COURSE OVERVIEW RE0019
Certified Maintenance & Reliability Technician (CMRT)
(SMRP Exam Preparation Training)

Course Title
Certified Maintenance & Reliability Technician (CMRT) *(SMRP Exam Preparation Training)*

Course Date/Venue
March 29-April 02, 2026/TBA Meeting Room, Aloft Dharan Hotel, AL Khobar, KSA

Course Reference
RE0019

Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

Course Description

This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.

This course is designed to provide participants with a detailed and up-to-date overview of Certified Maintenance & Reliability Technician (SMRP-CMRT). It covers the maintenance and reliability, hazard classification and control; the risk concepts and assessment, HIRA (hazard identification and risk assessment) procedure and information security and vulnerability in maintenance; the personal protective equipment (PPE), engineering metrology and corrective and reactive maintenance; and the hand tools, shop equipment and torque wrenches.

During this interactive course, participants will learn the maintenance planning and scheduling, computerized maintenance management system and oil lubrication management; the oil analysis, product storage and handling; the equipment failure and mechanisms of failure; the equipment criticality assessment (ECA), alignment and balancing; the bearings, reliability centered maintenance, NDT methods and control of hazardous substances; and the exam structure, strategy and exam domains.

Course Objectives

Upon the successful completion of this course, each participant will be able to:-

- Get prepared for the next CMRT exam and have enough knowledge and skills to pass such exam in order to get Certified Maintenance and Reliability Technician (CMRT) certification from the Society for Maintenance and Reliability Professionals (SMRP)
- Discuss maintenance and reliability, hazard classification and control
- Carryout risk concepts and assessment, HIRA (hazard identification and risk assessment) procedure and information security and vulnerability in maintenance
- Apply personal protective equipment (PPE), engineering metrology and corrective and reactive maintenance
- Recognize hand tools, shop equipment and torque wrenches
- Apply maintenance planning and scheduling, computerized maintenance management system and oil lubrication management
- Carryout oil analysis, product storage and handling as well as discuss equipment failure and mechanisms of failure
- Apply equipment criticality assessment (ECA), alignment and balancing
- Identify bearings and carryout reliability centered maintenance, NDT methods and control of hazardous substances
- Discuss exam structure, strategy and exam domains

Exclusive Smart Training Kit - H-STK®

*Participants of this course will receive the exclusive "Haward Smart Training Kit" (**H-STK®**). The **H-STK®** consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.*

Who Should Attend

This course provides an overview of all significant aspects and considerations of certified maintenance and reliability technician for maintenance technicians and mechanics, reliability and maintenance specialists, plant and operations technicians, condition monitoring and inspection personnel, electrical and mechanical technicians, junior engineers, maintenance supervisors and team leaders, asset and facilities management personnel and other technical staff.

