



CERTIFIED MAINTENANCE AND RELIABILITY PROFESSIONAL (CMRP)

Course	Maintenance Management
Instructor	Certified American Academy Instructor
Recognition	CHEA, ICE, ANSI, ACBSP, DIKTI
Descriptions	<i>Reliability and Maintenance</i> or RM, is a methodology to ensure that assets continue to do what their users require in their present operating context. It is generally used to achieve improvements in fields such as the establishment of safe minimum levels of maintenance, changes to operating procedures and strategies and the establishment of capital maintenance regimes and plans. Successful implementation of RM will lead to increase in cost effectiveness, machine uptime, and a greater understanding of the level of risk that the organization is presently managing. This methodology is originally conceived by the commercial aviation industry in the mid-1960s and call as Maintenance Steering Group (MSG), it has been widely accepted as the definitive way to identify the right maintenance by the military and industry alike. RM optimizes reliability and maintainability thus enabling increased operational availability. RM will optimize preventive maintenance, thus ensuring the right mix of preventive and corrective maintenance. This <u>RM Training</u> in is designed to deliver a mix of theory and practical sessions that will provide all those involved with a strong foundation in risk management, developing effective strategies, and maximizing the performance of physical asset with comply with the International standards. The American Academy CMRP program is the leading credential for certifying the knowledge, skills and abilities of maintenance, reliability and physical asset management professionals. The CMRP exam is a thorough test of a broad scope of expertise measured against the universal standard. It

	was developed to assess professionals' aptitude within the five pillars of the SMRP Body of Knowledge, which include: business and management, manufacturing process reliability, equipment reliability, organization and leadership, and work management. The CMRP is accredited by the International Board of Standards IBS and ANSI National Accreditation Board (ANAB), an independent third-party organization that evaluates certification programs and organization requirements on a regular basis. At the successful completion of the workshop Participants will be awarded your certification designating you as a Certified Reliability and Maintenance Professional (CRMP®). The American Academy RM training and certifications based on the approach from this high-level perspective and given adequate time, attention and resources, and without these things, the results which are looked for will be missing out on a tremendous opportunity for the participants organizations. American Academy offers a full array of unique professional RM certificate courses to start or enhance participants career in Maintenance and Reliability. Designation program is nationally recognized as the industry leader for professional development training in the field of RM. It balances scientifically supported RM theory with practical application. Participants will learn the latest in ergonomics research and how to apply it in a practical manner at any workplace. The AAPM® certification process, administered by GAFM Board, identifies to the public that those individuals who have been authorized to use the AAPM® certification marks in the globe have met rigorous professional standards and have agreed to adhere to the principles of integrity, objectivity, competence, fairness, confidentiality, professionalism and diligence when dealing with clients.
Target Audience	Professional who are working directly in the Maintenance and

	Reliability domain and keen to learn the Best Practices of Maintenance and Reliability either to excel in corresponding Industry.
Duration	3 Days
Objectives	On completion of the course, the participant should: 1. Understand the definition and concept of <u>RCM (Reliability and Maintenance)</u> 2. Develop broad knowledge of professional roles, duties and responsibilities of RM engineer and manager 3. Be able to assign appropriate maintenance activity and planning with cost effective

Course Descriptions

Strategic Management

- RCM Overview; History, Application and Benefits
- Understanding the benefits of reliability and the relationship in quality and reliability
- Describing the relevance of customer needs assessment in reliability
- Risk Assessment Methodology

Reliability Program Management

- Detailing the basic concepts of reliability program
- Explaining the link between product life cycle and cost
- Illustrating the design evaluation and reliability training program
- RM Procedure & Analysis Select the Equipment to Be Analyzed
 - Published Equipment Selection Questions
 - Criticality Factors
- Select Maintenance Tasks
 - Published Task Selection Questions
 - Comparing Maintenance Strategies Based on Cost and Availability
 - Run-to-Failure
 - Repair/Replacement
 - Service Tasks
 - Failure-Finding Inspections
 - On-Condition Inspections
 - One-Time Tasks

Product Safety and Liability

- Describing the importance of ethical issues and system safety program

Statistics and Probability

- Explaining the basic terminology of statistics and probability
- Detailing the various probability distribution
- Describing the concept and technique of statistical process control

Statistical Inference

- Understanding the parametric point and interval estimates
- Describing the statistical interval estimates
- Illustrating the hypothesis testing and Bayesian technique

Reliability Design Techniques

- Detailing the various reliability design techniques like use factors, FMEA, FMECA, FTA, Robust Design and DFX
- FMEA Analysis
 - Published Logic Diagrams

Parts and Systems Management

- Explaining the concept of selection and control
- Understanding the process of establishing specifications

Reliability Modeling

- Describing block diagrams and models for reliability modeling
- Detailing the simulation techniques

Reliability Predictions

- Understanding the part count prediction and stress analysis
- Describing the reliability predictions and reliability allocation

Reliability Test Planning

- Detailing the type and applications of reliability test planning
- Understanding the relevance of test environment considerations

Development Testing

- Describing the various development testing like accelerated life tests, step-stress testing, reliability growth testing and software testing

Product Testing

- Explaining the various product testing like demonstration testing, PRAT, stress testing, attribute testing, degradation testing and software testing

Maintainability Management

- Detailing the need for planning for maintenance management
- Describing the maintenance strategies and allocation
- Understanding the different trade-offs for maintenance

Maintainability Analysis

- Illustrating the maintenance time distributions
- Describing PM Analysis for maintainability
- Understanding the relevance and application of corrective maintenance and testability

Data Collection

- Describing the various data types and sources
- Explaining the different collection methods
- Understanding the process of data management

Data Use

- Understanding the data summarization
- Illustrating the preventive and corrective action
- Explaining the effectiveness measure

Data and Failure Analysis Tools

- Describing the various data and failure analysis tools like FMEA, FMECA, FTA, STA and FRACAS

Case Studies

Specific Reliability and Maintenance cases will be analysed and assessed to provide technical and process analytical



	capability to the participants to assist them in coping with actual situation in their Ergonomics assessment and evaluation.
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