

**COURSE OVERVIEW EE0409**  
**Certified Energy Professional**

**Course Title**

Certified Energy Professional

**Course Date/Venue**

August 04-08, 2024/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

**Course Reference**

EE0409

**Course Duration/Credits**

Five days/3.0 CEUs/30 PDHs



**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.***



This course is designed to provide participants with a detailed and up-to-date overview of energy management. It covers the need for energy management; the energy audit, audit reports and energy audit instrumentation; the energy codes, standards and protocols; the energy purchasing, accounting and benchmarking; the energy and electricity rate structures; the electrical systems, electric energy management, economic analysis and life cycle costing; the lighting basics and lighting system improvements; and the electric motors, industrial systems and thermal energy storage.



During this interactive course, participants will learn the boilers and thermal systems improvement; the waste heat, co-generation and CHP systems; the renewable energy sources and maintenance programs; building commissioning, automation and control systems; the M&V, alternative financing, green buildings and LEED; and the various units, conversions, charts, tables and acronyms provided.

## Course Objectives

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

- Get certified as a “*Certified Energy Professional*”
- Recognize the need for energy management as well as conduct energy audit, audit reports and energy audit instrumentation
- Explain energy codes, standards and protocols as well as energy purchasing, accounting and benchmarking
- Discuss energy and electricity rate structures and carryout electrical systems, electric energy management, economic analysis and life cycle costing
- Determine lighting basics and lighting system improvements as well as electric motors, industrial systems and thermal energy storage
- Apply boilers and thermal systems improvement and discuss waste heat, co-generation and CHP systems
- Identify renewable energy sources and employ maintenance programs and building commissioning, automation and control systems
- Describe M&V, alternative financing, green buildings and LEED
- Enumerate various units, conversions, charts, tables and list of acronyms provided

## Exclusive Smart Training Kit - H-STK®



Participants of this course will receive the exclusive “Howard 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 designed for energy professionals including production, maintenance, safety, environment and quality department engineers and section heads.

## 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 Certificate(s)**

(1) Internationally recognized Competency Certificates and Plastic Wallet Cards will be issued to participants who completed a minimum of 80% of the total tuition hours and successfully passed the exam at the end of the course. Successful candidate will be certified as a "Certified Energy Professional". Certificates are valid for 5 years.

**Recertification is FOC for a Lifetime.**

**Sample of Certificates**

The following are samples of the certificates that will be awarded to course participants: -





- (2) Official Transcript of Records will be provided to the successful delegates with the equivalent number of ANSI/IACET accredited Continuing Education Units (CEUs) earned during the course.

\* Haward Technology \* CEUs \* Haward Technology \* CEUs \* Haward Technology \* CEUs \* Haward Technology \*



**Haward Technology Middle East**

Continuing Professional Development (HTME-CPD)



## CEU Official Transcript of Records

**TOR Issuance Date:** 16-Nov-21

**HTME No.** 74851

**Participant Name:** Waleed Al Habeeb

Program Ref.	Program Title	Program Date	No. of Contact Hours	CEU's
EE0409	Certified Energy Professional	November 12-16, 2021	30	3.0

Total No. of CEU's Earned as of TOR Issuance Date

**3.0**

**TRUE COPY**



Jaryl Castillo  
Academic Director

Haward Technology has been approved as an Authorized Provider by the International Association for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this approval, Haward Technology has demonstrated that it complies with the ANSI/IACET 1-2013 Standard which is widely recognized as the standard of good practice internationally. As a result of their Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for programs that qualify under the ANSI/IACET 1-2013 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 Association 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 is accredited by











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\* Haward Technology \* CEUs \* Haward Technology \* CEUs \* Haward Technology \* CEUs \* Haward Technology \*

## 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 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. Carlos Monterrosa, PE, MSc, BSc**, is a **Senior Electrical Engineer** with over **30 years** of extensive experience in the **Oil & Gas, Refinery, Petrochemical, Power and Utilities** industries. His expertise widely covers in the areas of **High Voltage Electrical Safety, HV/MV Cable Splicing, Jointing & Termination, High Voltage Circuit Breaker Inspection & Repair, High Voltage Power System Safe Operation, High Voltage Safety, High Voltage Transformers, Safe Operation of High Voltage & Low Voltage Power Systems, Transformer Operation & Maintenance, Electrical Maintenance & Inspection, Electrical Isolation, Circuit Breakers, Switchgears & 132 KV Cables, Power System Control & Stability, Economic Dispatch of Power Plants, Electrical Power Systems Quality & Troubleshooting, UPS & Battery Maintenance & Troubleshooting, Motors & Variable Speed Drives Troubleshooting & Maintenance, Generator Excitation Systems & AVR Commissioning & Troubleshooting, Power Generation & Transmission, Electrical Distribution Systems, Power System Blackouts Preventive Measures, Power System Protection & Relaying, Electrical Networks & Distribution Cables Fault Analysis, Motor Control Circuit Troubleshooting, Power Factor Correction, Load Forecasting & System Upgrade, National Electrical Code (NEC), Earthing & Bonding, Power Distribution Systems, Overhead Power Line Construction, Generator Operation & Maintenance, PdMA Motor Testing Data Analysis, Power System Blackouts & Restoration, Siemens Master Drives, Substation Automation Systems, Power Factor Correction, Practical Electrical Wiring, Schematic & Wiring Diagrams Analysis, Energy Management, Electrical Equipment & Control Circuits, Practical Fiber-Optics Technology, Structured Cabling System (SCS), Industrial Process Control & Instrumentation, Programmable Logic Controllers (PLC) & SCADA System, Renewable Energy, Industrial Data Communication, Root Cause Failure Analysis (RCFA) for Control & Instrumentation. Further, he is also well-versed in National Electrical Code (NEC), National Electrical Safety Code (NESC), Power System Distribution, Electromechanical Maintenance, Power Systems Security, Power Electronics, Custody Measurement, Process Control & Instrumentation, PLC, SCADA, DCS, Power Generation, Industrial Data Communication and Telecommunication.**

