

COURSE OVERVIEW RE0010 Certified Maintenance Auditor (CMA)

Course Title

Certified Maintenance Auditor (CMA)

Course Date/Venue

Please refer to page 3

Course Reference

RE0010

Course Duration/Credits

Five days/3.0 CEUs/30 PDHs



Course Description



This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.

Recent competitive trends have been pushing companies to reconsider the impact and importance of increasing equipment availability, utilization and resource utilization, and increasing quality and responsiveness of maintenance services achieving World Class Status to meet world competition.



It has been estimated that of the over 600 billion dollars per year spent on maintenance, more than one third 200 billion dollars is wasted! Wasted due management of resources. measurement and control of labor, material, capital! Not only that: Maintenance costs are higher than managers realize, because although they think the costs of doing maintenance are high, they don't often realize the costs of not doing maintenance right are even higher.



Perhaps as much as 15 to 40 percent of total product cost (due to the 'hidden, costs such as breakdowns, lost production, lost time, late delivery, disorder, poor quality, high rework)! Think about it, most managers think of maintenance as a cost, a necessary evil.

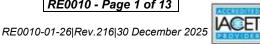
























Costs are something to be minimized, even eliminated, if possible. But everyone knows you can't eliminate maintenance. The plant would come to a screeching halt. No, you must optimize the maintenance function, not minimize it. But to optimize maintenance means you must develop more meaningful, contribution-based measurements.

This comprehensive course will show you how to initiate and sustain a process of maintenance performance improvement; a process in which maintenance is recognized as critical to the overall production strategy by which your plant provides the product to the customer at a quality he wants and a price they are willing to pay.

This course is devoted to helping you understand how to improve performance through more effective measurement systems such as Auditing and Benchmarking. Here's a road map to get you from where you are to where you need to be! Here are some practical guidelines, tools, and techniques that will enable maintenance and production managers to develop consistent, useful, and relevant measures of performance as they strive for 'world class' status.

The course includes an e-book entitled "Maintenance Benchmarking and Best Practices", published by McGraw-Hill Professional, which will be given to the participants to help them appreciate the principles presented in the course.

Course Objectives

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

- Get certified as a "Certified Maintenance Auditor"
- Apply and gain an in-depth knowledge and skills in maintenance auditing, benchmarking, and performance improvement towards world-class status
- Carryout maintenance benchmarking and best practices by developing the scoreboard for maintenance excellence
- Measure overall equipment effectiveness, improve craft labor productivity and provide significant gained value
- Use performance measures as feedback to enhance planning, estimating and scheduling
- Develop maintenance excellence index and apply maintenance planning, estimating, scheduling and materials management
- Employ inventory management best practices and illustrate cycle counting
- Implement maintenance planning, estimating and scheduling and identify the role of maintenance and operations in world-class organizations
- Define the terms mentioned in ISO 9001:2008 including the maintenance key performance indicators in accordance with BS EN 15341 standard
- Recognize the evaluation criteria for reliability-centered maintenance processes as per SAE JA 1011











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 maintenance auditing, benchmarking and performance improvement towards world class for maintenance managers, superintendents, engineers and supervisors who realize the power of performance measurement to motivate, coordinate, and achieve the overall goals and objectives of their company, plant, or department. Line or staff maintenance or production, mid-level or executive, every attendee will benefit from this imminently practical workshop approach to establishing meaningful measures of maintenance performance.

Course Date/Venue

Session(s)	Date	Venue
1	January 26-30, 2026	Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
2	February 08-12, 2026	Meeting Plus 9, City Centre Rotana, Doha, Qatar
3	March 30-April 02, 2026	Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
4	April 19-23, 2026	Crowne Meeting Room, Crowne Plaza Al Khobar, an IHG Hotel, Al Khobar, KSA
5	May 11-15, 2026	Salon Expo, NH Hotel Plaza de Armas, Seville, Spain
6	July 05-09, 2026	Crowne Meeting Room, Crowne Plaza Al Khobar, an IHG Hotel, Al Khobar, KSA
7	August 03-07, 2026	Ruben Boardroom, The Rubens at The Palace, Buckingham Palace Road, London, United Kingdom
8	September 13-17, 2026	Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE
9	October 04-08, 2026	Pierre Lotti Meeting Room, Movenpick Hotel Istanbul Golden Horn, Istanbul, Turkey
10	November 22-26, 2026	Meeting Room 4, Four Seasons Hotel Cairo at Nile Plaza, Corniche El Nil, Garden City, Cairo, Egypt
11	December 13-17, 2026	Pierre Lotti Meeting Room, Movenpick Hotel Istanbul Golden Horn, Istanbul, Turkey
12	December 20-24, 2026	Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE

Accommodation

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













Course Certificate(s)

(1) Internationally recognized Competency Certificates and Plastic Wallet Cards will be issued to participants who completed a minimum of 80% of the total tuition hours and successfully passed the exam at the end of the course. Successful candidate will be certified as a "Certified Maintenance Auditor". Certificates are valid for 5 years.

