COURSE OVERVIEW PM0417
Planning, Design & Follow-up of Technical & Engineering Projects & Contracts

Course Title
Planning, Design & Follow-up of Technical & Engineering Projects & Contracts

Course Date/Venue
January 21-25, 2024/Club C, Ramada Plaza By Wyndham Istanbul City Center, Istanbul, Turkey

Course Reference
PM0417

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 presents the principles and techniques of managing engineering and construction projects from the conceptual phase, through design and construction, to completion. It emphasizes project management during the early stages of project development because the ability to influence the quality, cost, and schedule of a project can best be achieved during the early stages of development.

Although each project is unique, there is certain information that must be identified and organized at the beginning of a project, before any work is started. Numerous tables and graphs are presented and discussed throughout this course to provide guidelines for management of the three basic components of a project: scope, budget, and schedule.

Project management requires teamwork among the three principal contracting parties: the owner, designer, and contractor. The coordination of the design and construction of a project requires planning and organizing a team of people who are dedicated to a common goal of completing the project for the owner. Even a small project involves a large number of people who work for different organizations. The key to a successful project is the selection and coordination of people who have the ability to detect and solve problems to complete the project.

Throughout this course the importance of management skills is emphasized to enable the participant to develop his or her own style of project management. The focus is to apply project management at the beginning of the project, when it is first approved. Too often the formal organization to manage a project is not developed until the beginning of the construction phase. The course presents the information that must be assembled and managed during the development and engineering design phase to bring a project to successful completion for use by the owner.

Course Objectives

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

- Apply and gain an in-depth knowledge on planning, design and follow-up of technical and engineering projects and contracts
- Define project, ensure quality in a project and identify the responsibilities of parties and the purpose of project management
- Recognize the types and functions of management, the key concepts of project management and the role of project manager
- Work with project teams and initiate project covering design and construction process, advances in the engineering and construction process, project strategy, selection of design firms and construction contractors and partnering
- Discuss the importance of early estimates and apply estimating work process, establishing an estimate work plan, methods and techniques, estimate checklist, documentation and reviews as well as risk assessment, risk analysis, traditional methods of assigning contingency and estimate feedback for continuous improvement
- Carryout project budgeting and development of work plan
- Design proposals and employ project scheduling and tracking of work
- Design coordination and illustrate construction phase and project close out
- Improve personal management skills by applying time management, communications, presentations, meetings, reports and letters
- Employ risk management process, guidelines for the risk management process, risk assessment and risk analysis of schedule using PERT and simulation

Who Should Attend

This course is designed to provide an up-to-date overview of planning, design and follow-up of technical and engineering projects and contracts for those involved in managing engineering and construction projects. This includes project managers, project engineers, facility engineers, operations engineers and other related project and engineering staff.

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 accreditation by the following international accreditation organizations:

- 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.

- 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.

