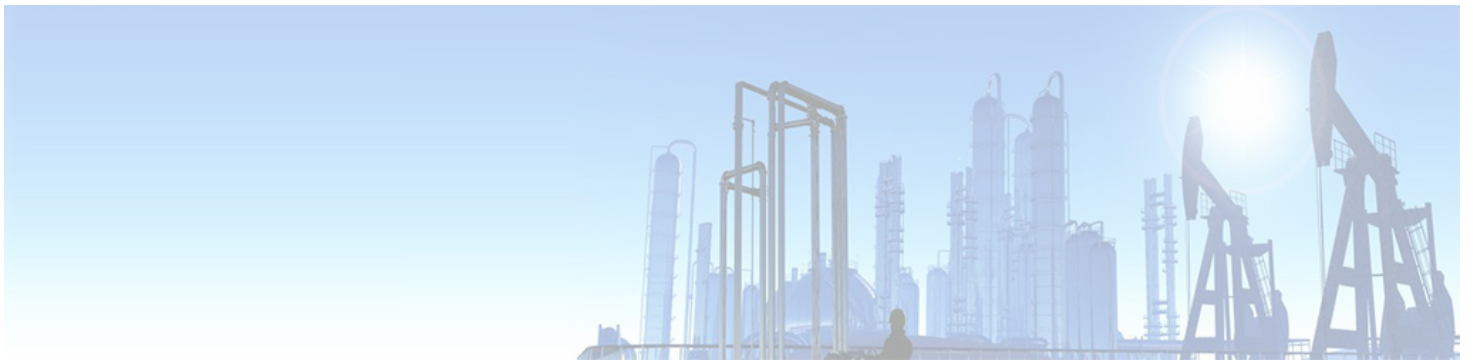


Advanced Maintenance Planning & Scheduling



Partner



CAPSOURCE

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Course Overview

Maintenance planning and scheduling using structured and systematic approaches are critical for every successful plant. Maintenance planning and scheduling are the fastest and most effective investments that an organization can make to improve plant productivity and equipment availability.

This course is designed to build competency in advanced maintenance planning and scheduling. The techniques that participants will learn in this course will allow for effective planning and scheduling of maintenance resources.

The course covers the advanced methods and applications that a suitably qualified professional would use in carrying out fully functional plant maintenance. In summary, the course provides a step-by-step practical guide to best practices of maintenance planning and scheduling that will essentially reduce maintenance costs and deliver maximum business benefits.

Benefits of Attending

- Up to 100% more work done with effective scheduled maintenance
- 'Tool time' can rise to 50% of maintainers' day
- Planned work is 4 – 12 times more efficient
- Planned work is 3 – 9 times less costly than reactive work
- On larger jobs an hour of planning saves 3 – 5 hours of execution
- 90% of your work can be planned, hence all resources can be allocated better
- 95% of work can be done when first scheduled, resulting in better time management
- Overall – lower cost, improved efficiency

Who Should Attend

- Maintenance Operatives and Managers
- Health, Safety and Environmental Professionals
- Oil Movement Personnel
- Operational Managers
- Planning Managers
- NDT Inspectors
- Mechanical Engineers
- Plant Managers
- Tank Farm Managers
- Inspection Engineers

Key Issues To Be Addressed

- The Impact of effective strategic maintenance planning on business continuity
- Maximising profits with effective plant management and equipment life cycle control
- Eliminating risks and downtime caused by maintenance defect and failure with highly effective scheduled maintenance
- Optimising usage of structured supporting tools and systems for increased efficiency
- Exploring opportunities to expand new resources with innovative scheduled maintenance system
- Amplifying positive production and operation results with planning and maintenance Key Performance Indicators (KPIs)
- Protect and enhance values of your plant machinery with the advanced maintenance planning and scheduling best practices principles
- Discover how to effectively integrate reliability centered maintenance with maintenance planning and scheduling for achieving maximum machinery uptime and essential reduction of maintenance costs
- Learn practical implementation of advanced maintenance planning and scheduling principles and Computerized Maintenance Management Systems (CMMS)

Pre-event questionnaire

In order for this workshop to fully benefit you, a pre-course questionnaire will be sent to you in order to test the area where your training needs lies. The results from this questionnaire will ensure that this entire workshop will be delivered at a level that is catering to your needs.

