COURSE OVERVIEW PM0250
Management of Detailed Engineering

Course Title
Management of Detailed Engineering

Course Date/Venue
November 16-20, 2025/Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE

Course Reference
PM0250

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

Course Description

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

This course is designed to provide participants with a detailed and up-to-date overview of Management of Detailed Engineering. It covers the engineering phases in projects, project manager's role in detailed engineering and detailed engineering deliverables; organizing and mobilizing the engineering team; the work breakdown structure (WBS) for detailed engineering; the civil and structural engineering scope, mechanical and piping engineering and electrical and instrumentation engineering; the engineering document management system (EDMS); the clash detection and interdisciplinary reviews; the engineering schedule development; and monitoring and controlling engineering progress, design change and revision management.

During this interactive course, participants will learn the engineering cost control, quality assurance; controlling in design and client and stakeholder management; the design interface management, vendor data and technical review and procurement and construction integration; the risks in design phase and the mitigation strategies; the HAZOP/HAZID input tracking and design contingency planning; the final deliverables and document packages, red-line drawings and as-built updates; the completion certificate for design phase and engineering punch list closure; the engineering KPI review and performance metrics, design excellence and innovation and audit and governance in engineering.

Course Objectives

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

- Apply and gain a comprehensive on management of detailed engineering
- Discuss the engineering phases in projects, project manager's role in detailed engineering and detailed engineering deliverables
- Organize and mobilize the engineering team and illustrate work breakdown structure (WBS) for detailed engineering
- Determine civil and structural engineering scope, mechanical and piping engineering and electrical and instrumentation engineering
- Recognize engineering document management system (EDMS) and apply clash detection and interdisciplinary reviews
- Carryout engineering schedule development, monitoring and controlling engineering progress, design change and revision management
- Employ engineering cost control, quality assurance and control in design and client and stakeholder management
- Apply design interface management, vendor data and technical review and procurement and construction integration
- Identify risks in design phase and apply mitigation strategies, HAZOP/HAZID input tracking and design contingency planning
- Discuss final deliverables and document packages, red-line drawings and as-built updates, completion certificate for design phase and engineering punch list closure
- Apply engineering KPI review and performance metrics, design excellence and innovation and audit and governance in engineering

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 management of detailed engineering for lead engineers, cost engineers and estimators, design engineers, construction managers, procurement managers, project managers, quality assurance/control professionals, construction supervisors, stakeholders in large-scale projects and other technical 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 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**. 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.

  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.

- 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.

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.

Course Instructor(s)

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

Mr. Dimitry Rovas, CEng, MSc, PMI-PMP, SMRP-CMRP is a **Senior Project Management Consultant** with extensive industrial experience in **Oil**, **Gas**, **Power** and **Utilities** industries. His expertise includes **Project** Management, **Construction** Management, **Project** Management Planning & Control Techniques, **Project Risk** Management, **Project Budgeting** & **Cost** Management, **Project & Construction** Management, **Contract & Risk** Management, Project Leadership, Communication & Negotiation, **Project** Management Essentials, Writing Scope of Works, **Quality** Management, **Project Acceleration** Techniques, **Scope Control** Management, **Contract** Management, **Asset** Management, **Procurement & Purchasing** Management, **Warehousing**, Quality Management System (**QMS**), **Business** Management, **Project & Contracts** Management Skills, **Project & Construction** Management, **Project** Planning, Scheduling & Control, **Project** Management, Project Delivery & Governance Framework, **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, **Tender** Development, **Contract** Standards & Laws and **Dispute Resolution** & **Risk** Identification. Further, he is also well-versed in **Energy Conservation**, **Electricity Distribution Systems**, **Energy Saving**, **Combined Cycle Power Plant**, **Gas & Steam Turbines**, **Heat Transfer**, **Machine Design**, **Fluid Mechanics**, **Heating & Cooling** Systems, **Heat Insulation** Systems and **Heat Exchanger & Cooling Towers**. He was the **Project Manager** wherein he was managing, directing and controlling all activities and functions associated with the domestic heating/cooling facilities projects.

