

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

**Course Title**

Certified Energy Professional

**Course Date/Venue**

November 04-08, 2024/Boardroom 3, Southern Sun Abu Dhabi Hotel, Abu Dhabi, 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)

CEUs

## 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:



**Dr. Mike Tay, PhD, MSc, BSc, is a Senior Instrumentation & Communications Engineer and Energy Expert with over 40 years of extensive experience. His expertise widely covers in Energy Management System Awareness, Energy Efficiency & Management, Energy Management International Standards, Energy Audit, Renewable Energy, Nuclear Power Plant, Solar Energy, Thermal Energy, Industrial Energy Efficiency, Process Energy Efficiency, Renewable Energy, Energy**

**Conservation & Technologies Programmable Logic Controller (PLC), PLC & SCADA Automation, Process Control & Automation, Distributed Control Systems (DCS), Interruptible Power Systems (UPS), Supervisory Control and Data Acquisition (SCADA), Network Comprehensive, Systems Analysis, SCADA Security, ESD System Function, Protective Devices Troubleshooting, Protective Devices Testing & Process Control System, Advanced Process Control (APC) Technology, Process Control & Loop Tuning, Data Accuracy & System Function, Control System Interface, Analysis & Control, Modern Power Systems Protective Relaying, Custody Measurement & Loss Control, Fiber Optics Access Network Planning, Process Analyzer & Analytical Instrumentation, HV/MV Substation Design & Maintenance, Combined Cycle Power Generation, Advanced Online Analyzer, Protection Relay Maintenance, Power System Faults, Current & Voltage Transformers, Power System Neutral Grounding, Feeder Overcurrent Protection, Electrical Protection Systems, Bus Protection, Motor Protection, Transformer Protection, Generator Protection, Numerical Relays, ESD System Analysis & Control, Custody Measurement, Safety Instrumented System (SIS), Safety Integrity Level (SIL), Power System, Power Supply Design Management, Diesel Generator, Electric Motors and Basic Electricity & Electrical Codes. Further, he is also well-versed in Communications, Telecommunications, Mobile Protocols, 4G LTE, GSM/UMTS, CMDA2000, WIMAX Technology, HSPA+, Alarm Management System, Computer Architecture, Logic & Microprocessor Design, Embedded Systems Design plus Computer Networking with CISCO, Network Communication, Industrial Digital Communication, Designing Telecommunications Distribution System, Electrical Engineering, WIMAX Broadband Wireless System, TT Intranet & ADSL Network, TT Web & Voicemail, Off-site ATM Network, IT Maintenance, Say2000i, IP Phone, National Address & ID Automation, Electricity Distribution Network, Customs Network & Maintenance, LAN & WAN Network, UYAP Network, Network Routing Protocols, Multicast Protocols, Network Management Protocols, Mobile & Wireless Networks and Digital Signal Processing.**

During his career life, Dr. Tay worked with various universities and institutions such as the KOC Sistem, Meteksan Sistem, Altek BT, Yasar University, Dokuz Eylul University and METU and occupied significant positions being the **Aegean Region Manager, Group Leader, Technical Services Manager, Field Engineer, IT Engineer, Instrumentation & Control Engineer, Research Assistant, Instructor, Instrumentation & Control Instructor, Technical Advisor, Technical Consultant and Senior Instructor/Lecturer.**

Dr. Tay has **PhD, Master and Bachelor** degrees in **Electrical & Electronics Engineering** from the **Dokuz Eylul University** and the **Middle East Technical University (METU)** respectively. Further, he is a **Certified Instructor/Trainer, a Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)**, a **Certified CISCO (CCSP, CCDA, CCNP, CCNA, CCNP) Specialist, a Certified CISCO IP Telephony Design Specialist, CISCO Rich Media Communications Specialist, CISCO Security Solutions & Design Specialist and Information Systems Security (INFOSEC) Professional.** He has further hold certification in **Fundamentals of Process Control and Understanding Process Control: An Overview** and delivered and presented innumerable trainings, courses, workshops, seminars and conferences worldwide.



**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: Monday, 04<sup>th</sup> of November 2024**

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

**Day 2: Tuesday, 05<sup>th</sup> of November 2024**

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

**Day 3: Wednesday, 06<sup>th</sup> of November 2024**

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

**Day 4: Thursday, 07<sup>th</sup> of November 2024**

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



**Day 5: Friday, 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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