Other Relevant Programs by CapSource

- Pressure Vessel Inspection, Defect Assessment and Repair
- Advanced Maintenance Planning & Scheduling
- Pipeline Integrity Management and Corrosion Prevention
- Life Cycle Costing for Plant and Machinery
- Monitoring of Machinery
- Machinery Failure Analysis and Prevention

To obtain a brochure for any of the above events, please email info@capsource.com.my

Partner



General marine and oil Services Ltd (GMO) Rc 228702 is one of the foremost Petroleum and Cargo Inspection Companies in Nigeria. Since inception, GMO has been in the fore front of providing quality services in its core areas of activities which include: Inspection, Laboratory Testing and Quality analysis, Quantity Certification, Calibration Services, EIA, Training and Consultancy Services among others. GMO activities are guided by integrity and professionalism and are executed with the highest professional ethics, by a crop of professional and well trained staff to the satisfaction of our clients and customers. GMO is the one stop vehicle for your business.

Visit GMO at www.generalmarineoil.com.

About the Course Facilitator



Prof. Len Gelman

Prof. Len Gelman (UK) holds PhD and Dr. of Sciences (habilitation) degrees. He has trained and consulted the industry across the world. He is the author of over 200 publications (including 17 patents, 2 books and 2 book chapters) in the areas of maintenance, condition monitoring of complex mechanical systems and root cause analysis. Prof. Gelman has over 35 years of real-life industrial experience in maintenance.

He has developed and delivered training programmes worldwide for both offshore and onshore facilities. This includes maintenance planning and scheduling, machinery failure analysis and prevention, reliability centered maintenance, condition monitoring of machinery, risk assessment for production and operations and problem solving and decision making.

Prof. Gelman is a Fellow of the British Institute of Non-Destructive Testing (BINDT) and UK Institution of Diagnostic Engineers, Chairman of the Condition Monitoring and Diagnostic Technology Technical Committee of the BINDT, President-Elect of the International Institute of Acoustics and Vibration, Honorary Editor of the International Journal of Condition Monitoring and Chairman of the International Society for Condition Monitoring.

He was Editor-in-Chief of the book series “Condition monitoring”; He is Chair of the 2007 World Congress on Engineering Asset Management, Honorary Co-Chair of the 2007, 2008, 2009, 2010, 2011, 2012 and 2013 World Congresses of Engineering and Chair of the 2008, 2009, 2010, 2011, 2012 and 2013 International Condition Monitoring Conferences. Prof. Gelman is a Chief Designer of numerous technologies and engineering prototypes for vibration fault detection/diagnosis/isolation.

Some of his prominent publications are:

- A New Approach for Condition Monitoring and Signal Processing
- Vibro-Acoustic Deposit Detection in Pipelines
- The Optimal Usage of the Fourier Transform for Pattern Recognition, Mechanical Systems and Signal Processing
- Signal Recognition: Fourier Transform vs. Hartley transform, Pattern Recognition
- Vibroacoustical Damping Diagnostics: Complex Frequency Response Function it's Magnitude
- Dynamic Mean Excitation for a Spur Gear
- Electrical Engineering and Intelligent Systems
- Advances in Electrical Engineering and Computational Science
- IAENG Transactions on Engineering Technologies

Prof. Gelman's list of clients includes but not limited to:

- Rolls-Royce
- Boeing
- Indorama
- Shell
- Qatar Petroleum
- SKF
- London Underground
- ERIKS
- Dresser-Rand
- Caterpillar
- ORYX
- Saudi Aramco
- Cidi-Kerir Petrochemicals
- Nurol LLC
- Methanol Chemical Company
- Dolphin Energy Limited

Testimonials

The training has new information about the maintenance management team and it is good for pure mechanical maintenance.

Manager, Service Division

Gulf Medical Co Ltd

Trainer has a lot of knowledge and training is useful for me especially in my career as a planner in my company.

Mechanical Planner

Saudi Cement Company

Very good, excellent content!

Planning Engineer

Gulf Petrochemical Industries Company

Day 1

Monday, 11 May 2015

Module 1

Determining the Maintenance Strategy and Tactics to Ensure Plant's Profits

- Maintenance: the Main Concepts and Top Seven Questions
- Analysing Advantages, Capabilities and Limitations of Maintenance Tactics:
 - Time Based/ Preventive Maintenance
 - Predictive/Condition Based Maintenance
 - Run to Failure/Breakdown Maintenance
 - Maintenance by Redundancy
 - Next Generation Proactive Maintenance with Root Cause Analysis
- Opportunity Maintenance, Windows of Opportunity
- Opportunistic Maintenance
- Shutdown Maintenance
- Corrective Maintenance
- Creative Disassembly in Maintenance
- Precision Assembly & Installation in Maintenance
- Operations vs. Maintenance: Conflict or Collaboration?
- Outsource Maintenance vs. In-House Maintenance: What Works Best for Your Organisation?
- The Key Maintenance Metrics:
 - Mean Time Between Failures
 - Failure Rate and the Instantaneous Failure Rate
 - Reliability

