

**COURSE OVERVIEW PM0225**  
**Cost Engineering Fundamentals**

**Course Title**

Cost Engineering Fundamentals

**Course Reference**

PM0225

**Course Duration/Credits**

Five days/3.0 CEUs/30 PDHs

**Course Date/Venue**



Sessions	Date	Venue
1	August 12-16, 2024	Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
2	September 22-26, 2024	Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE
3	December 09-13, 2024	Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

**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.***



In today's shrinking world, with increasing competition and the financial market's focus on corporate earnings, managers and engineers are required to meet customer satisfaction, cash flow, profitability and other financial goals. If you are going to survive and excel in this ever-changing and constraining environment, you—the manager or the engineer—must learn how finance and accounting techniques work and how they can impact your project. In addition, you will be required to report on the financial status of your project to your team, the customer and company management.



The first step in successfully managing a project's costs is to have a project budget that realistically reflects the costs for executing the project. This course gives managers and engineers the tools they need to develop reliable cost estimates by assessing necessary project resources, applying one or more cost estimating methods, adjusting the estimates based on resource availability and project risk, and evaluating the quality of cost estimates prepared by others. This course is compliant with the Project Management Institute's (PMI's®) current Project Management Body of Knowledge (PMBOK® Guide).

The goal of this course is to develop skills required to effectively manage the schedule and budget of a project. As part of the Triple Constraints, the quality, the schedule and budget of a project (and the management thereof) are Key Performance Indicators regarding the success of any project. This course will enable the participants to hone the skills necessary to effectively manage the schedule and budget of a project.

### Course Objectives

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

- Apply comprehensive knowledge and skills on estimation and cost engineering
- Estimate several cost items for the project or tender and prepare an outstanding estimation sheets
- Prepare correct budgets for your projects and work from the various cost items and activities and schedules
- Control the cost of your project, department or section and get successful in working within budgets

### 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, sample video clips of the instructor’s actual lectures & practical sessions during the course conveniently saved in a **Tablet PC**.

### Who Should Attend

This course is intended for managers and engineers in general. The course is suitable for projects, planning, estimation, tendering, contracts and maintenance departments and sections.

### 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 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 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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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.

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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.

### Accommodation

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

### Course Instructor

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



**Dr. Chris Le Roux**, PhD, MSc, BSc, PMI-PMP, PMI-CAPM is a **Senior Project & Management Consultant** with over **45 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 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, Leadership Orientation Programme, Coaching & Motivation, Creative Thinking & Problem-Solving Techniques, 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, Strategic Human Resources Management, Change Management, Negotiation Skills, Strategic Planning, Risk Analysis & Risk Management, Global Diverse & Virtual Teams Operation, Exceeding Customer Expectations, Corporate Governance Best Practice, Business Performance Management & Improvement, Building Environment of Trust & Commitment, Win-Win Negotiation Strategies, Quality Improvement & Resource Optimization, Neuro Linguistic Programming (NLP), Personal Resilience Developing, Effective Role Modelling & Development, Managing Dynamic Work Environments, Organizational Development, Career Management, Situation & Behaviour Analysis, Interpersonal Motivation Skills, 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 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.

## Course Program

The following program is planned for this course. However, the course instructor 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	<b>PRE-TEST</b>
0830 – 0930	<b>Cost Engineering &amp; Management</b> Overview of Project Cost Management • Project Life Cycles
0930 – 0945	Break
0945 – 1100	<b>Cost Engineering &amp; Management (cont'd)</b> Cost Estimating and the Project Life Cycle • Project Cost Management Processes
1100 – 1230	<b>Cost Estimating</b> Enterprise Environmental Factors • Organizational Process Assets • Project Scope Statement
1230 – 1245	Break
1245 – 1420	<b>Cost Estimating (cont'd)</b> WBS and WBS Dictionary • Project Schedule and Staffing Management Plan • Risk Register
1420 - 1430	<b>Recap</b> 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

0730 – 0900	<b>Cost Estimating (cont'd)</b> Analogous Estimating • Determine Resource Cost Rates • Bottom-up Estimating • Parametric Estimating
0900 – 0915	Break
0915 – 1100	<b>Cost Estimating (cont'd)</b> Project Management Software • Vendor Bid Analysis
1100 – 1230	<b>Cost Estimating (cont'd)</b> Reserve Analysis • Cost of Quality • Activity Cost Estimates
1230 – 1245	Break
1245 – 1420	<b>Cost Estimating (cont'd)</b> Activity Cost Estimate Supporting Detail • Requested Changes • CMP (Updates)
1420 - 1430	<b>Recap</b> 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**

0730 – 0900	<b>Cost Budgeting</b> <i>Project Scope Statement • WBS and WBS Dictionary • Activity Cost Estimates • Activity Cost Estimate Supporting Detail</i>
0900 – 0915	<i>Break</i>
0915 – 1100	<b>Cost Budgeting (cont'd)</b> <i>Project Schedule Resource Calendars • Contract • Cost Management Plan</i>
1100 – 1230	<b>Cost Budgeting (cont'd)</b> <i>Cost Aggregation • Reserve Analysis • Parametric Estimating • Funding Limit Reconciliation</i>
1230 – 1245	<i>Break</i>
1245 – 1420	<b>Cost Budgeting (cont'd)</b> <i>Cost Baseline • Project Funding Requirements • Cost Management Plan (Updates) • Requested Changes</i>
1420 - 1430	<b>Recap</b> <i>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</i>
1430	<i>Lunch &amp; End of Day Three</i>

