throughout EPC execution
- HSE management and construction safety requirements
- Pre-commissioning, commissioning, startup, and performance testing
- Systems completion and punch-list management
- Project handover, documentation, and final closeout
- Lessons learned and continuous project performance improvement

FINAL WORKSHOP

Develop an integrated EPC Project Management & Execution framework covering engineering, procurement, construction, project controls, contracts, risk, quality, HSE, commissioning, handover, KPIs, and project closeout.

Register or Request More Information

Course page: <https://quest-training.com/courses/epc-project-management-execution-training-course>

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