Module 2

Maintenance Planning and Scheduling are the Heart of Maintenance; Considering Top Planning and Scheduling Principles as the Key Elements of Cost-Effective Maintenance

- Planning and Scheduling Maintenance: Who are the Main People?
- Conceptualizing Planning and Scheduling Principles:
 - Top Six Maintenance Planning Principles
 - Top Six Maintenance Scheduling Principles
- How to Select and Utilize Planner to Maximize Benefits of the Planning Process?
- Flow Chart Process of Maintenance Planning and Scheduling
- Maintenance Plan
- Advance Schedule for Maintenance Supervisors and Craftsmen
- What is the Importance of Maintenance Planning and Scheduling?
- Maintenance Backlog: Classification and Management

Module 3

Risk is the Important Priority in Maintenance Planning: Developing Risk Based Maintenance that Minimizes Plant Risk

- Principles of Risk Based Maintenance
- Risk Assessment and Hazard Analysis: the Main Techniques
- Fault Tree Analysis for Risk Based Maintenance
- Event Tree Analysis for Risk Based Maintenance
- Hazard Operability Analysis (HAZOP) for Risk Based Maintenance
- Do Human Errors Matter? Analysing Human Factors to Minimise Human Errors and Risk

End of Day 1

If you are interested in attending, contact Daud daud@capsource.com.my
or call +603 2630 6100

Module 4

Developing Optimal Planning Strategy that Increases Reliability and Reduces Maintenance Costs; Considering the Optimal Combination of Maintenance Programs that Best Suits Your Business

- Maintenance Strategy: Seven Stages Process
- Functions, Failures and Failure Rates
- Importance of the P-F Interval for Maintenance Planning
- Asset Operational Context: Does it Work for Maintenance Planning?
- Failure Modes: Root Causes of Functional Failures
- Failure Consequences are the Main Concern; Analysing Failure Consequences and Deciding on the Required Maintenance Action
- Determining When to Prevent Failure and When to Allow Failure to Occur; Replace, Maintain or Refurbish?
 - On-Condition Tasks
 - Restoration Tasks
 - Discard Tasks
- Planning Default Actions
 - Failure-Finding Actions
 - Re-Design
 - Breakdown/Run to Failure
- Cost-Benefit Analysis for Optimizing Maintenance Planning
- Maintenance Planning Should Be Optimized:
 - Optimal Planning of Proactive Maintenance Actions and Default Maintenance Actions
 - Logic Diagram for Optimal Maintenance Planning
- Reliability Centered Maintenance and Maintenance Planning: Let's Work Together for Achieving the Highest Plant Benefits
- Spare Parts: Management and Outsourcing
- Effective Integration of Maintenance with Equipment: Industrial Case Studies

Module 5

Bridging the Gap between Failure Analysis and Maintenance Planning to Ensure that Necessary Resources are Correctly Allocated

- Planning Failure Mode and Effect Analysis (FMEA) for Maintenance Planning and Scheduling
 - Review Design and Operation of Chosen Equipment
 - Review Failure History and Failure Modes
 - Review Root Causes of Failure Modes
 - Review Failure Consequences
 - Review Detection/Diagnosis Capabilities
 - Estimate the Risk Priority Numbers
 - Plan Optimised Maintenance Tasks
- FMEA: Ranking Criteria and Case Studies
- Failure Mode, Effect and Criticality Analysis (FMECA) for Maintenance Planning and Scheduling
- FMECA: Case Study

Day 2

Tuesday, 12 May 2015

Module 6

Improving Asset Efficiency through Shutdown Planning and Scheduling; Streamlining Best Practices During Shutdowns; Scoping Shutdown and Overhaul

- When Shutdown Should Start? Shutdown Stages:
 - - Pre-Shutdown Stage
 - - Shutdown Stage
 - - Post-Shutdown Stage
- Effective Shutdown Preparation for Maximizing Shutdown Success
- Completing the Shutdown Schedule
- Shutdown: External Risks
- Top Planning Factors that Ensure Shutdown Success
 - - Shutdown Work List
 - - Shutdown Work Scope
 - - Shutdown Job and Task Planning
 - - Focus on Overall Daily Work Completion
 - - Purchased Materials and Services
 - - Shutdown Strategic Planning
 - - Stress During Shutdown
- Management of Overhauls:
 - - Time Between Overhauls
 - - Service Limit Overhauls
 - - New Limit Overhauls
- FMECA: Case Study

End of Day 2

Day 3

Wednesday, 13 May 2015

Module 7

Improving Asset Efficiency through Shutdown Planning and Scheduling; Streamlining Best Practices During Shutdowns; Scoping Shutdown and Overhaul
Advancing Maintenance by Condition Based Maintenance and Root Cause Analysis to Cut Unnecessary Maintenance Costs; the Next Generation Proactive Maintenance for Extending the Useful Life of Assets