Recertification is FOC for a Lifetime.

Sample of Certificates

The following are samples of the certificates that will be awarded to course participants:-



















(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: -



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.



<u>The International Accreditors for Continuing Education and Training</u> (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.

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 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. Karl Thanasis, PEng. MSc, MBA, BSc, is Senior Mechanical & Maintenance Engineer with over 30 years of extensive industrial experience within the Power & Water Utilities and other Energy Sectors. His wide expertise includes District Cooling Plant, District Cooling Plant Operations, HVAC Basics, HVAC&R, KOTZA, Refrigeration, Modern HVAC & Refrigeration Systems Design, Utilization, Operation & Effective Maintenance, Control Valve & Actuators, Fire Safe Valves, Piping & Pipeline, Maintenance, Repair, Shutdown, Turnaround &

Outages, Maintenance & Reliability Management, Mechanical Maintenance Planning, Scheduling & Work Control, Advanced Techniques in Maintenance Management, Predictive & Preventive Maintenance, Maintenance & Operation Cost Reduction Techniques, Reliability Centered Maintenance (RCM), Machinery Failure Analysis, Rotating Equipment Reliability Optimization & Continuous Improvement, Material Cataloguing, Mechanical & Rotating Equipment Troubleshooting & Maintenance, Root Cause Analysis & Reliability Improvement, Condition Monitoring, Root Cause Failure Analysis (RCFA), Steam Generation, Steam Turbines, Power Generator Plants, Gas Turbines, Combined Cycle Plants, Boilers, Process Fired Heaters, Air Preheaters, Induced Draft Fans, All Heaters Piping Work, Refractory Casting, Heater Fabrication, Thermal & Fired Heater Design, Heat Exchangers, Heat Transfer, Coolers, Power Plant Performance, Efficiency & Optimization, Storage Tank Design & Fabrication, Thermal Power Plant Management, Boiler & Steam System Management, Pump Operation & Maintenance, Chiller & Chiller Plant Design & Installation, Pressure Vessel, Safety Relief Valve Sizing & Selection, Valve Disassembling & Repair, Pressure Relief Devices (PSV), Hydraulic & Pneumatic Maintenance, Advanced Valve Technology, Pressure Vessel Design & Fabrication, Pumps, Turbo-Generator, Turbine Shaft Alignment, Lubrication, Mechanical Seals, Packing, Blowers, Bearing Installation, Couplings, Clutches and Gears. Further, he is also versed in Wastewater Treatment Technology, Networking System, Water Network Design, Industrial Water Treatment in Refineries & Petrochemical Plants, Piping System, Water Movement, Water Filtering, Mud Pumping, Sludge Treatment and Drying, Aerobic Process of Water Treatment that includes Aeration, Sedimentation and Chlorination Tanks. His strong background also includes Design and Sizing of all Waste Water Treatment Plant Associated Equipment such as Sludge Pumps, Filters, Metering Pumps, Aerators and Sludge Decanters.

Mr. Thanasis has acquired his thorough and practical experience as the **Project Manager**. Plant Manager, Area Manager - Equipment Construction, Construction Superintendent, Project Engineer and Design Engineer. His duties covered Plant Preliminary Design, Plant Operation, Write-up of Capital Proposal, Investment Approval, Bid Evaluation, Technical Contract Write-up, Construction and Sub-contractor Follow up, Lab Analysis, Sludge Drying and Management of Sludge Odor and Removal. He has worked in various companies worldwide in the USA, Germany, England and Greece.

Mr. Thanasis is a Registered Professional Engineer in the USA and Greece and has a Master's and Bachelor's degree in Mechanical Engineering with Honours from the Purdue University and SIU in USA respectively as well as an MBA from the University of Phoenix in USA. Further, he is a Certified Internal Verifier/Trainer/Assessor by the Institute of Leadership & Management (ILM) a Certified Instructor/Trainer and has delivered numerous trainings, courses, seminars, workshops and conferences worldwide.













