Haward Technology Middle East

COURSE OVERVIEW IE0394
NICET Fire Alarm System Level III
(Exam Preparation Training)

Course Title
NICET Fire Alarm System Level III: *(Exam Preparation Training)*

Course Reference
IE0394

Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

Course Date/Venue

Session(s)	Date	Venue
1	April 29-May 03, 2024	Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
2	June 09-13, 2024	Boardroom, Warwick Hotel Doha, Doha, Qatar
3	September 15-19, 2024	Al Aziziya Hall, The Proud Hotel Al Khobar, Al Khobar, KSA
4	December 08-12, 2024	Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Course Objectives

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 is designed to provide participants with a detailed and up-to-date overview of NICET Fire Alarm System Level III *(Exam Preparation Training)*. It covers the advanced concepts in designing fire alarm systems including system layout and integration with other building systems; the NFPA 72, NFPA 70, building codes and ADA requirements affecting fire alarm design; the criteria for selecting control panels, detectors, notification devices and other components based on application and environment; the addressable versus conventional systems; and the power supply requirements and calculations.

Further, the course will also discuss the integrating voice evacuation and mass notification into fire alarm systems; the best practices for the installation of fire alarm components and wiring including conduit and wireless systems; managing fire alarm system installation projects including scheduling, resource allocation and communication; coordinating fire alarm system installation with mechanical, electrical and construction teams; and the procedures for comprehensive system testing, commissioning and acceptance testing.

During this interactive course, participants will learn the importance of accurate documentation, best practices for training end-users and advanced programming concepts for fire alarm control panels; integrating fire alarm systems with security, HVAC and building management systems; designing user-friendly interfaces; the alarm verification, false alarm prevention and effective maintenance and service agreements; the remote system monitoring and systematic approaches to identify and solve complex issues in fire alarm systems; developing and implementing a preventive maintenance schedule; managing software updates and upgrades; replacing and retrofitting components and systems; maintaining detailed records of maintenance, inspections and repairs; the legal insurance aspects related to fire alarm system malfunctions and maintenance; the fire alarm codes and standards and strategies for successful interaction with Authorities Having Jurisdiction (AHJs); and the ethics in design, installation and maintenance practices in fire alarm engineering.

Course Objectives

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

- Get prepared for the next Fire Alarm System Level III exam and have enough knowledge and skills to pass such exam in order to get the NICET Fire Alarm System Level III certification from the National Institute for Certification in Engineering Technologies (NICET)

- Discuss the advanced concepts in designing fire alarm systems including system layout and integration with other building systems

- Review NFPA 72, NFPA 70, building codes and ADA requirements affecting fire alarm design

- Explain the criteria for selecting control panels, detectors, notification devices and other components based on application and environment

- Differentiate addressable versus conventional systems as well as identify the power supply requirements and calculations

- Integrate voice evacuation and mass notification into fire alarm systems

- Apply best practices for the installation of fire alarm components and wiring including conduit and wireless systems

- Manage fire alarm system installation projects including scheduling, resource allocation and communication

- Coordinate fire alarm system installation with mechanical, electrical and construction teams

- Evaluate the procedures for comprehensive system testing, commissioning and acceptance testing

- Discuss the importance of accurate documentation including creating and maintaining as-built drawings

- Employ best practices for training end-users and handing over the system to the client

- Apply advanced programming concepts for fire alarm control panels including configuration and customization

- Integrate fire alarm systems with security, HVAC and building management systems

- Design user-friendly interfaces and ensure system accessibility for all users

- Carryout alarm verification and false alarm prevention as well as develop effective maintenance and service agreements to ensure system reliability

- Apply remote system monitoring, diagnostics and reporting as well as systematic approaches to identify and solve complex issues in fire alarm systems

- Develop and implement a preventive maintenance schedule to ensure system integrity

- Manage software updates and upgrades to ensure system performance and compliance

- Replace and retrofit components and systems and maintain detailed records of maintenance, inspections and repairs

- Review legal insurance aspects related to fire alarm system malfunctions and maintenance

- Discuss fire alarm codes and standards including the latest amendments and interpretations

- Implement strategies for successful interaction with Authorities Having Jurisdiction (AHJs) including permitting and inspections

- Discuss the ethics in design, installation and maintenance practices in fire alarm engineering

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 provides an overview of all significant aspects and considerations of inspection, maintenance and calibration program of oil and gas flowmeters and petroleum custody instruments for instrumentation and control technicians/engineers, process engineers, safety engineers, maintenance engineers, plant operators, maintenance supervisors/managers, control system designers, safety officers and those who are involved in the maintenance, operation, and troubleshooting of industrial instrumentation and control systems.