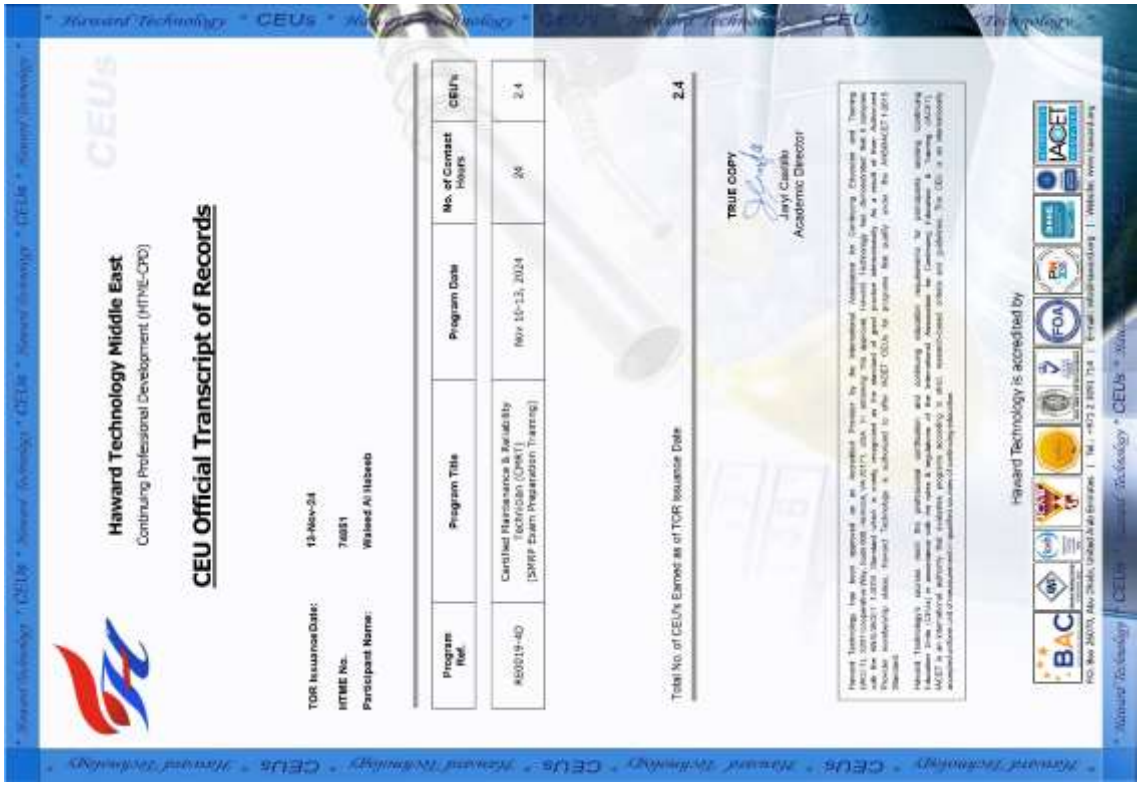
Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

SMRP-CMRT

(1) SMRP-CMRT certificates will be issued to participants who have successfully passed the SMRP-CMRT examination.

(2) Official Transcript of Records will be provided to the successful delegates with the equivalent number of ANSI/IACET accredited Continuing Education Units (CEUs) earned during the course



Certificate Accreditations

Haward's certificates are accredited by the following international accreditation organizations: -

- Society for Maintenance & Reliability Professionals (SMRP)

The course instructor is certified by **The Society for Maintenance & Reliability Professionals** (**SMRP**) to deliver and administer its internationally-recognized qualifications and certification programs on Maintenance & Reliability Best Practices. **SMRP** is a nonprofit professional society formed by practitioners to advance the reliability and physical asset management industry and to create leaders in the field. SMRP provides unparalleled value for individual practitioners looking to expand their knowledge and skills in maintenance and reliability and build more business connections with other practitioners.

- British Accreditation Council (BAC)

Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. Haward's certificates are internationally recognized and accredited by the British Accreditation Council (BAC). BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

- The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:

Mr. Dimitry Rovas, CEng, MSc, PMI-PMP, SMRP-CMRP, is a **Senior Maintenance Engineer** with extensive industrial experience in **Oil**, **Gas**, **Power** and **Utilities** industries. His expertise includes **Process Plant** Shutdown & Turnaround, **Maintenance** Optimization & Best Practices, **Maintenance** Auditing & Benchmarking, **Reliability** Management, **Reliability Centered Maintenance** Principles & Application, **Machinery Lubrication**, **Maintenance Planning & Scheduling**, **Coupling & Shaft Alignment** Techniques, **Maintenance** Management & Cost Control, **Preventive & Predictive Maintenance**, **Effective Reliability** Maintenance & Superior Maintenance Strategies, **Integrity & Asset** Management, Reliability, Availability & Maintainability (**RAM**), Total Plant Reliability Centered Maintenance, **Turnaround & Outages**, **Process Plant** Shutdown, Turnaround & Troubleshooting, **Shutdown & Turnaround** Management, **Integrity & Asset** Management, **Maintenance Management** Best Practices, **Material Cataloguing**, **Maintenance** Planning & Scheduling, Effective **Reliability Maintenance**, **Maintenance Contracting & Outsourcing**, **Maintenance Inventory**, **Materials** Management, **Mechanical & Rotating Equipment** Troubleshooting & Maintenance, **Rotating Equipment Reliability** Optimization, Computerized Maintenance Management System (**CMMS**), **Material Cataloguing & Specifications**, **Rotating Equipment** Maintenance & Troubleshooting, **Pump** Technology, **Pump** Selection & Installation, **Reciprocating & Centrifugal Compressors**, **Gas & Steam Turbines**, **Turbine** Operations, **Valves**, **Bearings & Lubrication**, Rubber Compounding, Elastomers, Thermoplastic, Industrial Rubber Products, Rubber Manufacturing Systems, **Heat Transfer**, **Vulcanization Methods**, **Energy Conservation**, **Energy Loss** Management, **Energy Saving**, **Thermal Power Plant** Management, **Cogeneration Power Plant** Installation & Commissioning, **Auxiliary Steam Boilers** Troubleshooting, **Piping Racks** (Steel Structure, Valves, Pipe Supports) Commissioning, **Firefighting** Systems, **Steel & Welded Tanks**, Aluminium Logistics Facilities (Cranes, Laydown Areas, Port Facilities, etc), Equipment Heavy Lifting, Long Term Storage of Equipment, **Heat Transfer**, **Fluid Mechanics**, **Heating & Cooling** Systems, **Heat Insulation** Systems, **Heat Exchanger & Cooling Towers**, **Mechanical Erection** and **Heavy Rotating Equipment**. He is currently the **Project Manager** wherein he is managing, directing and controlling all activities and functions associated with the domestic heating/cooling facilities projects.

During his life career, Mr. Rovas has gained his practical and field experience through his various significant positions and dedication as the **EPC Project Manager**, **Maintenance Manager**, **Mechanical Engineer**, **Field Engineer**, **Preventive Maintenance Engineer**, **Lead Rotating Equipment Commissioning Engineer**, **Construction Commissioning Engineer**, **Offshore Lead Maintenance Engineer**, **Researcher**, **Instructor/Trainer**, **Telecom Consultant** and **Consultant** from various companies such as the Mytilineos Aluminium Group, Podaras Engineering Studies, Metka and Diadikasia, S.A., **Hellenic Petroleum Oil Refinery** and COSMOTE.

Mr. Rovas is a **Chartered Engineer** of the **Technical Chamber** of **Greece**. Further, he has **Master** degrees in **Mechanical Engineering** and **Energy Production & Management** from the **National Technical University of Athens**. Moreover, he is a **Certified Instructor/Trainer**, a **Certified Maintenance and Reliability Professional** (**CMRP**) from the Society of Maintenance & Reliability Professionals (**SMRP**), a **Certified Project Management Professional** (**PMP**), a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management** (**ILM**) and a **Certified Six Sigma Black Belt**. He is an active member of Project Management Institute (**PMI**), Technical Chamber of Greece and Body of Certified Energy Auditors and has further delivered numerous trainings, seminars, courses, workshops and conferences internationally.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

30% Lectures
20% Practical Workshops & Work Presentations
30% Hands-on Practical Exercises & Case Studies
20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Training Fee

US$ 6,000 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Exam Fee

US$ 400 per Delegate + **VAT.**

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the workshop for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1: ***Sunday, 29th of March 2026***

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Introduction to Maintenance & Reliability*** *The Society of Maintenance and Reliability Professionals • Role of CMRT in Asset-Intensive Industries • Benefits of Certification for Technicians and Organizations • Definition of Maintenance, Reliability, Availability • Types of Maintenance • Asset Management*
0930 – 0945	*Break*
0945 – 1030	***Hazard Classification & Control*** *What is a Hazard? Definitions and Examples • Hazard Categories and Sources in Maintenance Environments • What is Risk • Consequence Categories*
1030 – 1100	***Risk Concepts & Assessment*** *Risk Assessments • Risk Significance and its Relation to Reliability • Basic Steps of Quantitative Risk Assessment (QRA) • ALARP Assessment Criteria • Risk Matrix and Qualitative Risk Assessment Tools • Using Risk Assessment Logic Diagrams*
1100 – 1130	***Industrial Accidents & Case Studies*** *Industrial Accidents • Case Studies • Compounding Effects and Major Consequences • Bhopal Gas Tragedy – Lessons Learned*
1130 – 1215	***HIRA (Hazard Identification & Risk Assessment) Procedure*** *Steps in HIRA Application • Building a Qualitative Risk Assessment Matrix • Application of ALARP (As Low As Reasonably Practicable) • Case-Based Application in Maintenance Tasks*