Course Fee

Abu Dhabi	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.
Dubai	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.
Al Khobar	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.
Cairo	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.
Doha	US\$ 6,000 per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Istanbul	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.
Seville	US\$ 8,800 per Delegate + VAT . This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
London	US\$ 8,800 per Delegate + VAT . This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

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:

Duy 1	
0730 - 0800	Registration & Coffee
0800 - 0815	Welcome & Introduction
0815 - 0830	PRE-TEST
	Maintenance Benchmarking & Best Practices: Developing Your
	Scoreboard for Maintenance Excellence
	World Class Organizations • Framework for Maintenance Excellence • The
0830 - 0930	Continuous Improvement Process • People Really Interested in Developing
	Excellence in Maintenance • Today's Maintenance Challenges • Facing
	Today's Maintenance Challenges • Continuous Reliability Improvement • The
	Reliability Pyramid • Profit & Customer Centered Maintenance
0930 - 0945	Break
0945 - 1115	Maintenance Benchmarking & Best Practices: Developing Your Scoreboard
	for Maintenance Excellence (cont'd)
	What is an Internal Audit? • The Auditing Process • Audit Approaches • The
	Main Steps of the Generic Auditing Process • Red, Amber, Green Status (RAG
	Status) • Spider/Radar Charts • Improving Productivity of People Resources •
	Productivity













	Measuring Overall Equipment Effectiveness (OEE)
1115 – 1145	Overall Equipment Effectiveness Concepts • The Eight Major Losses • The Eight
	Major Losses: Measuring of Results • Overall Equipment Effectiveness (OEE)
	Measuring & Improving Craft Labor Productivity
1145 1220	OCE Measures Craft Productivity • Baseline Cost for Examples of Gained Value
1145 – 1230	from Craft Productivity Improvement • Calculating Craft Utilization • What is
	Your Wrench Time? • Improving Craft Utilization
1230 - 1245	Break
	Measuring & Improving Craft Labor Productivity (cont'd)
1245 - 1305	Measuring Your Craft Utilization • Work Sampling • Track Non-Productive
	Work By Type ● Calculating Craft Performance ● Craft Service Quality
	Bottom Line: Improving Craft Labour Productivity can Provide Significant
	Gained Value
1207 1120	Planning for Maintenance Excellence • Measuring Maintenance Excellence •
1305 – 1420	Maintenance Benchmarking and Best Practices • The Scoreboard for Maintenance
	Excellence • The Scoreboard for Maintenance Excellence: Key Steps to
	Continuous Reliability Improvement • The Scoreboard for Facilities Management
	Excellence
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
	Topics that were Discussed Today and Adolse Them of the Topics to be Discussed Tomorrow
1430	Lunch & End of Day One

Bottom Line: Improving Craft Labour Productivity Can Provide Significant Gained Value (cont'd)
Approach for Assessment of the Total Maintenance Operation • Selecting the Right Metrics and Key Performance Indicators for Your Maintenance Operation •
Performance Indicators • What are Key Performance Indicators • Performance
Indicator Characteristics and Requirements • Key Performance Indicators
Break
Bottom Line: Improving Craft Labour Productivity Can Provide Significant Gained Value (cont'd)
What is Benchmarking? • Benchmarking vs KPI's • Performance Parameter Hierarchy • Work Management KPI's • Types of Measurements • Maintenance Effectiveness KPI's
Break
Using Performance Measures as Feedback to Enhance Planning, Estimating & Scheduling Maintenance Performance Metrics
Developing Your Maintenance Excellence Index
The Maintenance Excellence Index • CMMS System Outputs • Key Benefits of
CMMS ● CMMS Packages
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
Lunch & End of Day Two