Exam Eligibility & Structure

Exam Candidates shall have the following minimum prerequisites:-

Level I	Level II	Level III	Level IV
Examination-*Pass the:*			
Level I Exam	Levels I and II Exam	Levels I, II, and III exams	Levels I, II, III, and IV exams
Performance Verification-*Obtain supervisor verification of:*			
All Level I Performance Measures	All Levels I and II Performance Measures	All Levels I, II, and III Performance Measures	All Levels I, II, III, and IV Performance Measures
Work History- *Provide complete, detailed position descriptions and time allocations showing*[*]:			
A minimum of 6 months of technical experience with fire detection and signaling systems	A minimum of 2 years of fire detection and signaling systems experience which MUST include: At least 12 months of fire alarm systems experience, including alarm and detection, notification, sprinkler monitoring, and interfaces and controls for agent releasing suppression systems (either agent or water-based systems) in any of the following roles/functions: • Installation • Inspection • Testing • Commissioning • Technical System Estimating & Sales • Plans Preparation • Maintenance The 2 years **MAY** include up to 12 months of related experience	A minimum of 5 years of fire detection and signaling systems experience, which MUST include: At least 45 months of fire alarm systems experience, including installation, maintenance, inspection, testing, commissioning, technical system estimating and sales, plan preparation, code compliance review, project management, and/or technical business management. The three additional years from Level II must include field experience, team leadership, and at least one year in a fire alarm systems technical management role. The 5 years **MAY** include up to 15 months of related experience**	A minimum of 10 years of fire detection and signaling systems experience, which MUST include: At least 105 months of fire alarm systems experience, including technical business management and/or a management role in installation, maintenance, inspection, testing, commissioning, technical system estimating and sales, plan preparation, and/or code compliance review. The five additional years from Level III must include at least two years of overseeing fire alarm systems project management. The 10 years **MAY** include up to 15 months of related experience**
Personal Recommendation- *Obtain recommendation ratings showing a capacity for:*			
(not required)	(not required)	Independent engineering technician responsibilities	Senior engineering technician responsibilities
Major Project- *Provide a detailed description of a major project and your role in it showing:*			
(not required)	(not required)	(not required)	Senior responsibility for a fire alarm system project of substantial complexity

[*]Time periods are full time equivalent

**Related experience may include involvement in fire alarm or other code-driven and/or life safety electrical building systems work beyond the scope of the core experience defined above for this Level including, but not limited to:

- Low voltage systems
- Building electrical power or control systems
- Special hazards systems or
- Smoke control systems

in the role/function of installation, inspection, testing, commissioning, maintenance, technical system estimating and sales, plans preparation, code compliance/review, project management, or technical business management. It may also include providing full-time technical support or training to fire alarms systems technicians.

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:

- 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.

- 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.

Training 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.

Exam Fee

US$ 475 per Delegate + **VAT**.