1215 – 1230	*Break*
1230 – 1330	***Information Security & Vulnerability in Maintenance*** *Threat versus Vulnerability in Operational Systems • Information Security Concepts for Technicians • Accidental Events Leading to Operational Failure • Mitigation Measures for Critical Systems • LOTO*
1330 – 1420	***Personal Protective Equipment (PPE)*** *Introduction to Personal Protective Equipment • PPE Requirements • Guidance on Standards for PPE*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day One*

Day 2: Monday, 30th of March 2026

0730 – 0830	***Engineering Metrology*** *Errors during Measurement • Classification of Measuring Instruments • Precision/Non-Precision Instruments • How to Read the Vernier Caliper*
0830 – 0930	***Corrective & Reactive Maintenance*** *How to Read the Micrometer• Filler Gauge • Dial Gauge/Indicator • Calipers •Vernier Bevel Protractor • Care of Precision Measuring Instruments • Tolerance • Types of Fits*
0930 – 0945	*Break*
0945 – 1100	***Hand Tools & Shop Equipment*** *Units of Measure • Bolt Identification • Technician's Tools • Workshop Tools • Hand Tool Safety*
1100 - 1215	***Torque Wrenches*** *The Definition of Torque • Effects of Friction on a Joint • Torque Wrench • Torque Wrench Selection • Hard Joint versus Soft Joint • Proper Tightening Sequence of Flanges • Torque Wrench Safety*
1215 – 1230	*Break*
1230 – 1420	***Maintenance Planning & Scheduling*** *Planning versus Scheduling – Key Distinctions • Role of Planner/Scheduler in Reliability • Job Packages and Work Orders • KPIs for Planning and Scheduling Effectiveness*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Two*

Day 3: Tuesday, 31st of March 2026

0730 – 0930	***Computerized Maintenance Management System*** *What Returns can be Expected • What should CMMS do • CMMS – Basic Functions • Hierarchies •Taxonomy • Using CMMS/EAM Systems Effectively*
0930 – 0945	*Break*
0945 – 1100	***Oil Lubrication Management*** *Friction• Effects of friction • Purpose of Lubrication System • Types of Lubricants • Properties of lubricants • Viscosity• Pour Point • Flash Point • Oil Additives • Grades of Motor Oil • Greases • Best Practices for Equipment Lubrication*

1100 – 1215	***Oil Analysis*** *Oil Analysis as a Predictive Maintenance Method • Benefits • Oil and Wear Particle Analysis • Lube Oil Deterioration • Moisture • Wear Particle Count • Hydraulic Oil Cleanliness • TAN • TBN • Spectrometric Metals Analysis • Infrared Spectroscopy • Analytical Ferrography • Rotating Bomb Oxidation Test (RBOT) • Sampling Methods*
1215 – 1230	*Break*
1230 – 1420	***Product Storage & Handling*** *Good Storage and Handling • Outdoor Storage • Outdoor Storage*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Three*