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

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

Training Methodology

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

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

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

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, 16th of November 2025***

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Overview of Engineering Phases in Projects*** *Conceptual, FEED, and Detailed Engineering Phases • Inputs and Outputs of Detailed Engineering • Interface Between FEED and Detailed Engineering • Position in the Overall Project Lifecycle*
0930 - 0945	*Break*
0945 – 1045	***Project Manager's Role in Detailed Engineering*** *Planning and Initiating Detailed Design • Coordinating Multi-Discipline Teams • Managing Deliverables and Reviews • Liaising with Procurement, Construction, and Client*
1045 - 1145	***Understanding Detailed Engineering Deliverables*** *Typical Outputs by Discipline (P&IDs, Layouts, MTOs, IFCs) • Milestone-Based Progress: 30%, 60%, 90%, 100% • Final Design Package and Issue for Construction (IFC) • Key Submission Documents and Document Matrix*
1145 - 1230	***Organizing & Mobilizing the Engineering Team*** *Defining Roles: Lead Engineers, Designers, Checkers • Engineering Org Chart and Reporting Lines • Kick-Off Meetings and Team Alignment • Engineering Coordination Meetings*
1230 – 1245	*Break*
1245 – 1330	***Work Breakdown Structure (WBS) for Detailed Engineering*** *Engineering WBS and Discipline Segregation • Linking WBS to Deliverables and Schedule • Assigning Responsibility Through RAM (RACI Matrix) • Monitoring Discipline-Specific Progress*

1330 - 1420	***Workshop: Mapping Engineering Scope & Deliverables*** *Select a Sample Project • Identify Key Deliverables by Discipline • Build an Engineering WBS • Link Deliverables to Project Milestones*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day One*

Day 2: ***Monday, 17th of November 2025***

0730 – 0830	***Civil & Structural Engineering Scope*** *Site Grading and Foundation Design • Structural Steel and Concrete Works • Interface with Geotechnical and Architectural Design • Deliverables: Layouts, GA Drawings, BOQs*
0830 – 0930	***Mechanical & Piping Engineering*** *Equipment Design Coordination • Pipe Routing and Stress Analysis • Isometric Generation and MTOs • Coordination with Vendors and Layout Teams*
0930 - 0945	*Break*
0945 – 1130	***Electrical & Instrumentation Engineering*** *SLDs, Cable Routing, and Load List • Instrument Index, I/O List, and Loop Diagrams • Control Room Layouts and Panel Drawings • Integration with DCS and SCADA*
1130 - 1230	***Engineering Document Management System (EDMS)*** *Document Numbering and Revision Control • Internal and External Transmittals • Workflow for Submission and Approval • Integration with Procurement and Construction*
1230 - 1245	*Break*
1245 - 1330	***Clash Detection & Interdisciplinary Reviews*** *3D Model Integration (Navisworks, PDMS, BIM) • Clash Identification and Resolution Process • Model Review Milestones (30%, 60%, 90%) • Action Tracking and Closure System*
1330 - 1420	***Workshop: Coordinating Multi-Discipline Design*** *Review Sample Discipline Deliverables • Identify Interdependencies • Map Review and Approval Workflow • Practice Clash Detection and Issue Resolution*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Two*

Day 3: ***Tuesday, 18th of November 2025***

0730 – 0830	***Engineering Schedule Development*** *Planning Level 3 Engineering Schedule • Milestone Planning: 30%, 60%, 90%, 100% • Critical Path Analysis • Schedule Updates and Slippage Recovery*
0830 – 0930	***Monitoring & Controlling Engineering Progress*** *Progress Measurement Techniques (Weighted, Earned Value) • Progress Reporting Tools and Dashboards • Physical % versus Financial % Tracking • Discipline-Specific Progress KPIs*
0930 - 0945	*Break*
0945 – 1130	***Design Change & Revision Management*** *Design Change Request (DCR) Procedure • Change Impact Analysis (Scope, Schedule, Cost) • Revision Log and Communication Tracking • Client Approval and IFC Update Cycle*

