

Course No. 1849

Maintenance Planning & Scheduling for Shutdowns and Turnarounds Training Course

**MECHANICAL MAINTENANCE, RELIABILITY & TURNAROUND
OIL & GAS**

DURATION

5 Days

DELIVERY

Classroom



Course Overview

This advanced training course provides a structured and practical approach to maintenance planning and scheduling for shutdowns and turnarounds in oil and gas, refining, petrochemical, power, and process facilities. It focuses on developing realistic execution plans, optimizing resources, controlling work scope, and ensuring safe and timely completion of high-risk maintenance activities.

Participants will learn how to transform an approved shutdown or turnaround scope into executable work packages, detailed schedules, resource plans, material requirements, contractor activities, and field execution plans. The course emphasizes the critical relationship between planning quality, schedule integrity, productivity, cost control, safety, and overall turnaround performance.

The program covers work scope development, work breakdown structures, job planning, task sequencing, resource loading, material readiness, contractor coordination, schedule development, critical path analysis, constraints management, and progress measurement. Participants will also examine common causes of turnaround delays and practical techniques for schedule recovery and productivity improvement.

The course integrates maintenance planning with inspection, engineering, procurement, operations, commissioning, and startup requirements. Through practical exercises and case studies, participants will develop the skills required to build integrated shutdown and turnaround plans that support operational reliability, cost efficiency, safety, and on-time plant restart.

Objectives

- By the end of the course, participants will be able to:
- Analyze the principles and lifecycle of maintenance planning for shutdowns and turnarounds.
- Develop structured work scopes and work breakdown structures for major maintenance events.
- Prepare detailed and executable maintenance work packages.
- Estimate labor hours, equipment requirements, materials, tools, and specialist resources.
- Develop realistic shutdown and turnaround schedules based on work priorities and dependencies.

- Identify critical path activities, constraints, interfaces, and schedule risks.
- Optimize manpower, equipment, contractors, materials, and work fronts.
- Integrate inspection, maintenance, engineering, procurement, and operations activities into a single execution plan.
- Apply effective progress measurement and schedule control techniques during execution.
- Analyze delays, productivity losses, and schedule deviations and develop recovery actions.
- Improve contractor coordination and resource utilization during turnaround execution.
- Develop performance indicators for measuring planning, scheduling, execution, cost, safety, and schedule performance.

Who Should Attend

This course is designed for maintenance planners, schedulers, turnaround planners, maintenance engineers, reliability engineers, mechanical engineers, inspection professionals, and operations personnel involved in shutdown and turnaround preparation and execution.

It is particularly relevant to maintenance supervisors, planning and scheduling teams, project engineers, work pack planners, cost controllers, procurement professionals, contractor coordinators, and professionals responsible for developing and controlling maintenance work during major plant outages.

The program is also suitable for maintenance managers, turnaround managers, engineering managers, operations managers, asset integrity leaders, and decision-makers responsible for achieving safe, efficient, cost-effective, and on-time shutdown and turnaround execution.

Learning Outcomes

- Upon completion of the course, participants will be able to:
- Explain the complete maintenance planning and scheduling lifecycle for shutdowns and turnarounds.
- Develop comprehensive and clearly defined turnaround work scopes.
- Structure turnaround activities using appropriate work breakdown structures.
- Prepare detailed job plans and work packages for maintenance activities.

- Estimate labor, materials, tools, equipment, and specialist requirements.
- Develop logical and resource-loaded turnaround schedules.
- Identify critical path activities and schedule-driving work.
- Manage work dependencies, constraints, interfaces, and execution priorities.
- Coordinate contractors, suppliers, operations, inspection, engineering, and maintenance teams.
- Establish effective material and equipment readiness processes.
- Measure actual progress against planned progress and identify deviations.
- Apply schedule recovery and productivity improvement techniques.
- Develop turnaround performance indicators and reporting mechanisms.
- Identify planning and execution risks before they affect the critical schedule.
- Develop an integrated shutdown and turnaround execution plan.

Course Outline

DAY 01

Shutdown & Turnaround Planning Fundamentals

- Shutdown and turnaround lifecycle, governance, and planning philosophy.
- Defining objectives, scope, deliverables, milestones, and execution strategies.
- Work scope identification, validation, screening, and prioritization.
- Developing work breakdown structures and turnaround coding structures.
- Scope freeze, scope control, and management of late-added work.
- Interfaces between maintenance, operations, inspection, engineering, and projects.

PRACTICAL APPLICATION

Develop a structured turnaround work scope and work breakdown structure for a process facility.

DAY 02

Job Planning, Work Packages & Resource Planning

- Detailed job planning and development of executable maintenance work packages.
- Job steps, labor estimates, tools, materials, permits, access, and equipment requirements.

DAY 02 — CONTINUED

- Estimating manpower requirements and skill categories.
- Resource loading and work-front optimization.
- Material availability, procurement, warehousing, and kitting requirements.
- Contractor mobilization and specialist resource planning.

PRACTICAL APPLICATION

Prepare complete work packages and resource requirements for selected turnaround jobs.

DAY 03

Schedule Development, Sequencing & Critical Path

- Fundamentals of shutdown and turnaround scheduling.
- Activity sequencing, dependencies, interfaces, and schedule logic.
- Development of detailed integrated turnaround schedules.
- Critical path identification and schedule-driving activities.
- Resource constraints and work-front balancing.
- Planning simultaneous activities and minimizing operational conflicts.

PRACTICAL APPLICATION

Build and analyze a turnaround schedule and identify its critical path and major constraints.

DAY 04

Execution Control, Progress Measurement & Schedule Recovery

- Establishing turnaround execution control systems.
- Daily planning, work-front management, and field coordination.
- Measuring physical progress and productivity.
- Planned versus actual performance analysis.
- Identifying delays, bottlenecks, constraints, and productivity losses.
- Schedule recovery, acceleration, additional resources, and work resequencing.

DAY 04 — CONTINUED

PRACTICAL APPLICATION

Analyze a delayed turnaround scenario and develop a practical schedule recovery plan.

DAY 05

Integrated Turnaround Management & Performance Improvement

- Integrating maintenance planning with inspection, engineering, procurement, commissioning, and startup.
- Contractor performance management and coordination.
- Cost, productivity, safety, quality, and schedule performance management.
- Turnaround dashboards, key performance indicators, and management reporting.
- Post-turnaround evaluation, lessons learned, and improvement planning.
- Developing a standardized planning and scheduling framework for future turnarounds.

FINAL WORKSHOP

Develop an integrated maintenance planning and scheduling strategy for a major shutdown or turnaround, including scope, work packages, resources, schedule logic, critical path, progress controls, recovery actions, and performance indicators.

Register or Request More Information

Course page: <https://quest-training.com/courses/maintenance-planning-scheduling-for-shutdowns-and-turnarounds-training-course>

Website: <https://quest-training.com>

Email: info@quest-training.com

Phone: +905016771440