

COURSE OVERVIEW EE1030
Certified Electrical Safety Compliance Professional
(NFPA - CESCO Exam Preparation Training)

Course Title

Certified Electrical Safety Compliance Professional
(NFPA - CESCO Exam Preparation Training)

Course Date/Venue

January 05-09, 2025/Al Khobar Meeting Room, Hilton Garden Inn, Al Khobar, KSA

Course Reference

EE1030

Course Duration/Credits

Five days/4.0 CEUs/40 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 Certified Electrical Safety Compliance Professional (NFPA - CESCO). It covers the scope and purpose of NFPA 70E including the principles and components of an electrical safety program; the risk assessment procedures and hierarchy of risk control methods; the general documentation requirements for electrical safety programs; the safety-related maintenance requirements for electrical equipment; the installations and maintenance impacts on safety-related work practices; the employer responsibilities and other party responsibilities; and the electrical safety-related terminology.



During this interactive course, participants will learn the emergency procedures for assisting victims of electrical incidents; the risk assessment and hazard analysis; the personal protective equipment (PPE); the hazards associated with energized electrical conductors and circuit parts; the proper use of and requirements for portable electric equipment including GFCI protection devices and overcurrent protective devices (OCPD); the electrically safe work condition and LOTO principles and procedures; recognizing work involving electrical hazards and safety requirements for special equipment; and the electrical safety requirements related to lasers, power electronic equipment, research and development laboratories and capacitors.

Course Objectives

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

- Apply and gain an in-depth knowledge on Certified Electrical Safety Compliance Professional
- Discuss the scope and purpose of NFPA 70E including the principles and components of an electrical safety program, risk assessment procedures and the hierarchy of risk control methods
- Identify the general documentation requirements for electrical safety programs including training, audit and lockout/tagout documentation requirements
- Recognize the safety-related maintenance requirements for electrical equipment and installations and maintenance impacts on safety-related work practices
- Identify employer responsibilities and other party responsibilities and define electrical safety-related terminology
- Carryout emergency procedures for assisting victims of electrical incidents including risk assessment and hazard analysis
- Use personal protective equipment (PPE) and identify the hazards associated with energized electrical conductors and circuit parts
- Implement proper use of and requirements for portable electric equipment including GFCI protection devices and overcurrent protective devices (OCPD)
- Establish an electrically safe work condition and apply LOTO principles and procedures
- Recognize work involving electrical hazards and safety requirements for special equipment
- Identify electrical safety requirements related to lasers, power electronic equipment, research and development laboratories and capacitors

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 a basic overview of all significant aspects and considerations of certified electrical safety compliance professional for electrical and safety professionals who oversee electrical safety programs or who manage electricians and other personnel exposed to electrical hazards.

Accommodation

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

Exam Eligibility & Structure

Exam candidates shall have the following minimum prerequisites:

A) All Candidates	
All CESC Candidates (Regardless of Job function) must meet the following minimum requirements:-	Acceptable Documentation
<ul style="list-style-type: none"> Attendance of Haward's EE0625 Course 	<ul style="list-style-type: none"> Certificate or proof of attendance/completion
<ul style="list-style-type: none"> Holding a high school diploma or equivalent 	<ul style="list-style-type: none"> No documentation required

B) Electricians	
In addition to the minimum requirements found in Table A, all Electricians applying for entry into the CESC program must meet ONE of the following:-	Acceptable Documentation
<ul style="list-style-type: none"> Licensed electrician with 8,000 hrs (4 years) of verifiable work experience with electrical power systems <p style="text-align: center;">OR,</p> <ul style="list-style-type: none"> In lieu of licensure, must show proof of electrician job role and 8,000 hrs (4 years) of verifiable work experience with electrical power systems 	<ul style="list-style-type: none"> Proof of Licensure AND, Letter from supervisor (showing number of hours worked)
	<ul style="list-style-type: none"> Copy of job description (signed by supervisor) AND, Letter from supervisor (showing number of hours worked)

C) Electrical Engineers	
In addition to the minimum requirements found in Table A, all Electrical Engineers applying for entry into the CESC program must meet ONE of the following:-	Acceptable Documentation
<ul style="list-style-type: none"> Associate degree in electrical engineering from an accredited college or university with 8,000 hrs (4 years) of verifiable work experience with electrical power systems (field work) <p style="text-align: center;">OR,</p> <ul style="list-style-type: none"> Bachelor's degree (or higher) in electrical engineering from an accredited college or university with 4,000 hrs (2 years) of verifiable work experience with electrical power system (field work) <p style="text-align: center;">OR,</p> <ul style="list-style-type: none"> Licensed Registered Professional Electrical Engineer 	<ul style="list-style-type: none"> Proof of degree AND, Letter from supervisor (showing number of hours worked)
	<ul style="list-style-type: none"> Proof of degree AND, Letter from supervisor (showing number of hours worked)
	<ul style="list-style-type: none"> Proof of licensure