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. Saleh Aich is a **Senior Engineer & Project Management Consultant** with over **20 years** of extensive experience within the **Oil & Gas**, **Petrochemical** and **Refining** industries. His expertise widely covers in the areas of **Project** Management Practices, **Project** Management Disciplines, **Project Risk** Management, **Risk** Identification Tools & Techniques, **Project** Life Cycle, **Project Stakeholder** & Governance, **Project Management** Processes, **Project Integration** Management, **Project** Management Plan, **Project Work** Monitoring & Control, **Project Scope** Management, **Project Time** Management, **Project Cost** Management, **Project Quality** Management, **Quality** Assurance, **Project Human Resource** Management, **Project Communications** Management, **Contract** Management, **Project & Contracts** Management Skills, **Project & Construction** Management, **Project** Planning, Scheduling & Control, **Project** Management and Project Delivery & Governance Framework. Further, he is also well-versed in **Shutdown & Turnaround**, **Maintenance Planning & Scheduling**, **Reliability Maintenance** Management, **Spareparts & Inventory** Management, **Combustion** Techniques, **Combustion** System Performance, **Pump** Operation & Maintenance, **Compressor** Maintenance & Troubleshooting, **Gas Turbine** Control & Protection Systems, **Valve** Troubleshooting & Maintenance, **Vibration** Analysis, **Oil** Analysis, **Dry Gas Seals**, Packing & Mechanical **Seals**, **Seal** Support Systems, **Mechanical Seal** Failure Analysis & Troubleshooting, **Seal** Maintenance & Repair, **Bearing** Care & Maintenance, **Couplings & Alignment**, **Alignment Methods**, Troubleshooting **Piping & Pipe Support** Systems, **Heat Exchangers** Maintenance & Inspection, **Pressure Vessel** Design, Fabrication & Testing, **Burners**, **Blowers**, Piston & Plunger **Gearboxes**, Fin-Fans, Separators, Expansion Drums, Filters, Molecule Sieve, Tanks, Fittings, Root Cause Failure Analysis (**RCFA**), Computerized Maintenance Management System (**CMMS**), **Maintenance** Management, **Planning & Scheduling** Work Management, **Parts & Inventory** Management, **Turnaround & Shutdowns**, **Condition Monitoring**, Regeneration Unit, NGL & Condensate, **Furnace** Operation & Troubleshooting, Performance Measure & Indicators, Total Productive Maintenance (**TPM**), **Preventive & Predictive** Maintenance Analysis, **Rotating & Static Equipment**, **Machinery & Equipment** Failure Analysis, **Gas & Steam Turbines**, **Boilers**, **Coolers**, **Diesel & Gas Engines**, **Heaters**, **Separators**, **Storage Tanks**, H_2S and ISO 9001:2008 Internal Quality Management System.

During his career life, Mr. Saleh has gained his practical and field experience through his various significant positions and dedication as the **Project Manager**, **Maintenance Instructor**, **Mechanical Supervisor**, **Project Supervisor**, **Maintenance Engineer**, **Mechanical Engineer**, **Contract Engineer**, **Planning Engineer** and **Senior Instructor/Lecturer** for various multi-national companies such as the ADNOC Gas Processing (**GASCO**), **ConocoPhillips** and Syrian Gas Company.

Mr. Saleh has a **Bachelor's** degree in **Mechanical Engineering**. Further, he is a **Certified Instructor/Trainer** and has acquired various certifications and 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.
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Course Fee

US$ 6,000 per Delegate + **VAT**. This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), 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 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: ***Sunday, 21th of January 2024***

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Introduction*** *Definition of a Project ● Ensuring Quality in a Project ● Responsibilities of Parties ● Who Does the Project Manager Work For? ● Purpose of Project Management ● Types of Management ● Functions of Management ● Key Concepts of Project Management ● Role of the Project Manager ● Professional & Technical Organizations*
0930 – 0945	*Break*
0945 – 1100	***Working with Project Teams*** *Project Teams ● Teamwork ● Teams for Small Projects ● Working with Multiple Teams ● Owner's Team ● Design Teams ● Construction Teams ● Team Management*
1100 – 1230	***Working with Project Teams (cont'd)*** *Teams & the Project Manager's Responsibilities ● Key Factors in Team Leadership ● Team Building ● Motivating Teams ● Conflict Management ● Developing a Consensus ● Team Conduct*
1230 – 1245	*Break*

1245 – 1420	***Project Initiation*** *Design & Construction Process ● Advances in the Engineering & Construction Process ● Private versus Public Projects ● Contractual Arrangements ● Phases of a Project ● Owner's Study ● Owner's Needs and Project Objectives Project Scope Definition ● Project Strategy ● Selection of Design Firms & Construction Contractors ● Partnering*
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2: Monday, 22nd of January 2024