Developing Your Maintenance Excellence Index (cont'd) The CMMS Benchmarking System & Automatic Identification • The Maintenance Excellence Institute (TMEI) • The ACE Team Benchmarking Process Developing Your Maintenance Planning, Estimating & Scheduling & Materials Management Improving Productivity of People Resources • Maintenance Planning, Estimating & Scheduling Provides Cained Value • The Planning Process • What is Inventory Management? • Primary Responsibility for Customer Satisfaction • Materials Management Inventory Management Best Practices Where are you Nov? • Where you Need to be • ABC Inventory Analysis • Security And Warehouse Access • Establish an Approved Stock List • Assign And Use Bin Locations • Record All Stock Witharawals • Process All Transactions Quickly • Have Objectives For Purchasing • Know Cost Of Bad Inventory Management • Maintain Accurate Stock Balances • Establish Best Replenishment Procedures • Establish Performance Goals • Attack Slow Moving/Dead Inventory • Effective Strategic Planning Cycle Counting • Rover Guidelines • Define Replenishment Procedures • Establish Performance Goals • Attack Slow Moving/Dead Inventory • Effective Strategic Planning Cycle Counting • Key Problems With Cycle Counting • Key Steps For Cycle Counting • Guidelines • Define Replenishment Procedures • Strategic Planning Cycle Counting • Rover Guidelines • Define Replenishment Procedures • Excess Inventory: How Much Do We Really Need? Inventories: How Much Do We Really Need? Performance Measures • Inventory Turnover • Inventory Turnover • Excess Inventory Reduction • Inventory Accuracy • Get Maximum Value from Your Maintenance Storeroom • Planning & Scheduling Will Improve Craft Labor Productivity • The Planning Scheduling Process • Roles and Responsibilities Maintenance Planning Estimating & Scheduling Process • Roles and Responsibilities Maintenance Planning Starts With A Good Planner • Factors Influencing Number of Planners (Planner Cleanter Coraft Ratio) • Duties of a Maintenance Planning and S	Day 3	
Maintenance Planning, Estimating & Scheduling & Materials Management Improving Productivity of People Resources • Maintenance Planning, Estimating & Scheduling Provides Gained Value • The Planner/Scheduler's Role • Ensuring Your Maintenance Storeroom Supports the Planning Process • What is Inventory Management? • Primary Responsibility for Customer Satisfaction • Materials Management Inventory Management Best Practices Where are you Now? • Where you Need to be • ABC Inventory Analysis • Security And Warehouse Access • Establish an Approved Stock List • Assign And Use Bin Locations • Record All Stock Withdrawals • Process All Transactions Quickly • Have Objectives For Purchasing • Know Cost Of Bad Inventory Management • Maintain Accurate Stock Balances • Establish Best Replenishment Path • Establish Reorder Guidelines • Define Replenishment Procedures • Establish Performance Goals • Attack Slow Moving/Dead Inventory • Effective Strategic Planning Cycle Counting • Key Problems With Cycle Counting • Key Steps For Cycle Counting • Guidelines for Cycle Counting • Geographic Method • Ranking Method Of Cycle Counting • Pareto (ABC) Analysis • Cycle Counting Guidelines Inventories: How Much Do We Really Need? Performance Measures • Inventory Turnover • Inventory Turnover Example • Inventory Turnover Formula • Customer Service • Vendor Performance • Excess Inventory Reduction • Inventory Accuracy • Get Maximum Value from Your Maintenance Storeroom • Planning for your Maintenance Storeroom • Planning of Scheduling Will Improve Craft Labor Productivity • Planning & Scheduling Process • Roles and Responsibilities • Inventory Inventore Planning and Scheduling Process • Roles and Responsibilities • Good Planning Starts With A Good Planner • Factors Influencing Number of Planners (Planner Should Not Do 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	0730 - 0925	The CMMS Benchmarking System • Automatic Identification • The Maintenance