**Day 4**

0730 – 0900	<b>Cost Control</b> <i>Cost Baseline • Project Funding Requirements</i>
0900 – 0915	<i>Break</i>
0915 – 1100	<b>Cost Control (cont'd)</b> <i>Performance Reports • Work Performance Information • Approved Change Requests</i>
1100 – 1230	<b>Cost Control (cont'd)</b> <i>Project Management Plan • Cost Change Control System • Performance Measurement Analysis</i>
1230 – 1245	<i>Break</i>
1245 – 1420	<b>Cost Control (cont'd)</b> <i>Earned Value Analysis • Variance Analysis • Forecasting</i>
1420 - 1430	<b>Recap</b> <i>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</i>
1430	<i>Lunch &amp; End of Day Four</i>

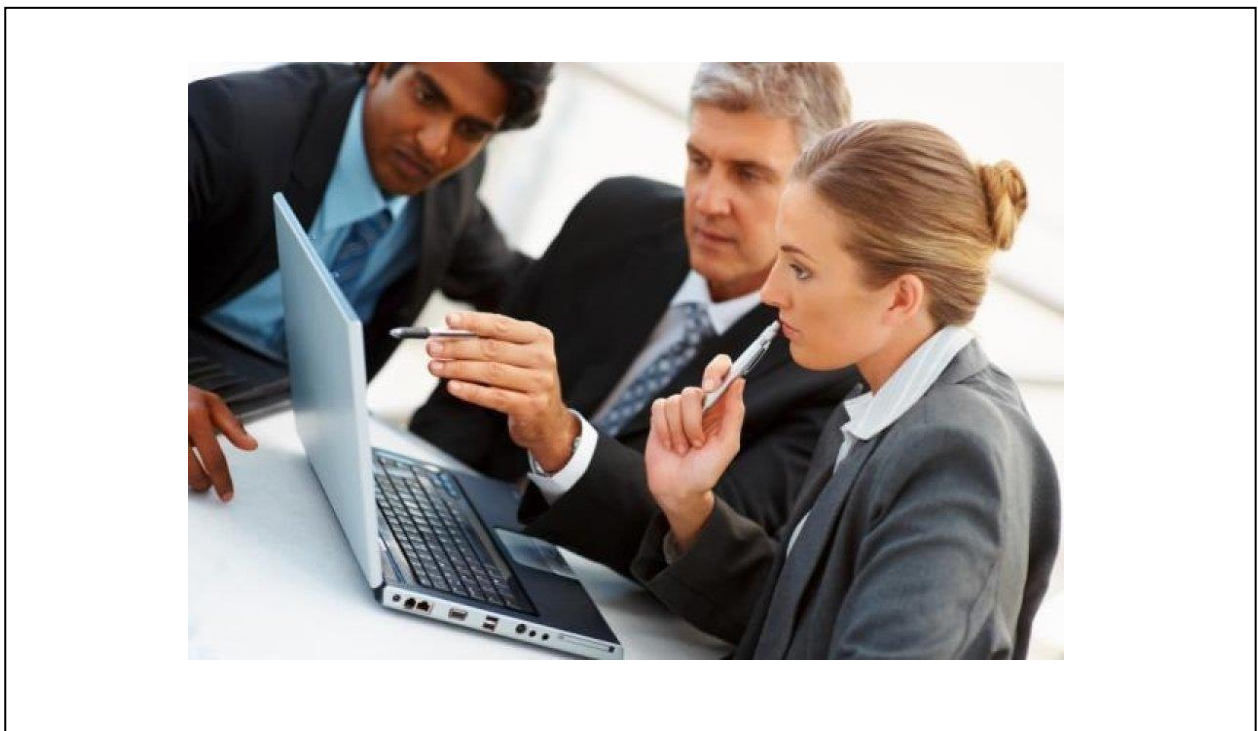
**Day 5**

0730 – 0930	<b>Cost Control (cont'd)</b> <i>Project Performance Reviews • Project Management Software • Variance Management</i>
0930 – 0945	<i>Break</i>
0945 – 1100	<b>Cost Control (cont'd)</b> <i>Cost Estimates (Updates) • Cost Baseline (Updates)</i>
1100 – 1215	<b>Cost Control (cont'd)</b> <i>Performance Measurements • Forecasted Completion • Requested Changes • Recommended Corrective Actions</i>

1215 - 1230	Break
1230 - 1345	<b>Cost Control (cont'd)</b> Organization Process Assets (Updates) • Project Management Plan Updates)
1345 - 1400	<b>Course Conclusion</b> Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course
1400 - 1415	<b>POST-TEST</b>
1415 - 1430	Presentation of Course Certificates
1430	Lunch & End of Course

### Practical Sessions

This practical and highly-interactive course includes real-life case studies and exercises: -



### Course Coordinator

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