D) Non- Electrician/Electrical Engineer (Other) Candidates	
In addition to the minimum requirements found in Table A, all other candidates applying for entry into the CESC program must meet ONE of the following:-	Acceptable Documentation
<ul style="list-style-type: none"> Certified Safety Professional (CSP) with 6,000 hrs (3 years) of verifiable work experience with electrical power systems <p style="text-align: center;">OR,</p> <ul style="list-style-type: none"> Bachelor's degree (or higher) in engineering, technology, or other related technical discipline from an accredited college or university with 6,000 hrs (3 years) of verifiable work experience with electrical power systems <p style="text-align: center;">OR,</p> <ul style="list-style-type: none"> Facilities/Plant/Factory safety professional with 20,000 hrs (10 years) of verifiable work experience with electrical power systems 	<ul style="list-style-type: none"> Proof of CSP AND, Letter from supervisor (showing number of hours worked)
	<ul style="list-style-type: none"> Proof of degree AND, Letter from supervisor (showing number of hours worked)
	<ul style="list-style-type: none"> Copy of job description (signed by supervisor) AND, Letter from supervisor (showing number of hours worked)

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 **4.0 CEUs** (Continuing Education Units) or **40 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 center, Haward Technology meets all of the international higher education criteria and standards set by BAC.

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. Pan Marave, PE, MSc, BEng, is a Senior Electrical & Instrumentation Engineer with over 40 years of extensive experience in Oil, Gas, Petrochemical, Refinery & Power industries. His expertise includes Electrical Generator & Power Transformers, Transformer Operation Principles, Selection & Troubleshooting, Current & Voltage Transformers, Power Transformer Protection, Basic Electronics & Transformers, Circuit Breakers, Switchgears, Transformers, Circuit Breaker, HV Switchgear Maintenance, HV/LV Electrical Authorisation, Basic Electricity, Electrical & Special Hazards, Personnel Protection, HV/LV Equipment, Motor Controllers, Electrical Switching Practices, Emergency Planning, Safety Management, Safety Instrumented Systems (SIS), Safety Integrity Level (SIL), Emergency Shutdown (ESD), DCS, SCADA & PLC, Measurement (Flow, Temperature, Pressure), Process Analyzers & Analytical Instrumentation, Process Control, Instrumentation & Safeguarding, Process Controller, Control Loop & Valve Tuning, Industrial Distribution Systems, Industrial Control & Control Systems, Power Generation & Transmission, Power Systems Protection & Relaying, Earthing, Power System Protective Relay, Bonding, Grounding, Lightning & Surge Protection, Electric Power Substation & Systems, Electrical Engineering Principles, Motor Control Circuit, Electrical Fault Analysis, Electrical Networks & Distribution Cables, Hazardous Areas Classification and Detailed Engineering Drawings, Codes & Standards. Furthermore, he is also well-versed in Microprocessors Structure, Lead Auditor (ISO 9000:2000), ISO 9002, Quality Assurance, and Projects & Contracts Management.

Presently, Mr. Marave is the **Technical Advisor of Chamber of Industry & Commerce** in Greece. Prior to this, he gained his thorough practical experience through several positions as the **Technical Instructor, Engineering Manager, Electronics & Instruments Head, Electrical, Electronics & Instruments Maintenance Superintendent, Assistant General Technical Manager and Engineering Supervisor** of various international companies such as the **Alumil Mylonas, Athens Papermill, Astropol** and the **Science Technical Education.**

Mr. Marave is a **Registered Professional Engineer** and has **Master's and Bachelor's** degrees in **Electrical Engineering** from the **Polytechnic Institute of New York and Pratt Institute of New York (USA)** respectively. Further, he is a **Certified Instructor/Trainer, a Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)** and an active member of the **Technical Chamber** and the **Institute of Electrical and Electronics Engineer (IEEE)** in Greece. He has presented and delivered **numerous international** courses, conferences, trainings and workshops 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: Sunday, 05th of January 2025

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 – 0930	Electrical Safety Programs Scope and Purpose (The Scope and Purpose of NFPA 70E, Principles and Components of an Electrical Safety Program, Risk Assessment Procedures, The Hierarchy of Risk Control Methods)
0930 – 0945	Break
0945 – 1200	Electrical Safety Programs (cont'd) Documentation Requirements (General Documentation Requirements for Electrical Safety Programs, Training Documentation Requirements, Audit Documentation Requirements, Lockout/Tagout Documentation Requirements)
1200 – 1300	Lunch
1300 – 1500	Electrical Safety Programs (cont'd) Maintenance Requirements (Safety-Related Maintenance Requirements for Electrical Equipment and Installations)
1500 – 1515	Break
1515 – 1650	Electrical Safety Programs (cont'd) Maintenance Requirements (Maintenance Impacts on Safety-Related Work Practices)
1650 – 1700	Recap Using this Course Overview, the Instructor(s) will Brief Participants about the Topics Discussed Today and Advise Them of the Topics to be Discussed Tomorrow
1700	End of Day One

