COURSE TABLE OF CONTENTS

Certified Maintenance & Reliability Professional (CMRP)

OEM: Koenig Original • Duration: 5 Days (35 hrs) • Code: CMRP

COURSE MODULES & TOPICS

Module 1: Maintenance Management Fundamentals

- Maintenance as a business function
- Asset performance and business objectives
- Work management and work order life cycle
- Maintenance strategies: reactive, preventive, predictive
- Organizational structure, roles and responsibilities
- Selecting maintenance strategies for assets

Module 2: Work Identification and Requests

- Sources of maintenance work
- Defect identification and reporting
- Maintenance request and work order distinctions
- Request process and validation
- Emergency vs routine requests
- Work order structure and status management
- Best practices in work identification

Module 3: Work Prioritization and Backlog Management

- Structured work prioritization
- Priority vs urgency
- Equipment criticality and risk-based prioritization
- Risk matrices and priority categories
- Backlog categories and measurement
- Backlog aging and analysis KPIs
- Backlog review and control
- Common prioritization mistakes

Module 4: Fundamentals of Maintenance Planning

- Business value of maintenance planning
- Planning vs scheduling workflow
- Planner roles and responsibilities
- Work order screening and job scope definition
- Field inspection and job site assessment
- Work Breakdown Structure (WBS)
- Standard job plans and labor-hour estimation
- Safety integration and job readiness
- Measuring planning effectiveness

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Module 5: Job Planning and Work Package Development

- Job planning principles and work packages
- Defining job scope and boundaries
- Task breakdown and work instructions
- Job sequencing and critical path concepts
- Labor, skill, and material requirements
- Safety documentation and Job Safety Analysis (JSA)
- Quality control and Inspection/Test Plans
- Technical documentation and package approval
- Job plan standardization and improvement

Module 6: Resource Planning and Materials Management

- Resource planning principles
- Workforce planning and skills matrix
- Labor capacity, utilization, and productivity
- Resource loading, leveling, and smoothing
- Spare parts management and inventory classification
- ABC analysis and inventory control
- Safety stock and procurement lead time
- Material reservation and warehouse management
- Contractor and external resource management

Module 7: Maintenance Scheduling Fundamentals

- Introduction to maintenance scheduling
- Objectives and principles of scheduling
- Scheduling horizons: long, medium, weekly, daily
- Frozen weekly schedule and change control
- Work readiness and scheduling priorities
- Production and maintenance coordination
- Scheduling meetings and governance
- Schedule communication and release

Module 8: Advanced Scheduling Techniques

- Advanced scheduling principles
- Gantt charts and execution schedules
- Task sequencing and duration estimation
- Critical Path Method (CPM) and float
- Resource-constrained scheduling and leveling
- Crew balancing and shared equipment scheduling
- Parallel and sequential activities
- Shutdown optimization and what-if analysis
- Scheduling software and digital tools

Module 9: Work Execution, Control and Feedback

- Execution and progress monitoring
- Managing schedule changes
- Work order closure and feedback
- Use of CMMS information
- Maintenance KPIs for decision support

- Shutdown planning and execution
- Continuous performance improvement

Module 10: Preventive and Predictive Maintenance Planning

- Preventive maintenance planning
- Predictive maintenance planning
- Integration with work management
- Supporting asset performance and business objectives