

COURSE OVERVIEW RE0226
Maintenance Process Overview

Course Title

Maintenance Process Overview

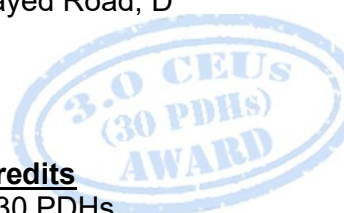
Course Date/Venue

Session 1: July 07-11, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
 Session 2: December 14-18, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, D



Course Reference

RE0226-3D-IH



Course Duration/Credits

Five days/30 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 maintenance process and reliability management. It covers the framework for maintenance excellence including its philosophy and principles; the various types of maintenance, equipment failure patterns and maintenance objective setting; the equipment plans development, preventive maintenance and conditioning; and the monitoring, pump monitoring and lube oil analysis.



During this interactive course, participants will learn the work selection, work screening procedure, cost benefit analysis, work planning and scheduling; the proven turnaround practices, management practices, process operation and work execution; the stewardship and performance metrics and KPIs including performance indicator characteristics; and the quality assurance, continuous improvement and quality audits.

Course Objectives

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

- Apply and gain an in-depth knowledge on maintenance process and reliability management
- Discuss the framework for maintenance excellence including it's philosophy, and principles
- Identify the types of maintenance, equipment failure patterns and maintenance objective setting
- Carryout equipment plans development, preventive maintenance and conditioning monitoring, pump monitoring and lube oil analysis
- Apply work selection, work screening procedure, cost benefit analysis, work planning and scheduling
- Implement proven turnaround practices, management practices, process operation and work execution
- Discuss stewardship and performance metrics and KPIs including performance indicator characteristics
- Employ quality assurance, continuous improvement and quality audits

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 covers systematic techniques in maintenance process to assist maintenance management team in delivering maximum reliability and availability of equipment at the lowest possible cost. The course will present techniques designed to improve the effectiveness of maintenance management activities, to ensure that physical assets perform their required functions, operate reliably, and support corporate goals. It is essential for all maintenance and reliability management staff and instrumentation and control technicians.

Course Fee

US\$ 5,500 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Accommodation


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

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.


Certificate Accreditations

Certificates are accredited by the following international accreditation organizations:-

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British Accreditation Council (BAC)

Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. 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.

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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. Mohamed Refaat, MSc, BSc, is a Senior Maintenance & Reliability Engineer with almost 30 years of extensive experience in Rotating Equipment and Machinery including Pumps, Compressors, Turbines, Motors, Turbo-expanders, Gears, etc. His wide experience also covers Modern Maintenance & Reliability Management, Maintenance Errors, Maintenance Audit & Site Inspection, Maintenance Management Best Practices, Rotating Equipment Reliability Optimization, Practical Machinery Vibration, Vibration Techniques, Effective Reliability Maintenance, Excellence in Maintenance & Reliability Management, Preventive & Predictive Maintenance, Machinery Failure Analysis (RCFA), Reliability Optimization & Continuous Improvement,

Maintenance Planning, Scheduling & Work Control, Maintenance Management Strategy, Mechanical & Rotating Equipment Troubleshooting, Preventive Maintenance, Predictive Maintenance, Reliability Centered Maintenance (RCM), Condition Based Monitoring (CBM), Centrifugal Compressor & Steam Turbine, Centrifugal Pump, Pump Technology, Gas Turbine Technology, Heat Exchanger, Turbines & Motors, Variable Speed Drives, Seals, Control Valves, Advanced Valve Technology, Dry Seal, Fired Heaters, Air Coolers, Crude Desalter, Process Vessels & Valves, Industrial Equipment & Rotating Machinery, Mechanical Engineering, Mechanical Equipment & Turbomachinery, Piping, Pipelines, Valves, Lubrication Technology, Vibration Analysis, Power System Hydraulics, Security Detection Systems & Operation, Process Plant Equipment, Troubleshooting Process Operations, FMEA and Troubleshooting of machinery and rotating equipment including turbines, bearings, compressors, pumps etc. He is currently the Mechanical Maintenance Section Head of the Arab Petroleum Pipelines Company where he is in charge of planning, scheduling & managing the execution of preventive & corrective mechanical maintenance activities for all equipment. He is responsible for executing the scheduled inspections & major overhauls for gas turbines, valves & pumps, carrying out off-line vibration monitoring plans, troubleshooting, fault diagnosing & investigating failures of machinery.