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. Ahmed El-Sayed, PhD, MSc, BSc, is a **Senior Electrical & Instrumentation Engineer** with **35 years** of extensive experience within the **Oil**, **Gas**, **Power**, **Petroleum**, **Petrochemical** and **Utilities** industries. His experience widely covers in the areas of **Alarm** Management Systems, **Alarm Verification & False Alarm Prevention**, Advanced Distributed Control System (**DCS**), **DCS** Operation & Configuration, **DCS** Troubleshooting, **DCS Yokogawa** ProSafe-RS Safety Instrumented System, **DCS Yokogawa** Centum VP, **DCS Emerson** DeltaV, **DCS GE Mark VI**, Programable Logic Controller (**PLC**), Supervisory Control & Data Acquisition (**SCADA**) Systems, Siemens **PLC Simatic S7-400/S7-300/S7-200**, **Siemens SIMATIC S7** Maintenance & Configuration, **Siemens WINCC**, SCADA System: Siemens **SIMATIC & WinCC**, **Process Control**, **Control Systems & Data Communications**, **Instrumentation**, **Automation**, **Valve Tuning**, Safety Instrumented Systems (**SIS**), Safety Integrity Level (**SIL**), Emergency Shutdown (**ESD**), **Telemetry** Systems, **Boiler Control & Instrumentation**, Advanced Process Control (**APC**) Technology, Practical **Fiber-Optics** Technology, **Compressor** Control & Protection, **GE Gas Turbines**, **Engine** Management System, **Fieldbus** Systems, **NEC** (National Electrical Code), **NESC** (National Electrical Safety Code), **Electrical Safety**, **Electrical Hazards** Assessment, **Electrical Equipment**, Electrical Transient Analysis Program (**ETAP**), Power **Quality**, Power **Network**, Power **Distribution**, **Distribution Systems**, **Power Systems Control**, **Power Systems Security**, Power **Electronics**, **Power System** Harmonics, **Power System** Planning, Control & Stability, **Power Flow** Analysis, **Smart Grid & Renewable** Integration, **Power System Protection & Relaying**, Economic Dispatch & Grid Stability Constraints in Power Plants, Electrical Demand Side Management (DSM), Electrical **Substations**, **Substation Automation** Systems & Application (IEC 61850), **Distribution Network** System Design, **Distribution Network Load**, Electrical **Distribution** Systems, **Load Forecasting** & System Upgrade (Distribution), **Overhead Power Line** Maintenance & Patrolling, High Voltage **Switching** Operations, Industrial **UPS Systems & Battery** Power Supplies, Electric **Motors & Variable Speed Drives**, **Generator** Maintenance & Troubleshooting, **Generator** Excitation Systems & AVR, **Transformer** Maintenance & Testing, Lock-Out & Tag-Out (**LOTO**), Confined Workspaces and **Earthing & Grounding**, He is currently the **Systems Control Manager** of **Siemens** where he is in-charge of Security & Control of Power **Transmission Distribution** & **High Voltage** Systems and he further takes part in the Load Records Evaluation & Transmission Services Pricing.

During his career life, Dr. Ahmed has been actively involved in different Power System Activities including Roles in Power System Planning, Analysis, Engineering, **HV Substation** Design, Electrical Service Pricing, Evaluations & Tariffs, Project Management, Teaching and Consulting. His vast industrial experience was honed greatly when he joined many International and National Companies such as **Siemens**, **Electricity Authority**, Egyptian Electricity Holding, Egyptian Refining Company (ERC), **GASCO**, Tahrir Petrochemicals Project, and **ACETO** industries as the **Instrumentation & Electrical Service Project Manager**, **Energy Management Engineer**, **Department Head**, **Assistant Professor**, **Project Coordinator**, **Project Assistant and Managing Board Member** where he focused more on dealing with Technology Transfer, System Integration Process and Improving Localization. He was further greatly involved in manufacturing some of **Power System** and **Control & Instrumentation Components** such as Series of Digital Protection **Relays**, MV **VFD**, **PLC** and **SCADA** System with intelligent features.

Dr. Ahmed has **PhD**, **Master** & **Bachelor** degrees in **Electrical Engineering** from the **University of Wisconsin Madison**, **USA** and **Ain Shams University**, respectively. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/ Assessor/Trainer** by the **Institute of Leadership and Management** (**ILM**), an active member of IEEE and ISA as well as numerous technical and scientific papers published internationally in the areas of Power Quality, Superconductive Magnetic Energy Storage, SMES role in Power Systems, Power System **Blackout** Analysis, and Intelligent Load Shedding Techniques for preventing Power System Blackouts, HV **Substation Automation** and Power System Stability.

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.

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	***Design Principles & Practices:*** *Advanced Concepts in Designing Fire Alarm Systems, Including System Layout & Integration with Other Building Systems*
0930 – 0945	*Break*
0945 – 1030	***Application of Codes & Standards:*** *In-Depth Review of NFPA 72, NFPA 70, Building Codes & ADA Requirements Affecting Fire Alarm Design*
1030 – 1130	***Choosing Fire Alarm Components:*** *Criteria for Selecting Control Panels, Detectors, Notification Devices & Other Components Based on Application & Environment*
1130 - 1230	***Addressable versus Conventional Systems:*** *Comparative Analysis, Including the Benefits & Limitations of Each System Type*
1230 – 1245	*Break*
1245 – 1320	***Power Supply Requirements & Calculations:*** *Detailed Calculations for Battery Backup, Power Loads & System Survivability*
1350 - 1420	***Voice Evacuation & Mass Notification Systems:*** *Design Considerations for Integrating Voice Evacuation & Mass Notification into Fire Alarm Systems*
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0830	***Advanced Installation Techniques:*** *Best Practices for the Installation of Fire Alarm Components and Wiring, including Conduit and Wireless Systems*
0830 – 0930	***Project Management Skills:*** *Strategies for Managing Fire Alarm System Installation Projects, including Scheduling, Resource Allocation and Communication*
0930 – 0945	*Break*
0945 – 1130	***Coordination with Other Trades:*** *Techniques for Coordinating Fire Alarm System Installation with Mechanical, Electrical and Construction Teams*

