

COURSE OVERVIEW PM0417
Engineering Project Management

Course Title

Engineering Project Management

Course Date/Venue

Session 1: Jan 20-24, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Session 2: August 17-21, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE



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.

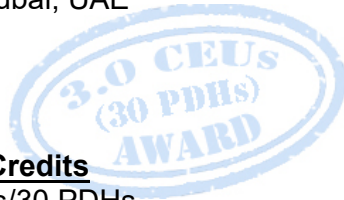


This course presents the principles and techniques of managing engineering and construction projects from the conceptual phase, through design and construction, to completion. It emphasizes project management during the early stages of project development because the ability to influence the quality, 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

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 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 accredited by the following international accreditation organizations:-

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British Accreditation Council (BAC)

Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

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The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units (CEUs)** in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

Course Instructor(s)

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



Dr. Chris Le Roux, PhD, MSc, BSc, PMI-PMP, PMI-CAPM, PMI-ATP, is a **Senior Project & Management Consultant** with almost **50 years** of teaching, training and industrial experience. His expertise lies extensively in the areas of **Project & Contracts Management Skills, Project & Construction Management, Project Planning, Scheduling & Control, Project Management, Project Delivery & Governance Framework, Project Planning & Delegating, Risk, Budgeting & Cost Management** in Projects, **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, Dispute Resolution & Risk Identification, Myers-Briggs Type Indicator (MBTI), Organization Development Consultation, Advanced Debriefing of Emotional Trauma, Interpersonal Motivation, Model Based Interviewing, Emotional Intelligence, Presentation Skills, Communication & Interpersonal Skills, Effective Communication & Influencing Skills, Effective Business Writing Skills, Writing Business Documents, Business Writing (Memo & Report Writing), Leadership & Team Building, Psychology of Leadership, Interpersonal Skills & Teamwork, Coaching & Mentoring, Innovation & Creativity, Office Management & Administration Skills, Controlling Your Time & Managing Stress, Crisis Management, Neuro Linguistic Programming (NLP), Personal Resilience Developing, Effective Role Modelling & Development, Inventory Management and Financial Administration. Further, he is also well-versed in Water Supply System Security, Vulnerability & Terrorism, Integrated Security Systems, Incident Threat Characterization & Analysis, Physical Security Systems, Security Crisis, Security Emergency Plan, Command & Control System, Preventive Actions and Situation Analysis. He was the **Psychologist & Project Manager** wherein he was responsible in the project management and private psychology practices.**

During his career life, Dr. Le Roux has gained his academic and field experience through his various significant positions and dedication as the **Director, Medico Legal Assessor Psychologist, Training & Development General Manager, Project Manager, Account Manager, Commercial Sales Manager, Manager, Sales Engineer, Project Specialist, Psychology Practitioner, Senior HR Consultant, Senior Lecturer, Senior Consultant/Trainer, Business Consultant, Assistant Chief Education Specialist, ASI Coordinator, Part-time Lecturer/Trainer, PMP & Scrum Trainer, Assessor & Moderator, Team Leader, Departmental Head, Technical Instructor/Qualifying Technician, Apprentice Electrician: Signals and Part-Time Electrician** from various companies and universities such as the South African Railway (SAR), Department of Education & Culture, **ESKOM**, Logistic Technologies (Pty. Ltd), Human Development: Consulting Psychologies (HDCP) & IFS, Mincon, Eagle Support Africa, Sprout Consulting, UKZN, Grey Campus, Classis Seminars, CBM Training, just to name a few.

Dr. Le Roux has a **PhD in Commerce Major in Leadership in Performance & Change**, a **Master's degree in Human Resource Management**, a **Bachelor's degree (with Honours) in Industrial Psychology**, a National Higher Diploma and a National Technical Diploma in **Electrical & Mechanical Engineering**. Further, he is a **Certified Project Management Professional (PMI-PMP)**, a **Certified Associate in Project Management (PMI-CAPM)**, a **Certified Authorized Training Partners (PMI-ATP)**, a **Certified Scrum Master Trainer** by the VMEdu, a **Certified Instructor/Trainer** and a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)**. Moreover, he is a **Registered Industrial Psychologist** by the Health Professions Council of South Africa (HPCSA), a **Registered Educator** by the South African Council for Educators (SACE) and a **Registered Facilitator, Assessor & Moderator** with Education, Training and Development Practices (ETDP) SETA. He has further delivered numerous trainings, courses, seminars, conferences and workshops globally.

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\$ 5,5000 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Accommodation

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

Course Program

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

Day 1

0730 – 0800	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

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

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

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

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”.



Course Coordinator

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