Day 4: Wednesday, 01st of April 2026

0730 – 0830	***Equipment Failure*** *What is a Failure? • The P-F Curve Concept • Equipment Failure Patterns • Fundamental Causes of Failures*
0830 – 0930	***Mechanisms of Failure*** *Physical Causes • Fatigue • Thermal Shock • Creep • Wear • Erosion • Corrosion • Fouling • Rubbing*
0930 – 0945	*Break*
0945 – 1100	***Equipment Criticality Assessment (ECA)*** *What is Equipment Criticality Assessment • Why do you Need ECA • What Makes an Equipment Critical • ECA Methodology*
1100 – 1215	***Alignment*** *What's Shaft Alignment • Sources of Misalignment • Types of Misalignmentes • Effects of misalignment • Misalignment Detection • Foundation • Setting and Levelling • Soft Foot • Alignment Tools • Reverse Dial Method • Face and Rim Method • Lazer Alignment*
1215 – 1230	*Break*
1230 – 1420	***Balancing*** *Definition of Unbalance • Vibration due to Unbalance• Flexible Rotors • Causes of Unbalance •Single Plain Balancing • Two Plane Balancing • Recommendations for Balancing*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Four*

Day 5:	***Thursday, 02nd of April 2026***
0730 – 0830	***Introduction to Bearings*** *Plain VS Rolling Element Bearings • Plain Bearing Materials • Plain Bearing Lubrication • Rolling Element Bearings • Bearing Life • Recommended Shaft Fits for Radial Bearings • Bearing Designations • Bearing Installation • Bearing Failures*
0830 – 0930	***Reliability Centered Maintenance*** *RCM Questions • RCM Algorithm • RCM Worksheets • PdM Methods • RCM Process*
0930 – 0945	*Break*
945 -1030	***NDT Methods*** *Dye Penetrant (PT)• Eddy Current • Ultrasonic Testing • Radiographic Examination*
1030 – 1130	***Control of Hazardous Substances*** *Powered Industrial Trucks*
1130 – 1215	***Exam Structure & Strategy*** *Exam Format and Scoring Breakdown • Time Management During the Exam • Handling Difficult Questions • Use of SMRP Body of Knowledge*
1215 – 1230	*Break*
1230 – 1300	***Mock Exam & Question Review*** *Practice Exam Session • Review of Answers and Explanations • Identifying Knowledge Gaps • Techniques for Improving Weak Areas*
1300 – 1345	***Overview of SMRP CMRT Exam Domains*** *Maintenance Practices Domain (32%) • Preventive & Predictive Maintenance Domain (29%) • Troubleshooting & Analysis Domain (20%) • Corrective Maintenance Domain (19%)*
1345 – 1400	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about t Topics that were Covered During the Course*
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

MOCK Exam

Upon the completion of the course, participants have to sit for a MOCK Examination similar to the exam of the Certification Body through Haward's Portal. Each participant will be given a username and password to log in Haward's Portal for the MOCK Exam during the 60 days following the course completion. Each participant has only one trial for the MOCK exam within this 60-day examination window. Hence, you have to prepare yourself very well before starting your MOCK exam as this exam is a simulation to the one of the Certification Body.

Simulator (Hands-on Practical Sessions)

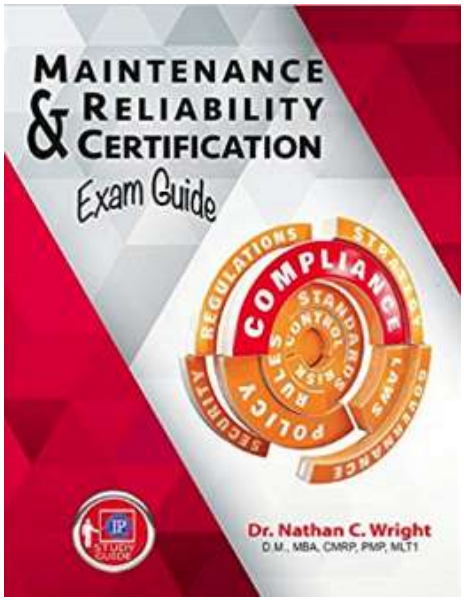
Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using the state-of-the-art simulator "MTBF Calculator" and "ManWinWin Express CMMS Software".

MTBF Calculator

ManWinWin Express CMMS Software

Book(s)

As part of the course kit, the following e-book will be given to all participants:



Title : Maintenance & Reliability Certification Exam Guide
ISBN : 9780831136239
Author : Dr. Nathan C. Wright
Publisher : Industrial Press, Inc.

Course Coordinator

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