Maintenance Planning, Estimating & Scheduling & Materials Management Improving Productivity of People Resources • Maintenance Planning, Estimating & Scheduling Provides Gained Value • The Planner/Scheduler's Role • Ensuring Your Maintenance Storeroom Supports the Planning Process • What is Inventory Management? • Primary Responsibility for Customer Satisfaction • Materials Management Inventory Management Best Practices Where are you Nov? • Where you Need to be • ABC Inventory Analysis • Security And Warehouse Access • Establish an Approved Stock its • Assign And Use Bin Locations • Record All Stock Witharawals • Process All Transactions Quickly • Have Objectives For Purchasing • Know Cost Of Bad Inventory Management • Maintain Accurate Stock Balances • Establish Best Replenishment Path • Establish Reorder Guidelines • Define Replenishment Procedures • Establish Performance Goals • Attack Slow Moving/Dead Inventory • Effective Strategic Planning Cycle Counting: How It Can Work for You Cycle Counting • Key Problems With Cycle Counting • Key Steps For Cycle Counting • Guidelines for Cycle Counting • Geographic Method • Ranking Method Of Cycle Counting • Pareto (ABC) Analysis • Cycle Counting Guidelines 1220 - 1235 Break Inventories: How Much Do We Really Need? Performance Measures • Inventory Turnover • Inventory Turnover Example • Inventory Turnover Formula • Customer Service • Vendor Performance • Excess Inventory Reduction • Inventory Accuracy • Get Maximum Value from Yout Maintenance Storeroom • Planning for your Maintenance Storeroom • Planning Group Maintenance Storeroom • Planning for your Maintenance Planning and Scheduling Will Improve Craft Labor Productivity • The Planning Scheduling Process • Roles and Responsibilities Maintenance Planning, Estimating & Scheduling Maintenance Planning, Estimating & Scheduling Maintenance Planning Starts With A Good Planner • Factors Influencing Number of Planners (Planner Should Not Do Recap 1420 - 1430 Recap 1420 - 1430	0925 - 0940	
Where are you Now? • Where you Need to be • ABC Inventory Analysis • Security And Warehouse Access • Establish an Approved Stock List • Assign And Use Bin Locations • Record All Stock Withdrawals • Process All Transactions Quickly • Have Objectives For Purchasing • Know Cost Of Bad Inventory Management • Maintain Accurate Stock Balances • Establish Best Replenishment Path • Establish Reorder Guidelines • Define Replenishment Procedures • Establish Performance Goals • Attack Slow Moving/Dead Inventory • Effective Strategic Planning Cycle Counting: How It Can Work for You Cycle Counting • Key Problems With Cycle Counting • Key Steps For Cycle Counting • Guidelines for Cycle Counting • Geographic Method • Ranking Method Of Cycle Counting • Pareto (ABC) Analysis • Cycle Counting Guidelines 1220 - 1235 Break Inventories: How Much Do We Really Need? Performance Measures • Inventory Turnover • Inventory Turnover Example • Inventory Turnover Formula • Customer Service • Vendor Performance • Excess Inventory Reduction • Inventory Accuracy • Get Maximum Value from Your Maintenance Storeroom • Planning & Scheduling Will Improve Craft Labor Productivity • Planning & Scheduling Will Improve Craft Labor Productivity • Planning of Scheduling Will Improve Craft Labor Productivity • Planning and Scheduling Process • Roles and Responsibilities Maintenance Planning, Estimating & Scheduling Maintenance Planning, Estimating & Scheduling Maintenance Planning Starts With A Good Planner • Factors Influencing Number of Planners (Planner Scheduler • Requirements for an Effective Maintenance Planner • Some Things a Planner Should Not Do 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	0940 – 1010	Improving Productivity of People Resources • Maintenance Planning, Estimating & Scheduling Provides Gained Value • The Planner/Scheduler's Role • Ensuring Your Maintenance Storeroom Supports the Planning Process • What is Inventory Management? • Primary Responsibility for Customer Satisfaction • Materials
Cycle Counting • Key Problems With Cycle Counting • Key Steps For Cycle Counting • Guidelines for Cycle Counting • Geographic Method • Ranking Method Of Cycle Counting • Pareto (ABC) Analysis • Cycle Counting Guidelines 1220 - 1235 Break Inventories: How Much Do We Really Need? Performance Measures • Inventory Turnover • Inventory Turnover Example • Inventory Turnover Formula • Customer Service • Vendor Performance • Excess Inventory Reduction • Inventory Accuracy • Get Maximum Value from Your Maintenance Storeroom • Planning for your Maintenance Storeroom • Planning & Scheduling Will Improve Craft Labor Productivity • Planning & Scheduling Will Improve Craft Labor Productivity • The Planning/Scheduling Process (5 phases) • Organizing and Managing a Maintenance Planning and Scheduling Process • Roles and Responsibilities Maintenance Planning, Estimating & Scheduling Maintenance Supervisor • Maintenance Engineering • Maintenance Planning and Scheduling Process • Planner/Scheduler Selection & Key Roles Responsibilities • Good Planning Starts With A Good Planner • Factors Influencing Number of Planners (Planner to Craft Ratio) • Duties of a Maintenance Planner • Some Things a Planner Should Not Do 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	1010 – 1135	Where are you Now? • Where you Need to be • ABC Inventory Analysis • Security And Warehouse Access • Establish an Approved Stock List • Assign And Use Bin Locations • Record All Stock Withdrawals • Process All Transactions Quickly • Have Objectives For Purchasing • Know Cost Of Bad Inventory Management • Maintain Accurate Stock Balances • Establish Best Replenishment Path • Establish Reorder Guidelines • Define Replenishment Procedures • Establish Performance Goals • Attack Slow Moving/Dead Inventory • Effective
Inventories: How Much Do We Really Need? Performance Measures • Inventory Turnover • Inventory Turnover Example • Inventory Turnover Formula • Customer Service • Vendor Performance • Excess Inventory Reduction • Inventory Accuracy • Get Maximum Value from Your Maintenance Storeroom • Planning for your Maintenance Storeroom • Planning & Scheduling Will Improve Craft Labor Productivity • Planning & Scheduling Will Improve Craft Labor Productivity • The Planning/Scheduling Process (5 phases) • Organizing and Managing a Maintenance Planning and Scheduling Process • Roles and Responsibilities Maintenance Planning, Estimating & Scheduling Maintenance Supervisor • Maintenance Engineering • Maintenance Planner/Scheduler • Requirements for an Effective Maintenance Planning and Scheduling Process • Planner/Scheduler Selection & Key Roles Responsibilities • Good Planning Starts With A Good Planner • Factors Influencing Number of Planners (Planner to Craft Ratio) • Duties of a Maintenance Planner • Some Things a Planner Should Not Do 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	1135 – 1220	Cycle Counting • Key Problems With Cycle Counting • Key Steps For Cycle Counting • Guidelines for Cycle Counting • Geographic Method • Ranking
Performance Measures • Inventory Turnover • Inventory Turnover Example • Inventory Turnover Formula • Customer Service • Vendor Performance • Excess Inventory Reduction • Inventory Accuracy • Get Maximum Value from Your Maintenance Storeroom • Planning for your Maintenance Storeroom • Planning & Scheduling Will Improve Craft Labor Productivity • Planning & Scheduling Will Improve Craft Labor Productivity • The Planning/Scheduling Process (5 phases) • Organizing and Managing a Maintenance Planning and Scheduling Process • Roles and Responsibilities Maintenance Planning, Estimating & Scheduling Maintenance Supervisor • Maintenance Engineering • Maintenance Planner/Scheduler • Requirements for an Effective Maintenance Planning and Scheduling Process • Planner/Scheduler Selection & Key Roles Responsibilities • Good Planning Starts With A Good Planner • Factors Influencing Number of Planners (Planner to Craft Ratio) • Duties of a Maintenance Planner • Some Things a Planner Should Not Do 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	1220 – 1235	Break
Maintenance Supervisor • Maintenance Engineering • Maintenance Planner/Scheduler • Requirements for an Effective Maintenance Planning and Scheduling Process • Planner/Scheduler Selection & Key Roles Responsibilities • Good Planning Starts With A Good Planner • Factors Influencing Number of Planners (Planner to Craft Ratio) • Duties of a Maintenance Planner • Some Things a Planner Should Not Do 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	1235 – 1345	Performance Measures • Inventory Turnover • Inventory Turnover Example • Inventory Turnover Formula • Customer Service • Vendor Performance • Excess Inventory Reduction • Inventory Accuracy • Get Maximum Value from Your Maintenance Storeroom • Planning for your Maintenance Storeroom • Planning & Scheduling Will Improve Craft Labor Productivity • Planning & Scheduling Will Improve Craft Labor Productivity • The Planning/Scheduling Process (5 phases) • Organizing and Managing a Maintenance Planning and Scheduling
1420 – 1430 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	1345 – 1420	Maintenance Supervisor • Maintenance Engineering • Maintenance Planner/Scheduler • Requirements for an Effective Maintenance Planning and Scheduling Process • Planner/Scheduler Selection & Key Roles Responsibilities • Good Planning Starts With A Good Planner • Factors Influencing Number of Planners (Planner to Craft Ratio) • Duties of a Maintenance Planner • Some
1430 Lunch & End of Day Three		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