Day 2: Monday, 06th of January 2025

0730 – 0930	Electrical Safety Programs (cont'd) Employer Responsibilities (Articulate Electrical Safety Program Audit Requirements, Requirements and Responsibilities Related to Job Safety Planning and Job Briefings, Requirements Related to the Use of Test Instruments and Equipment, Requirements for Qualified Persons, Requirements and Limitations of Qualified vs. Unqualified Persons, Other and Additional Training Requirements)
0930 – 0945	Break
0945 – 1145	Electrical Safety Programs (cont'd) Other Party Responsibilities (Identify and Understand Employee Responsibilities, Host Responsibilities, Contract Employer Responsibilities)
1145 – 1245	Lunch
1245 – 1515	Electrical Safety-Related Work Practices Definitions (Electrical Safety-Related Terminology, Distinguish Correct vs. Incorrect Definitions)

1515 - 1530	Break
1530 - 1650	Electrical Safety-Related Work Practices (cont'd) <i>Emergency Procedures for Assisting Victims of Electrical Incidents (Methods of Release from Contact, Emergency Response Requirements)</i>
1650 - 1700	Recap <i>Using this Course Overview, the Instructor(s) will Brief Participants about the Topics Discussed Today and Advise Them of the Topics to be Discussed Tomorrow</i>
1700	End of Day Two

Day 3: Tuesday, 07th of January 2025

0730 - 0930	Electrical Safety-Related Work Practices (cont'd) <i>Risk Assessment and Hazard Analysis (Requirements and Components of an Electrical Hazard Risk Assessment, How to Perform a Shock Risk Assessment, How to Perform an Arc Flash Risk Assessment, Explain the Different Approach Boundaries and Their Use, Incident Energy, Understand the Effect of Clearing Time, Short Circuit Current, and Working Distance on Incident Energy, Hazard Information Required on Equipment Labels, The Use and Limitations of the PPE Category Classification Method, Distinguish Between Normal and Abnormal Equipment Conditions, The Required Use of Alerting Techniques, How to Identify Look-Alike Equipment)</i>
0930 - 0945	Break
0945 - 1200	Electrical Safety-Related Work Practices (cont'd) <i>Personal Protective Equipment (PPE) (PPE Ratings, PPE Requirements for Electrical Hazards, Differences Between Arc Flash PPE and Electrical Shock PPE, Requirements for the Care and Maintenance of PPE, Limitations of PPE, Various Methods of Determining Appropriate PPE, Requirements for Other Protective Equipment (e.g., Insulated Tools, Ladders, Shields))</i>
1200 - 1300	Lunch
1300 - 1445	Electrical Safety-Related Work Practices (cont'd) <i>Electrical Hazards (Hazards Associated with Energized Electrical Conductors and Circuit Parts, Relationship Between Electrical Hazards and Potential Injuries)</i>
1445 - 1500	Break
1500 - 1650	Electrical Safety-Related Work Practices (cont'd) <i>Other Equipment (Proper Use of and Requirements for Portable Electric Equipment, Operation and Requirements for GFCI Protection Devices, Operation and Limitations of Overcurrent Protective Devices (OCPD))</i>
1650 - 1700	Recap <i>Using this Course Overview, the Instructor(s) will Brief Participants about the Topics Discussed Today and Advise Them of the Topics to be Discussed Tomorrow</i>
1700	End of Day Three

Day 4: Wednesday, 08th of January 2025

0730 - 1000	Electrically Safe Work Conditions <i>Establishing an Electrically Safe Work Condition (Proper Sequence of Steps to Establish and Verify an Electrically Safe Work Condition, Purpose and Application of Single-Line Diagrams)</i>
1000 - 1015	Break
1015 - 1200	Electrically Safe Work Conditions (cont'd) <i>Establishing an Electrically Safe Work Condition (Requirements for Temporary Protective Grounding Equipment)</i>

1200 - 1300	Lunch
1300 - 1500	Electrically Safe Work Conditions (cont'd) Establishing an Electrically Safe Work Condition (Requirements Related to the Use of Test Instruments)
1500 - 1515	Break
1515 - 1650	Electrically Safe Work Conditions (cont'd) Lockout/ Tagout (LOTO) (LOTO Principles and Procedures)
1650 - 1700	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
1700	End of Day Four