Mr. Monterrosa has built-up a formidable reputation in his design, inspection, installation and maintenance of High Voltages Distribution, **Transformers, Substation, AC & DC Drives, Power Electronics, Instrumentation & Control Systems and Data Communications**. While he has performed significant consultancy projects in these areas, he was also involved in generator **excitation systems**, generator protection, LV/MV Drives, ACS/DCS drives and Electrical AC **motors and drives**. He spends most of his time on consultancy projects in which he is **world renowned** for his professionalism and practical problem-solving abilities.

He gained his expertise & thorough practical experience through several positions and dedication as a **Project Manager, Technical Services Manager, Application & Product Engineer, Electrical Engineer, Instrumentation Engineer, Design Engineer, Project Engineer, Electrical Designer, Laboratory Instructor, Chief Technician, LAN Technician, Project Coordinator and Research Assistant** for various international companies and institutions such as the **ABB Inc.**, Ecole de Technologie Supérieure (ETS), Woods Electronics, Formatronique Ltd. and COCLA just to name a few.

Mr. Monterrosa has a **Bachelor** degree in **Electrical Engineering & Power Electronics** from Ecole de Technologie Supérieure, **Canada** and holds various Certification in **Industrial Robotics & Automated Systems** from Institut Supérieur d'Electronique, Canada, a Certificate in **Electronic Systems Technology** from Formatronique, Canada and a Certificate in Computer **Applied Digital Technologies** from Formatronique, Canada. Further, he is a **Certified Instructor/Trainer** and has delivered numerous trainings, workshops, courses, seminars and conferences internationally.



**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, 04<sup>th</sup> of August 2024**

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	<b>PRE-TEST</b>
0830 – 0900	<b>The Need for Energy Management</b>
0900 – 0915	Break
0915 – 1115	<b>Conducting an Energy Audit, Audit Reports &amp; Energy Audit Instrumentation</b>
1115 – 1230	<b>Conducting an Energy Audit, Audit Reports &amp; Energy Audit Instrumentation (cont'd)</b>
1230 – 1245	Break
1245 – 1420	<b>Energy Codes, Standards &amp; Protocols</b>
1420 – 1430	<b>Recap</b>
1430	Lunch & End of Day One

**Day 2: Monday 05<sup>th</sup> of August 2024**

0730 – 0900	<b>Energy Purchasing, Accounting &amp; Benchmarking</b>
0900 – 0915	Break
0915 – 1130	<b>Energy &amp; Electricity Rate Structures</b>
1130 – 1230	<b>Electrical Systems &amp; Electric Energy Management</b>
1230 – 1245	Break
1245 – 1420	<b>Economic Analysis &amp; Life Cycle Costing</b>
1420 – 1430	<b>Recap</b>
1430	Lunch & End of Day Two

**Day 3: Tuesday, 06<sup>th</sup> of August 2024**

0730 – 0900	<b>Lighting Basics &amp; Lighting System Improvements</b>
0900 – 0915	Break
0915 – 1045	<b>Electric Motors &amp; Industrial Systems</b>
1045 – 1230	<b>Thermal Energy Storage</b>
1230 – 1245	Break
1245 – 1420	<b>Boilers &amp; Thermal Systems Improvement</b>
1420 – 1430	<b>Recap</b>
1430	Lunch & End of Day Three



**Day 4: Wednesday, 07<sup>th</sup> of August 2024**

0730 – 0900	<i>Waste Heat, Co-Generation, CHP Systems</i>
0900 – 0915	<i>Break</i>
0915 – 1045	<i>Renewable Energy Sources</i>
1045 – 1230	<i>Maintenance Programs &amp; Building Commissioning</i>
1230 – 1245	<i>Break</i>
1245 – 1420	<i>Building Automation &amp; Control Systems</i>
1420 – 1430	<i>Recap</i>
1430	<i>Lunch &amp; End of Day Four</i>

**Day 5: Thursday 08<sup>th</sup> of November 2024**

0730 – 0900	<i>M&amp;V &amp; Alternative Financing</i>
0900 – 0915	<i>Break</i>
0915 – 1045	<i>Green Buildings &amp; LEED</i>
1045 – 1200	<i>Units &amp; Conversions</i>
1200 – 1215	<i>Break</i>
1215 – 1300	<i>Charts, Tables &amp; List of Acronyms</i>
1300 – 1315	<i>Course Conclusion</i>
1315 – 1415	<b>COMPETENCY EXAM</b>
1415 – 1430	<i>Presentation of Course Certificates</i>
1430	<i>Lunch &amp; End of Course</i>

**Practical Sessions**

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



**Course Coordinator**

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