Maintenance Planning, Estimating & Scheduling (cont'd) Backlog Management	<u> , </u>	
Maintenance Planning, Estimating & Scheduling (cont'd) Detailed Planning and Breakdown of Job Steps ● Job Preparation & the Planned Job Package ● Getting Feedback on the Job Plan ● Coordinating Equipment Access, Permitting, Safety and Compliance Issues ● An Important Partnership for Effective Planned Maintenance ● Responsibilities of the Planner/Scheduler to the Materials Management Process ● Maintenance ● Storeroom ● Materials Management's Support to Proactive, Planned Maintenance ● Key Procedures for Effective Scheduling ● Job Loading Maintenance Planning, Estimating & Scheduling (cont'd) Job Scheduling ● Labor Deployment Plan ● Key Guidelines for Completing the Scheduling Process ● Do not Schedule a Job Until All of these Things are in Place ● Supervisor Responsibility for Job Execution ● Handling Schedule Adjustments ● The Morning Meeting ● Job Close Out and Follow Up ● Schedule Compliance ● Reasons for Schedule Non-Compliance 1245 − 1300 Break The Role of Maintenance & Operations in World-Class Organizations What is Maintenance? ● The Evolution of Maintenance ● Downtime versus Repair Time ● The Four Stages of Maintenance ● Types of Maintenance ● Predictive Maintenance (PdM) ● Statistical Analysis of Equipment Failure Data ● Data Analysis ● Reliability Availability and Maintainability (RAM) ● What is Total Productive Maintenance (TPM)? ● A Total Productive Maintenance (TPM) Definition ● Another TPM Definition ● TPM Principles ● The Eight Major Pillars of TPM ● Operator Autonomous Maintenance ● Key Operation Success Factors ● QESH or QUENSH: Quality, Environment, Safety & Health 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	0730 – 0930	Backlog Management • Valid Priority System • Steps for an Effective Planning Process • Criteria of a Planned Job • What Work Orders to Be Planned and How Much Planning is Enough • Informational Support-The Maintenance Technical Library • Screening Work Requests • Evaluating the Job for Scope of Work • Job
Detailed Planning and Breakdown of Job Steps • Job Preparation & the Planned Job Package • Getting Feedback on the Job Plan • Coordinating Equipment Access, Permitting, Safety and Compliance Issues • An Important Partnership for Effective Planned Maintenance • Responsibilities of the Planner/Scheduler to the Materials Management Process • Maintenance Storeroom • Materials Management's Support to Proactive, Planned Maintenance • Key Procedures for Effective Scheduling • Job Loading Maintenance Planning, Estimating & Scheduling (cont'd) Job Scheduling • Labor Deployment Plan • Key Guidelines for Completing the Scheduling Process • Do not Schedule a Job Until All of these Things are in Place • Supervisor Responsibility for Job Execution • Handling Schedule Adjustments • The Morning Meeting • Job Close Out and Follow Up • Schedule Compliance • Reasons for Schedule Non-Compliance 1245 - 1300	0930 - 0945	Break
Job Scheduling • Labor Deployment Plan • Key Guidelines for Completing the Scheduling Process • Do not Schedule a Job Until All of these Things are in Place • Supervisor Responsibility for Job Execution • Handling Schedule Adjustments • The Morning Meeting • Job Close Out and Follow Up • Schedule Compliance • Reasons for Schedule Non-Compliance 1245 – 1300 Break The Role of Maintenance & Operations in World-Class Organizations What is Maintenance? • The Evolution of Maintenance • Downtime versus Repair Time • The Four Stages of Maintenance • Types of Maintenance • Predictive Maintenance (PdM) • Statistical Analysis of Equipment Failure Data • Data Analysis • Reliability Availability and Maintainability (RAM) • What is Total Productive Maintenance (TPM)? • A Total Productive Maintenance (TPM) Definition • Another TPM Definition • TPM Principles • The Eight Major Pillars of TPM • Operator Autonomous Maintenance • Key Operation Success Factors • QESH or QUENSH: Quality, Environment, Safety & Health 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	0945 – 1100	Detailed Planning and Breakdown of Job Steps • Job Preparation & the Planned Job Package • Getting Feedback on the Job Plan • Coordinating Equipment Access, Permitting, Safety and Compliance Issues • An Important Partnership for Effective Planned Maintenance • Responsibilities of the Planner/Scheduler to the Materials Management Process • Maintenance Storeroom • Materials Management's Support to Proactive, Planned Maintenance • Key Procedures for Effective
The Role of Maintenance & Operations in World-Class Organizations What is Maintenance? • The Evolution of Maintenance • Downtime versus Repair Time • The Four Stages of Maintenance • Types of Maintenance • Predictive Maintenance (PdM) • Statistical Analysis of Equipment Failure Data • Data Analysis • Reliability Availability and Maintainability (RAM) • What is Total Productive Maintenance (TPM)? • A Total Productive Maintenance (TPM) Definition • Another TPM Definition • TPM Principles • The Eight Major Pillars of TPM • Operator Autonomous Maintenance • Key Operation Success Factors • QESH or QUENSH: Quality, Environment, Safety & Health 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	1100 – 1245	Job Scheduling • Labor Deployment Plan • Key Guidelines for Completing the Scheduling Process • Do not Schedule a Job Until All of these Things are in Place • Supervisor Responsibility for Job Execution • Handling Schedule Adjustments • The Morning Meeting • Job Close Out and Follow Up • Schedule Compliance •
The Role of Maintenance & Operations in World-Class Organizations What is Maintenance? • The Evolution of Maintenance • Downtime versus Repair Time • The Four Stages of Maintenance • Types of Maintenance • Predictive Maintenance (PdM) • Statistical Analysis of Equipment Failure Data • Data Analysis • Reliability Availability and Maintainability (RAM) • What is Total Productive Maintenance (TPM)? • A Total Productive Maintenance (TPM) Definition • Another TPM Definition • TPM Principles • The Eight Major Pillars of TPM • Operator Autonomous Maintenance • Key Operation Success Factors • QESH or QUENSH: Quality, Environment, Safety & Health 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	1245 - 1300	'
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		The Role of Maintenance & Operations in World-Class Organizations What is Maintenance? ● The Evolution of Maintenance ● Downtime versus Repair Time ● The Four Stages of Maintenance ● Types of Maintenance ● Predictive Maintenance (PdM) ● Statistical Analysis of Equipment Failure Data ● Data Analysis ● Reliability Availability and Maintainability (RAM) ● What is Total Productive Maintenance (TPM)? ● A Total Productive Maintenance (TPM) Definition ● Another TPM Definition ● TPM Principles ● The Eight Major Pillars of TPM ● Operator Autonomous Maintenance ● Key Operation Success Factors ●
1430 Lunch & End of Day Four		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	
	ISO 9001: 2008 in Simple Terms
	ISO 9001:2008 Made Simple • ISO 9001:2008 and Other Elements of the IMS are
0730 - 0930	Based on the Methodology Known as PDCA (Plan-Do-Check-Act) • Process
	Basics • Reliability Centered Maintenance (RCM) • Functional Failure •
	Categories of Functional Failures • Failure Mode Types
0930 - 0945	Break
	ISO 9001: 2008 in Simple Terms (cont'd)
0945 - 1030	The Failure Process • RCM - The Analytical Decision Logic • RCM - The
	Functional Block Diagram • Maintenance Tasks • MSG3 Decision Logic











