Shutdown & Turnaround Planning in Manufacturing Training Course

Professional Development Training Course Outline

Category	Manufacturing	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Shutdown and Turnaround (STO) Planning in Manufacturing is a critical high-impact discipline that ensures plant reliability, operational continuity, asset optimization, and cost-efficient production recovery. In today's competitive industrial environment, organizations rely heavily on Turnaround Management, Plant Shutdown Optimization, Reliability-Centered Maintenance (RCM), Critical Path Method (CPM), and Asset Integrity Management to minimize downtime and maximize productivity. Shutdown & Turnaround Planning in Manufacturing Training Course is designed to equip professionals with advanced skills in planning, executing, and controlling complex shutdown and turnaround events across manufacturing industries such as oil & gas, petrochemicals, cement, power plants, pharmaceuticals, and heavy engineering.

This program integrates modern methodologies such as Lean Maintenance Strategy, Digital Twin Simulation, Predictive Maintenance (PdM), ERP-driven planning, and Industry 4.0 maintenance analytics. Participants will learn how to manage multi-disciplinary teams, control shutdown budgets, optimize scheduling, and ensure HSE compliance while achieving on-time, on-budget execution. The course emphasizes real-world industrial challenges, equipping learners with actionable tools to improve plant uptime, maintenance efficiency, and operational excellence.

Programme Curriculum

Shutdown & Turnaround Planning in Manufacturing Training Course

Introduction

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Course Duration

10 days

Course Objectives

1. Master Shutdown & Turnaround (STO) lifecycle management
2. Apply Critical Path Method (CPM) for outage scheduling optimization
3. Implement Lean Maintenance & Reliability Engineering principles
4. Develop advanced Turnaround Cost Control & Budget Optimization
5. Enhance Plant Asset Integrity & Risk-Based Inspection (RBI) planning
6. Execute Workforce Mobilization & Contractor Management strategies
7. Utilize Digital Maintenance Planning tools & ERP systems (SAP PM/Maximo)
8. Improve Downtime Reduction & Operational Efficiency metrics
9. Strengthen HSE compliance in shutdown execution environments
10. Apply Predictive & Preventive Maintenance integration in STO
11. Optimize Material Management & Spare Parts logistics
12. Develop Turnaround KPI tracking & performance benchmarking
13. Build capability in Industrial Project Management & Execution Leadership

Target Audience

- Maintenance Engineers & Supervisors
- Plant Managers & Operations Leaders
- Reliability Engineers & Asset Managers
- Shutdown & Turnaround Planners
- Project Managers in Manufacturing & EPC
- HSE Managers in Industrial Operations
- Mechanical, Electrical & Instrumentation Engineers
- Contractors & Maintenance Service Providers

Course Modules

Module 1: Introduction to Shutdown & Turnaround Management

- STO fundamentals and lifecycle stages
- Types of shutdowns: planned vs unplanned
- Industry benchmarks and KPIs
- Roles & responsibilities in STO execution

- Overview of global best practices
- **Case Study:** Refinery turnaround failure due to poor scope definition

Module 2: Scope Identification & Work Breakdown Structure (WBS)

- Defining shutdown scope accurately
- WBS development techniques
- Work prioritization strategies
- Scope freeze management
- Change control processes
- **Case Study:** Scope creep impact in cement plant shutdown

Module 3: Critical Path Method (CPM) Scheduling

- CPM fundamentals for STO
- Network diagram creation
- Float analysis and optimization
- Schedule compression techniques
- Dependency mapping
- **Case Study:** Power plant outage delay due to weak CPM planning

Module 4: Turnaround Cost Estimation & Budgeting

- Cost breakdown structures (CBS)
- Direct vs indirect shutdown costs
- Contingency planning
- Cost tracking systems
- Financial risk mitigation
- **Case Study:** Budget overrun in petrochemical shutdown project

Module 5: Risk Management in Shutdown Projects

- Risk identification techniques
- Risk matrix development
- Mitigation planning strategies
- Contingency response systems
- HSE risk integration
- **Case Study:** Safety incident during turbine maintenance shutdown

Module 6: Maintenance Planning & Work Order Management

- Work order lifecycle
- CMMS integration (SAP PM/Maximo)
- Job card preparation
- Resource allocation planning
- Execution tracking systems
- **Case Study:** Inefficient work order flow in manufacturing plant

Module 7: Material & Spare Parts Management

- Inventory forecasting techniques
- Critical spares identification

- Procurement lead time planning
- Warehouse coordination
- Just-in-time material supply
- **Case Study:** Shutdown delay due to missing critical spare parts

Module 8: Contractor & Workforce Management

- Contractor selection criteria
- Workforce mobilization planning
- Productivity tracking systems
- Labor coordination strategies
- Performance evaluation
- **Case Study:** Contractor inefficiency during refinery turnaround

Module 9: Shutdown Execution & Supervision

- Execution governance model
- Task monitoring systems
- Real-time reporting tools
- Conflict resolution on site
- Productivity optimization
- **Case Study:** Execution bottleneck in steel plant shutdown

Module 10: Health, Safety & Environment (HSE) Compliance

- Permit-to-work systems
- Hazard identification (HAZID/HAZOP)
- Lockout-tagout (LOTO) procedures
- Emergency response planning
- Safety audit systems
- **Case Study:** Near-miss accident during compressor overhaul

Module 11: Quality Assurance & Inspection

- Inspection planning techniques
- QA/QC documentation systems
- Non-destructive testing (NDT)
- Compliance verification
- Defect tracking systems
- **Case Study:** Quality failure in turbine reassembly shutdown

Module 12: Digital Tools in Shutdown Planning

- ERP systems in STO (SAP, Oracle, Maximo)
- Digital dashboards & analytics
- Predictive maintenance integration
- IoT-based monitoring systems
- Digital twin applications
- **Case Study:** Digital STO optimization in smart manufacturing plant

Module 13: Communication & Stakeholder Management

- Communication planning frameworks
- Reporting hierarchies
- Stakeholder engagement strategies
- Escalation procedures
- Cross-functional coordination
- **Case Study:** Miscommunication delay in multi-unit shutdown

Module 14: Shutdown Monitoring & Control

- Progress tracking tools
- KPI dashboards
- Variance analysis
- Schedule recovery planning
- Real-time decision-making
- **Case Study:** Delay recovery strategy in oil refinery shutdown

Module 15: Turnaround Close-Out & Performance Review

- Project closure documentation
- Post-turnaround audits
- Lessons learned analysis
- KPI evaluation
- Continuous improvement planning
- **Case Study:** Performance review failure in chemical plant turnaround

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

Ready to enroll or request a customized program? Book online or contact us:

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