0730 – 0930	***Early Estimates*** *Importance of Early Estimates ● Importance of Estimator ● Classification of Early Estimates ● Estimating Work Process ● Importance of Team Alignment in Preparing Early Estimates ● Scope Definition and Early Estimates ● Preparing Early Estimates ● Organizing to Prepare Estimates*
0930 – 0945	*Break*
0945 – 1100	***Early Estimates (cont'd)*** *Establishing an Estimate Work Plan ● Methods and Techniques ● Estimate CheckLists ● Estimate Documentation ● Estimate Reviews ● Risk Assessment ● Risk Analysis ● Contingency ● Traditional Methods of Assigning Contingency ● Estimate Feedback for Continuous Improvement*
1100 – 1230	***Project Budgeting*** *Project Budgets ● Development of Project Estimates for Budgeting ● Levels of Accuracy ● Owner's Estimate for Budgeting ● Weighted Unit Cost Estimating ● Adjustments for Time, Size & Location ● Parametric Estimating ● Economic Feasibility Study ● Design Budgets ● Contractor's Bid*
1230 – 1245	*Break*
1245 – 1420	***Development of Work Plan*** *Project Manager's Initial Review ● Owner's Orientation ● Organizational Structures ● Work Breakdown Structure ● Formats for Work Breakdown Structures ● Forming the Project Team ● Kick-Off Meeting ● Work Packages ● Follow-Up Work ● Project Work Plan*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3: Tuesday, 23rd of January 2024

0730 – 0930	***Design Proposals*** *Evolution of Projects ● Project Execution Plan ● Project Definition ● Problems in Developing Project Definition ● Design Proposals ● Engineering Organization ● Scope Baseline for Budget ● Design Work Package ● Mini-Drawings ● Development of the Design Work Plan ● Engineering Project Controls ● Progress Measurement of Engineering Design*
0930 – 0945	*Break*
0945 – 1100	***Project Scheduling*** *Project Planning and Project Scheduling ● Desired Results of Planning ● Benefits of Planning ● Principles of Planning and Scheduling ● Responsibilities of Parties ● Planning for Multiple Projects ● Techniques for Planning and Scheduling ● Network Analysis Systems ● Development of CPM Diagram from the WBS ● Assigning Realistic Durations*

1100 – 1230	***Project Scheduling (cont'd)*** *Computer Applications ● Schedule Coding System ● Cost Distribution ● Resource Allocations for Design ● Resource Allocations for Construction ● Calculations to Verify Schedules & Cost Distributions ● Program Evaluation and Review Technique (PERT) ● Successor/Predecessor Relationships ● Problems Using Successor/Predecessor Relationships*
1230 – 1245	*Break*
1245 – 1420	***Tracking Work*** *Control Systems ● Linking the WBS & CPM ● Coding Systems for Project Reports ● Control Schedules for Time and Cost ● Relationships Between Time and Work ● Integrated Cost/Schedule/Work ● Percent Complete Matrix Method ● Progress Measurement of Design ● Measurement of Construction Work ● Project Measurement and Control ● Earned-Value System ● Monitoring Project Performance ● Interpretation of Performance Indices ● Analysis Tree of Total Float (TF) & Schedule Performance Index (SPI) ● Causes of Cost /Schedule Variances ● Trend Analysis and Forecasting ● Work Status System*
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, 24th of January 2024

0730 – 0930	***Design Coordination*** *Design Work Plan ● Common Problems in Managing Design ● Producing Contract Documents ● Managing Scope Growth During Design ● Managing Small Projects ● Project Team Meetings ● Weekly/Monthly Reports ● Drawing Index ● Equipment Index ● Distribution of Documents ● Authority/Responsibility Checklist ● Checklist of Duties for Design ● Team Management ● Evaluation of Design Effectiveness ● Constructability ● Post Design Review*
0930 – 0945	*Break*
0945 – 1100	***Construction Phase*** *Importance of Construction ● Assumptions for Construction Phase ● Contract Pricing Formats ● Design/Bid/Build Method of Project Delivery ● Design/Build Method of Project Delivery ● Construction Management Method of Project Delivery ● Bridging Project Delivery Method ● Build-Operate-Transfer ● Fast-Track Projects ● Turn-Key Projects ● Design Development and Performance Specifications ● Key Decisions for Project Delivery ● Prospective Bidders and Bidding ● Qualification-Based Selection (QBS) ● Checklist for Bidding*
1100 – 1230	***Construction Phase (cont'd)*** *Keys to a Successful Project ● Construction Schedules ● Problems with Construction Schedules ● Precautions for Construction Submittals ● Delivery Dates of Owner-Furnished Equipment or Materials ● Scheduling Contractor Procured & Installed Equipment ● Contract Schedule Constraints ● Sequestering Float ● Schedule Updates ● Relations with Contractors ● Check List of Duties ● Quality Control ● Dispute Resolutions ● Job-Site Safety ● Management of Changes ● Resource Management*