During his career life, Mr. Mohamed was able to modify the gas turbines self cleansing system to improve its maintainability and extend the air filters' lifetime. He was responsible for defining & updating the equipment codes and parameters for replacing the old **CMMS** with **MAXIMO**. He also worked as the Operations Supervisor wherein he was closely involved with the operation of the crude oil internal **pipeline** system between the tankers and tank farm, operation & control of the booster pumps for pumping crude oil for main pipelines and the development & implementation of the plans & procedures for draining the main terminal internal lines for maintenance purposes. He also held the position of Measurement Engineer where he was responsible for the crude oil custody transfer, performing loss control analysis and operating the crude oil automatic sampler & related equipment. Prior to that, he was the Design Engineer responsible for the design phase of the Truck Mixer Manufacturing Project of the Mechanical Design Department.

Mr. Refaat has **Master** and **Bachelor** degrees in **Mechanical Engineering** and a General Certificate of Education (**GCE**) from the **University of London, UK**. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)** and a member of the Engineering Syndicate of Egypt. He has further delivered numerous training, courses, workshops, seminars and conferences worldwide.

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.

Course Program

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

Day 1

0730 - 0800	<i>Registration & Coffee</i>
0800 - 0815	<i>Welcome & Introduction</i>
0815 - 0830	PRE-TEST
083 - 0930	Maintenance Excellence <i>Framework for Maintenance Excellence • Overall Philosophy • Maintenance Principles</i>
0930 - 0945	<i>Break</i>
0945 - 1030	Maintenance Excellence (cont'd) <i>Work Environment • Equipment • Information Systems</i>
1030 -1215	Maintenance Excellence (cont'd) <i>Elements for Effective Maintenance • Establishing the Environment for Improvement</i>
1215 - 1230	<i>Break</i>
1230 - 1330	Maintenance Today <i>Types of Maintenance • Maintenance Strategy Development • Productive Maintenance • Discussion</i>
1345 - 1420	Equipment Failure Patterns <i>Types of Equipment Failures • Why Equipment Fails • Failure Analysis & Root Cause • Discussion</i>
1420 - 1430	Recap
1430	<i>Lunch & End of Day One</i>



Day 2

0730 – 0900	Maintenance Objective Setting Business Plan • R&M Policy • Discussions • Objectives
0930 – 0945	Break
0945 – 1100	Equipment Plans Equipment Plans Development • Approaches • Discussion
1100 – 1230	Preventive Maintenance & Condition Monitoring Types of Condition Based Monitoring • Vibration Monitoring • Pump Monitoring Frequency
1230 – 1245	Break
1245 – 1350	Preventive Maintenance & Condition Monitoring (cont'd) Infrared Thermography • Physical Effects Monitoring • Lube Oil Analysis • Discussion
1350 – 1400	Recap
1400	End of Day Two

Day 3

0730 – 0900	Work Selection Mission • Work Screening Procedure • Work Request Requirements
0900 – 0915	Break
0945 – 1100	Work Selection (cont'd) Prioritization Systems • Cost Benefit Analysis • Discussion
1100 – 1230	Work Planning & Scheduling Planning Objectives • Planning Effectiveness • Planning Metrics • Planners and Staffing • Routine Maintenance Planning • Work Plan
1230 – 1245	Break
1245 – 1350	Work Planning & Scheduling (cont'd) Planning Tools • Scheduling & Considerations • Types of Schedules • Work Execution Packages • Maintenance Backlog • Discussion
1350 – 1400	Recap
1400	End of Day Three

Day 4

0730 – 0900	Proven Turnaround Practices Success Factors • T/A Concern Areas • Management Practices • Milestone Plan • Work Scope
0930 – 0945	Break
0945 – 1100	Proven Turnaround Practices (cont'd) Projects • Material Procurement • Process Operations • Pre-T/A Reviews • Discussions
1100 – 1230	Work Execution Objective and Actions • Job Completion • Supervisor
1230 – 1245	Break
1245 – 1350	Work Execution (cont'd) Contracting Types • Advantages and Disadvantages • Discussions
1350 – 1400	Recap
1400	End of Day Four



Day 5

0730 – 0900	Stewardship & Performance Metrics & KPIs Performance Indicator Characteristics • Business Results Indicators • Process Unit Run-Length Goals
0900 - 0915	Break
0915 – 1100	Stewardship & Performance Metrics & KPIs (cont'd) Work Management KPIs • Maintenance Effectiveness Metrics • Equipment Specific Indicators • Work Force Utilization Metrics • Discussion
1100- 1230	Quality Assurance & Continuous Improvement Objectives and Implementation • Data to be Screened • Bad Actors and RCFA •
1230 – 1245	Break
1245 – 1400	Quality Assurance & Continuous Improvement (cont'd) Bad Actors and RCFA • Quality Audits • Discussion
1400 - 1415	Course Conclusion
1415 – 1430	POST-TEST
1430	Lunch & End of Course

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 “iLearnVibration” simulator.



Course Coordinator

Mari Nakintu, Tel: +971 2 30 91 714, Email: mari1@haward.org