Day 5: Thursday, 09th of January 2025

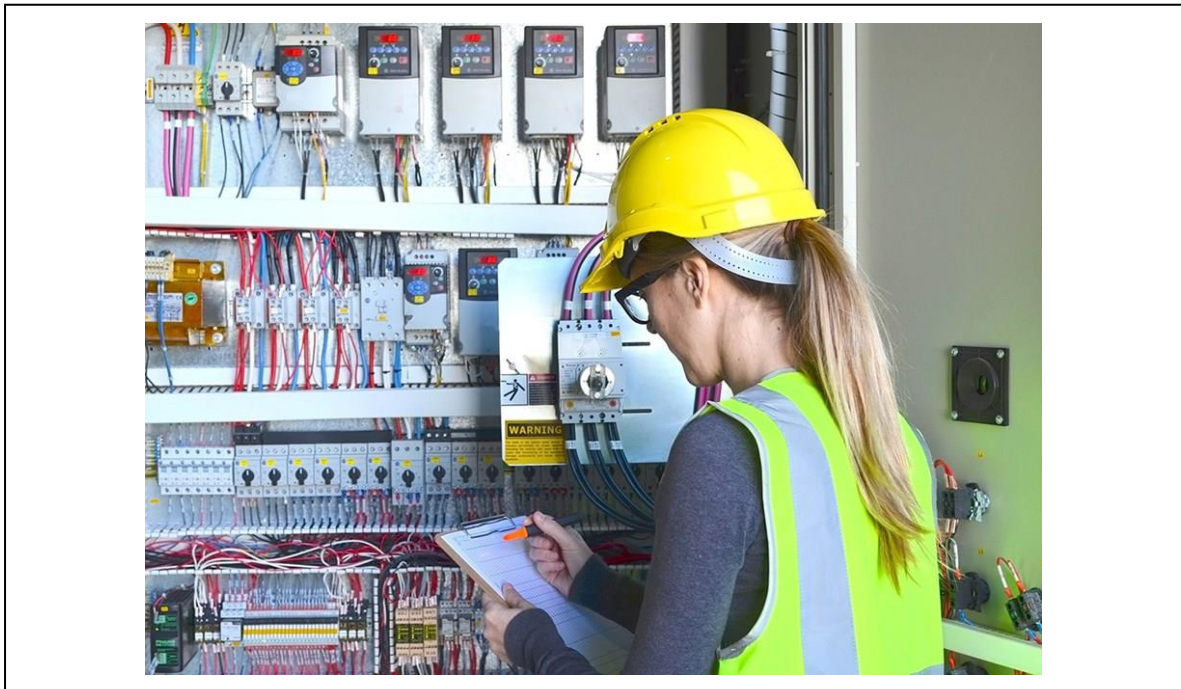
0730 - 0930	Electrically Safe Work Conditions (cont'd) Lockout/ Tagout (LOTO) (Understand Forms of Control, Requirements for LOTO, Equipment)
0930 - 0945	Break
0945 - 1145	Work Involving Electrical Hazards Energized Electrical Work (Criteria for Justification of Energized Work, Exceptions to Energized Work Requirements, The Elements of Energized Electrical Work Permits, Understand When an Energized Electrical Work Permit is and is Not Required)
1145 - 1245	Lunch
1245 - 1500	Safety Requirements for Special Equipment Electrolytic Cells (Safety-Related Work Practices for Electrolytic Cells, Electrical Safety Requirements Related to Electrolytic Cells) • Batteries and Battery Rooms (Electrical Safety Requirements Related to Batteries and Battery Rooms) • Lasers (Safety-Related Work Practices for Lasers, Electrical Safety Requirements Related to Lasers)
1500 - 1515	Break
1515 - 1615	Safety Requirements for Special Equipment (cont'd) Power Electronic Equipment (Safety-Related Work Practices for Power Electronic Equipment, Electrical Safety Requirements Related to Power Electronic Equipment) • Research and Development Laboratories (Safety-Related Work Practices for Research and Development Laboratories, Electrical Safety Requirements Related to Research and Development Laboratories) • Capacitors (Safety-Related Work Practices for Capacitors, Electrical Safety Requirements Related to Capacitors)
1615 - 1630	Course Conclusion Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Covered During the Course
1630 - 1645	POST-TEST
1645 - 1700	Presentation of Course Certificates
1700	End of Course

MOCK Exam

Upon the completion of the course, participants have to sit for a MOCK Examination similar to the exam of the Certification Body through Haward's Portal. Each participant will be given a username and password to log in Haward's Portal for the MOCK Exam during the 30 days following the course completion. Each participant has only one trial for the MOCK exam within this 30-day examination window. Hence, you have to prepare yourself very well before starting your MOCK exam as this exam is a simulation to the one of the Certification Body.

Practical Sessions

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



Course Coordinator

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