1030 – 1130	Maintenance Key Performance Indicators BS EN 15341 Standard Why Measure? ● Introduction ● What are KPIs? ● Scope ● Terms & Definitions ● Maintenance Performance ● System of Indicators ● Objectives ● Architecture of Key Indicators ● Economic Key Indicators ● Technical Key Indicators ● Organizational Indicators
1130 - 1145	Break
1145 – 1230	Maintenance Key Performance Indicators BS EN 15341 Standard (cont'd) Methodology for the Selection & Use of Key Performance Indicators ● Desirable Characteristics of KPIs ● Defining the Objectives ● Selecting the Relevant Indicators ● Selecting Indicators ● Defining, Collecting the Basic Data ● Calculating the Indicators ● Type of Presentation ● Test and Validation ● Analysis of the Results ● Assessing KPI Usefulness
1230 - 1300	Evaluation Criteria for Reliability-Centered Maintenance Processes SAE JA 1011 Definition ● Reliability-Centered Maintenance ● Information to be gathered
1300 - 1315	Course Conclusion Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course
1315 - 1415	COMPETENCY EXAM
1415 – 1430	Presentation of Course Certificates
1430	Lunch & End of Course

<u>Practical Sessions</u>
This practical and highly-interactive course includes real-life case studies and exercises:-











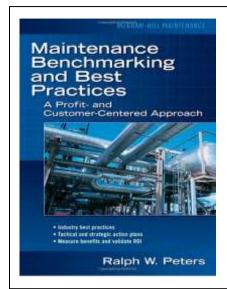






Book(s)

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



Title : Maintenance Benchmarking and Best

Practices

ISBN : 978-0071463393 **Author** : Ralph Peters

Publisher: McGraw-Hill Professional

Course Coordinator

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