1130 - 1230	***Engineering Cost Control*** *Man-Hour Estimation and Resource Tracking • Engineering Budget vs Actual Tracking • Productivity Monitoring • Avoiding Rework and Inefficiencies*
1230 - 1245	*Break*
1245 - 1330	***Quality Assurance & Control in Design*** *Design Review and Checking Procedures • Quality Checklists by Discipline • Non-Conformance Reporting and Resolution • Design Verification and Validation*
1330 - 1420	***Workshop: Create a Progress & Quality Tracking Dashboard*** *Build a Sample Dashboard with KPIs • Input Earned Progress Data • Add a Change Log and Revision Tracker • Review Trends and Recommend Actions*
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, 19th of November 2025***

0730 – 0830	***Client & Stakeholder Management*** *Aligning Expectations with Design Progress • Client Review Cycles and Comment Incorporation • Technical Clarification Meetings • Handling Conflicting Stakeholder Requirements*
0830 – 0930	***Design Interface Management*** *Interface Register Development • Tracking Cross-Discipline and External Interfaces • Managing Vendor-Engineering Interfaces • Close-Out of Open Technical Points*
0930 - 0945	*Break*
0945 – 1130	***Vendor Data & Technical Review*** *Reviewing Vendor Drawings and Datasheets • Vendor Document Requirements (VDR) • Integration of Vendor Info into Design • Coordination with Procurement and Expediting*
1130 - 1230	***Procurement & Construction Integration*** *IFC Deliverable Release Plan • Construction Work Package Alignment • Technical Support During Procurement • Site Queries and Engineering Response Tracking*
1230 - 1245	*Break*
1245 - 1330	***Design Risk Identification & Mitigation*** *Identifying Risks in Design Phase • Mitigation Strategies (e.g., Modularization) • HAZOP/HAZID Input Tracking • Design Contingency Planning*
1330 - 1420	***Workshop: Stakeholder Coordination Plan*** *Develop a Stakeholder Map • Create a Design Review Schedule • Build an Interface Register • Conduct a Mock Stakeholder Meeting*
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*

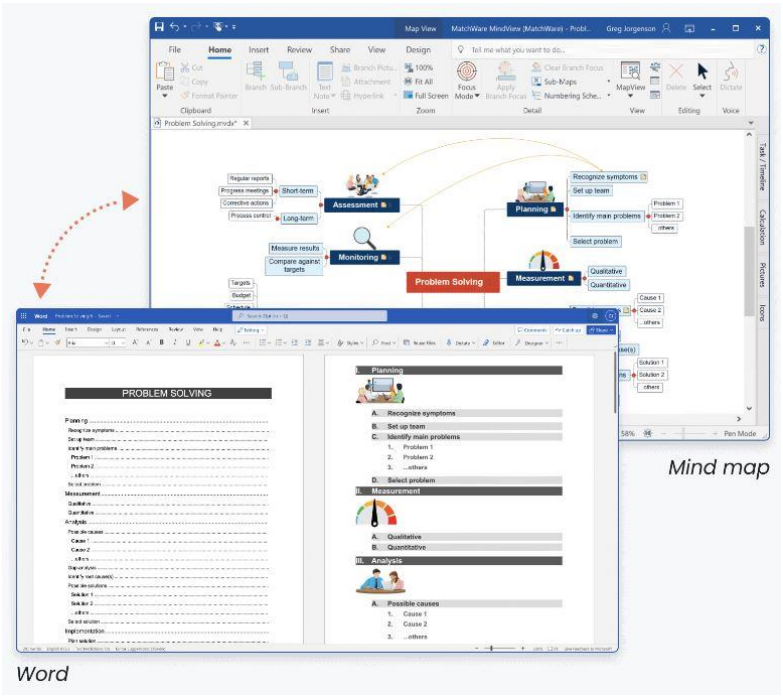
Day 5:	Thursday, 20th of November 2025
0730 – 0830	***Design Close-Out & Handover*** *Final Deliverables and Document Packages • Red-Line Drawings and As-Built Updates • Completion Certificate for Design Phase • Engineering Punch List Closure*
0830 – 0930	***Lessons Learned from Detailed Engineering*** *Capturing Key Learning Points • Review of Discipline Coordination and Tools • Documenting Process Gaps and Improvement Areas • Integrating Lessons into Future Projects*
0930 - 0945	*Break*
0945 – 1100	***Engineering KPI Review & Performance Metrics*** *KPIs: Productivity, Accuracy, Turnaround Time • Measuring Team and Individual Contributions • Project versus Planned Benchmarks • Performance Reports and Scorecards*
1100 – 1200	***Design Excellence & Innovation*** *Introducing Automation in Design • Modular Design and Standardization Benefits • Digital Twin and Model-Based Design • Innovation in Reducing Engineering Cycle Time*
1200 - 1215	*Break*
1215 – 1230	***Audit & Governance in Engineering*** *Technical Audits and Peer Reviews • Client and Third-Party Reviews • Compliance with Codes and Standards • Closing Audit Actions and Governance Reporting*
1230 - 1345	***Capstone Workshop: Full Detailed Engineering Management Plan*** *Create a Full Management Plan for a Sample Project • Include Schedule, Quality, Interfaces, and Risks • Present KPIs and Team Roles • Final Team Presentation and Peer Feedback*
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)