- Principles of Root Cause Analysis of Failures for the Proactive Maintenance; Top Six Root Causes of Faults/Failures
- Guidance for Root Causes of Assets Failures
- Planning Industrial Root Cause Analysis: 17 Industrial Case Studies
- New International Standard for Proactive/Condition Based Maintenance
- Condition Based Maintenance: the Main Technologies
- 4 Industrial Case Studies

Day 3

Wednesday, 13 May 2015

Module 8

Implementing the Next Generation Software, Enterprise Resource Planning, that Significantly Reduces Costs and Improves Enterprise Productivity, Quality and Control

- Enterprise Resource Planning (ERP) Software
- ERP Requirements
- The Main Software Modules
- The Main Trends in the ERP
- Two Tier ERP Software
- ERP: Does it Works for Small Business?
- ERP Implementation

Module 9

Improving Maintenance Planning and Scheduling via Maintenance Planning Software

- Do We Know and Efficiently Exploit Capabilities of the Computerized Maintenance Management Systems (CMMS)?
 - Asset Records
 - Asset Control
 - Plant and Equipment Information
 - Planning Documents and their Control
 - Maintenance Performance Indicators
 - Inventory/Stores
- Building Asset Database Analysis and Planning Effective Maintenance via Advanced Maintenance Software:
 - Equipment Selection
 - Failure/Fault Consequence Classification
 - Priority of Maintenance Tasks
 - Frequency for Predictive Maintenance
 - Optimum Combination of Maintenance Tasks
 - Corrective Maintenance
 - Management of FMEA and FMECA
 - Maintenance Tasks: Reports and Graphical Presentation

End of Day 3

Training Schedule

- 8.30 am – Registration
- 9.00 am – Training Commences
- 10.30 am – Morning Refreshments
- 10.45 am – Training Resumes
- 1.00 pm – Lunch Break
- 2.00 pm – Training Resumes
- 3.30 pm – Afternoon Refreshments
- 3.45 pm – Training Resumes
- 5.30 pm – End of Training Day

Delegate Registration Form

ADVANCED MAINTENANCE PLANNING & SCHEDULING LG-TR-ME1514 Lagos, Nigeria 11 - 13 May, 2015	NORMAL PRICE USD 3,995	REGISTRATION 5 or more USD 3,195 each

Return this signed form to:

DAUD

Fax : +603 4131 6700

Tel : +603 2630 6100

Email : daud@capsource.com.my

1st DELEGATE

Name: Dr/Mr/Ms _____

Department & Job Title: _____

E-mail: _____

Company: _____

Address: _____

Mobile No: _____ Tel: _____

2nd DELEGATE

Name: Dr/Mr/Ms _____

Department & Job Title: _____

E-mail: _____

Company: _____

Address: _____

Mobile No: _____ Tel: _____

3rd DELEGATE

Name: Dr/Mr/Ms _____

Department & Job Title: _____

E-mail: _____

Company: _____

Address: _____

Mobile No: _____ Tel: _____

4th DELEGATE

Name: Dr/Mr/Ms _____

Department & Job Title: _____

E-mail: _____

Company: _____

Address: _____

Mobile No: _____ Tel: _____

AUTHORISATION

I understand and agree to CapSource terms and conditions (Signatory must be authorised to sign on behalf of contracting Organisation)

Name: _____

Job Title: _____

Date: _____

Direct Line: _____

Company Stamp

INVOICE DETAILS

Name: _____

Department & Job Title: _____

E-mail: _____

Company: _____

Direct Line: _____

FINANCE CONTACT DETAILS

Name: _____

Department & Job Title: _____

E-mail: _____

Company: _____

Direct Line: _____

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- A replacement participant is always welcomed at no additional charge.

- For cancellations received in writing more than seven (7) days prior to the conference, the participant is entitled to pay full amount (100%) stated on the invoice and it will receive Credit Voucher that can be used in any of upcoming trainings by Capsoure within one year form the date of issuance.

- For cancellations received in writing seven (7) days or less prior to an event (including day 7), participant is entitled to pay full amount (100%) stated on the invoice with no Credit Voucher issued, however the delegate will still be entitled to a complete set of course documentation.

In the event that CapSource cancels or postpones an event due to circumstances beyond its control, participants' payments at the date of cancellation or postponement will be credited to a future-scheduled CapSource event within one year from the date of issuance. Should the event be cancelled due to an act of terrorism, fortuitous events, extreme weather conditions, industrial action, or any reasons beyond management control, CapSource shall endeavour to reschedule, but the client hereby indemnifies and holds CapSource harmless from and against any and all costs including airfare, hotel and other costs, damages and expenses, including attorney fees.