Maintenance and Reliability Professional Training Course



21 - 25 Dec 2026

Cape town

4600 € (Per Person)

Ref: #INM7180_277632

Course Introduction / Overview:

This course provides a comprehensive and in-depth exploration of the principles and practices of maintenance and reliability, meticulously designed to prepare professionals for the Certified Maintenance and Reliability Professional (CMRP) examination. The curriculum is structured around the five pillars of the SMRP Body of Knowledge, ensuring complete coverage of the essential competencies required for excellence in asset management. We delve into the strategic importance of maintenance, moving beyond the traditional view of it as a cost center to its modern role as a critical driver of business value and operational excellence. Drawing upon the foundational work of experts like John Moubray, author of "Reliability-centered Maintenance", this program emphasizes a proactive approach to asset care. Participants will learn to implement robust strategies that enhance equipment reliability, optimize manufacturing processes, and improve overall plant performance. BIG BEN Training Center is committed to delivering a learning experience that not only prepares you for certification but also equips you with the practical skills to lead transformative reliability initiatives within your organization, ensuring a tangible return on investment through increased uptime, reduced costs, and enhanced safety.

Target Audience / This training course is suitable for:

- Maintenance Managers and Supervisors.
- Reliability Engineers and Technicians.
- Maintenance Planners and Schedulers.
- Operations and Production Managers.
- Plant Engineers and Managers.
- Asset Management Professionals.
- Continuous Improvement Specialists.
- Senior Technicians aspiring to leadership roles.
- Engineers involved in equipment design and procurement.

Target Sectors and Industries:

- Manufacturing and Industrial Production.
- Oil and Gas Exploration and Refining.
- Power Generation and Utilities.
- Pharmaceuticals and Biotechnology.
- Mining and Mineral Processing.
- Food and Beverage Processing.
- Facilities Management and Commercial Properties.
- Aerospace and Defense.
- Government Agencies and Public Sector Utilities.
- Transportation and Logistics.

Target Organizations Departments:

- Maintenance and Reliability Department.
- Engineering Department.
- Operations and Production Department.
- Asset Management Department.
- Plant Management.
- Quality Assurance and Control.
- Procurement and Supply Chain (MRO).
- Health, Safety, and Environment (HSE).
- Finance and Accounting (related to asset lifecycle costing).

Course Offerings:

By the end of this course, the participants will have able to:

- Align maintenance and reliability objectives with organizational business goals.
- Develop and implement a comprehensive asset management strategy.
- Apply various predictive maintenance (PdM) technologies effectively.
- Optimize preventive maintenance (PM) tasks and schedules for maximum efficiency.
- Conduct Root Cause Analysis (RCA) to eliminate recurring equipment failures.
- Master the principles of maintenance planning, scheduling, and work execution.
- Calculate and interpret key performance indicators (KPIs) like OEE.
- Manage MRO spares and inventory to support reliability goals.
- Lead and develop a high-performance maintenance and reliability team.
- Justify reliability improvement projects using sound financial analysis.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, engaging, and focused on practical application to ensure a lasting impact on professional practice. We believe that adult learning is most effective when it is experiential and directly relevant to the participant's work environment. Therefore, the course moves beyond traditional lectures to incorporate a rich blend of learning techniques. This includes in-depth analysis of real-world case studies, collaborative group discussions, and hands-on exercises that allow participants to apply concepts like FMEA and RCA to practical scenarios. Our expert instructors facilitate interactive sessions that encourage knowledge sharing and peer-to-peer learning. Participants will engage in problem-solving activities, simulations, and workshops designed to build confidence and competence in the core principles of maintenance and reliability. Continuous feedback is provided throughout the course to reinforce learning and address individual questions, ensuring that every participant leaves with not only theoretical knowledge but also the practical skills and strategic mindset to drive reliability excellence in their organization.

Course Agenda (Course Units):

Unit One: Business and Management

- Creating the strategic direction for maintenance and reliability.
- Aligning maintenance activities with business goals and objectives.
- Developing and justifying the maintenance and reliability budget.
- Managing and communicating key performance indicators (KPIs).
- Understanding the financial impact of maintenance decisions.
- Change management for reliability initiatives.
- Compliance with environmental, health, and safety standards.

Unit Two: Manufacturing Process Reliability

- Understanding the link between maintenance and manufacturing processes.
- Applying continuous improvement tools to enhance process reliability.
- Calculating and interpreting Overall Equipment Effectiveness (OEE).
- Managing the effects of process changes on equipment.
- Ensuring quality and reliability through process control.
- Developing procedures and work standards for operational consistency.
- Implementing operator-driven reliability and autonomous maintenance.

Unit Three: Equipment Reliability

- Establishing a proactive equipment reliability strategy.
- Applying Reliability-Centered Maintenance (RCM) principles.
- Conducting Failure Modes and Effects Analysis (FMEA).
- Implementing and managing Predictive Maintenance (PdM) technologies.
- Optimizing Preventive Maintenance (PM) and inspection programs.
- Understanding equipment failure patterns and lifecycle analysis.
- Managing lubrication and basic equipment care programs.

Unit Four: Organization and Leadership

- Developing roles and responsibilities for the maintenance organization.
- Leading and managing maintenance and reliability teams.
- Assessing skills and implementing training and development programs.
- Fostering effective communication between maintenance and operations.
- Building a culture of reliability and continuous improvement.
- Managing contractor and vendor performance.
- Ensuring a safe work environment through effective leadership.

Unit Five: Work Management

- Mastering the principles of maintenance planning and scheduling.
- Developing and executing effective work orders and control systems.
- Managing maintenance backlogs and priority setting.
- Implementing efficient shutdown, turnaround, and outage management.
- Utilizing a Computerized Maintenance Management System (CMMS).
- Managing Maintenance, Repair, and Operations (MRO) inventory.
- Procurement strategies for spare parts and services.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

How can an organization transition its culture from a reactive 'firefighting' maintenance approach to a proactive, reliability-focused mindset, and what is the single most critical factor for ensuring this transition succeeds?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself by offering a holistic and integrated approach to maintenance and reliability that extends far beyond simple exam preparation. While it thoroughly covers all five pillars of the SMRP Body of Knowledge required for CMRP certification, its core strength lies in translating theoretical principles into actionable, real-world strategies. Unlike programs that focus solely on technical tools, we emphasize the critical interplay between business management, leadership, and work execution. Participants learn not just what RCM or FMEA is, but how to champion these initiatives, secure budget approval, and lead the cultural change necessary for their success. Our curriculum is enriched with practical case studies and instructor-led discussions that explore the nuances of implementing reliability programs in complex industrial environments. The focus is on developing strategic thinkers who can articulate the value of maintenance in financial terms, align reliability efforts with corporate objectives, and build a sustainable culture of excellence. This course is designed for aspiring leaders who want to become agents of change, equipped with both the technical knowledge and the management acumen to drive tangible improvements in asset performance.