1130 – 1230	**Testing & Commissioning:** *Procedures for Comprehensive System Testing, Commissioning & Acceptance Testing*
1230 – 1245	*Break*
1245 – 1345	**Documentation & As-Built Drawings:** *Importance of Accurate Documentation, Including Creating & Maintaining As-Built Drawings*
1345 - 1420	**Client Training & Handover:** *Best Practices for Training End-Users and Handing Over the System to the Client*
1420 – 1430	**Recap**
1430	*Lunch & End of Day Two*

Day 3

0730 – 0830	**Control Panel Programming:** *Advanced Programming Concepts for Fire Alarm Control Panels, including Configuration & Customization*
0830 – 0930	**System Integration:** *Techniques for Integrating Fire Alarm Systems with Security, HVAC & Building Management Systems*
0930 – 0945	*Break*
0945 – 1130	**User Interfaces & Accessibility:** *Designing User-Friendly Interfaces & Ensuring System Accessibility for All Users*
1130 – 1230	**Alarm Verification & False Alarm Prevention:** *Strategies for Reducing False Alarms, including Verification Features & Environmental Considerations*
1230 – 1245	*Break*
1245 – 1345	**Maintenance & Service Agreements:** *Developing Effective Maintenance & Service Agreements to Ensure System Reliability*
1345 - 1420	**Remote Monitoring & Reporting:** *Technologies & Practices for Remote System Monitoring, Diagnostics & Reporting*
1420 – 1430	**Recap**
1430	*Lunch & End of Day Three*

Day 4

0730 – 0830	**Advanced Troubleshooting Techniques:** *Systematic Approaches to Identifying and Solving Complex Issues in Fire Alarm Systems*
0830 – 0930	**Preventive Maintenance Practices:** *Developing & Implementing a Preventive Maintenance Schedule to Ensure System Integrity*
0930 – 0945	*Break*
0945 – 1130	**Software Updates & Upgrades:** *Managing Software Updates & Upgrades to Ensure System Performance and Compliance*
1130 – 1230	**Replacement & Retrofit Strategies:** *Considerations for Replacing or Retrofitting Components & Systems*
1230 – 1245	*Break*
1245 – 1345	**Record Keeping & Documentation:** *Maintaining Detailed Records of Maintenance, Inspections & Repairs*
1345 - 1420	**Understanding Liability & Risk Management:** *Legal & Insurance Aspects Related to Fire Alarm System Malfunctions & Maintenance*
1420 – 1430	**Recap**
1430	*Lunch & End of Day Four*

Day 5

0700 – 0830	**Advanced Code Review:** *Fire Alarm Codes & Standards, including the Latest Amendments & Interpretations*
0830 – 0930	**Interfacing with Authorities Having Jurisdiction (AHJs):** *Strategies for Successful Interaction with AHJs, including Permitting & Inspections*

0930 – 0945	*Break*
0945 – 1030	***Ethical Considerations in Fire Alarm Engineering:*** *Discussion on Ethics in Design, Installation & Maintenance Practices*
1030 – 1130	***Continuing Education & NICET Certification:*** *Importance of Continuing Education & Maintaining NICET Certification*
1130 - 1230	***Case Studies:*** *Analysis of Complex Fire Alarm System Scenarios, Lessons Learned & Best Practices*
1230 – 1245	*Break*
1245 - 1345	***Preparation for NICET Level 3 Exam:*** *Tips & Strategies for Preparing for & Successfully Passing the NICET Level 3 Certification Exam*
1345 – 1400	***Course Conclusion***
1400 – 1415	***POST TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & 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 7 days following the course completion. Each participant has only one trial for the MOCK exam within this 7-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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