1230 – 1245	Break
1245 – 1420	***Project Close Out*** *System Testing & Start-Up ● Final Inspection ● Guarantee and Warranties ● Lien Releases ● Record and As-Built Drawings ● Check List of Duties ● Disposition of Project Files ● Post Project Critique ● Owner's Feed-Back*
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, 25th of January 2024

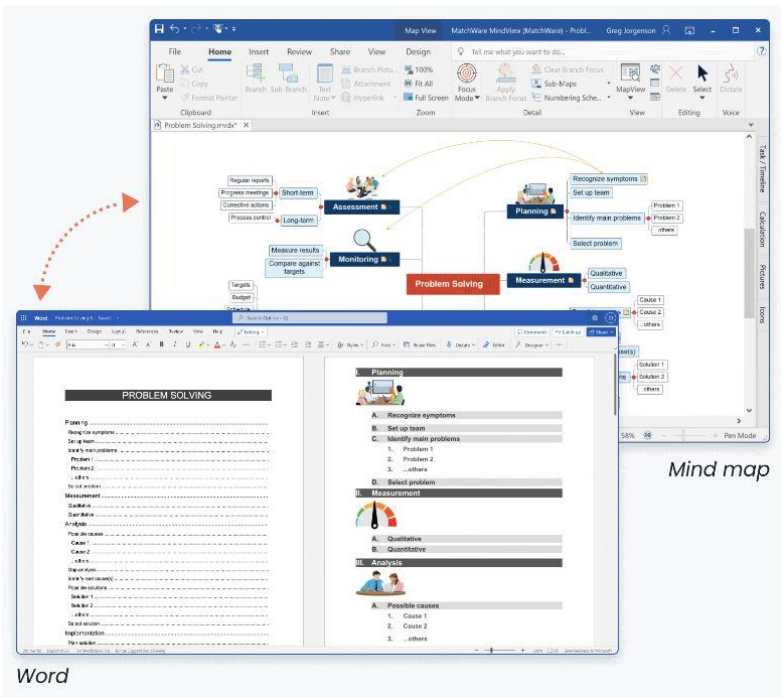
0730 – 0930	***Personal Management Skills*** *Challenges & Opportunities ● Using New Innovations ● Human Aspects ● Assignment of Work ● Motivation ● Decision Making*
0930 – 0945	*Break*
0945 – 1100	***Personal Management Skills (cont'd)*** *Time Management ● Communications ● Presentations ● Meetings ● Reports & Letters*
1100 – 1230	***Risk Management*** *Risk Management Process ● Guidelines for the Risk Management Process ● Risk of Owner, Designers & Contractor ● Risk Assessment ● Risk Analysis ● Risk Analysis of Costs ● Risk Analysis of Schedule using PERT*
1230 – 1245	*Break*
1245 – 1345	***Risk Management (cont'd)*** *Risk Analysis Using Simulation ● Risk Analysis of Schedule Using Simulation ● Mitigation of Risk ● Project Risk Register Development of the Initial Project Risk Register ● Strategies to Mitigate a Risk ● Methods to Prevent or Mitigate Plan Risks ● Development of a Risk Mitigation Plan*
1345– 1400	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course*
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
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 "MS Project" and "Mindview Software".

Microsoft Office Project

Enterprise Project Management Solution



Mindview Software

Course Coordinator

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