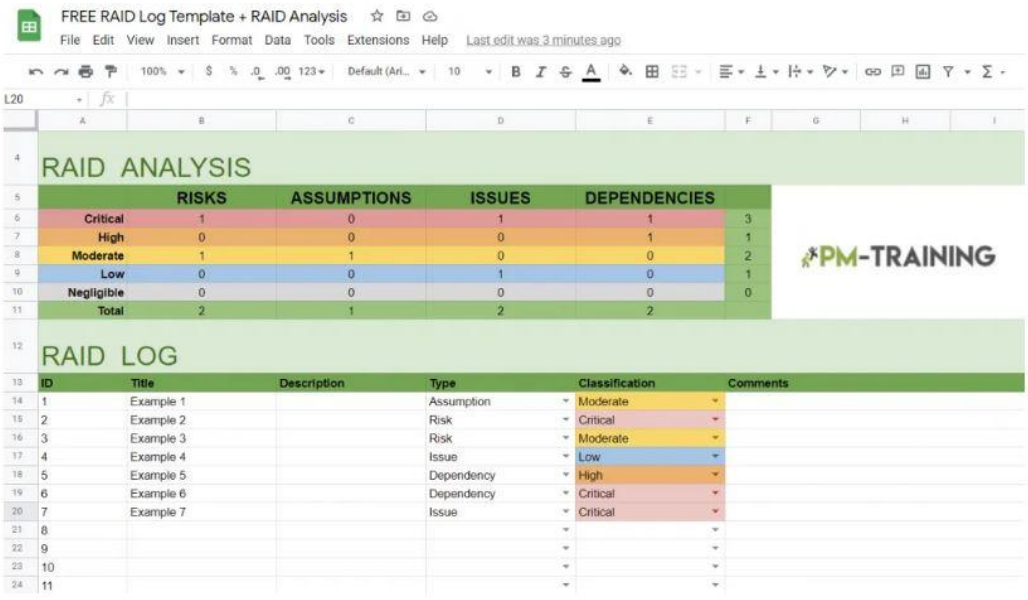
Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using the “MS Project”, “Mindview Software” and “Raidlog Simulator”.

Microsoft Office Project
Enterprise Project Management Solution

MS Project



Mindview Software



FREE RAID Log Template + RAID Analysis

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RAID ANALYSIS

	RISKS	ASSUMPTIONS	ISSUES	DEPENDENCIES	
Critical	1	0	1	1	3
High	0	0	0	1	1
Moderate	1	1	0	0	2
Low	0	0	1	0	1
Negligible	0	0	0	0	0
Total	2	1	2	2	

PM-TRAINING

RAID LOG

ID	Title	Description	Type	Classification	Comments
1	Example 1		Assumption	Moderate	
2	Example 2		Risk	Critical	
3	Example 3		Risk	Moderate	
4	Example 4		Issue	Low	
5	Example 5		Dependency	High	
6	Example 6		Dependency	Critical	
7	Example 7		Issue	Critical	
8					
9					
10					
11					

Raidlog Simulator

Course Coordinator

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