COURSE OVERVIEW IE1091
Practical CCTV Installation

Course Title
Practical CCTV Installation

Course Date/Venue
Session 1: July 07-11, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
Session 2: December 14-18, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Course Reference
IE1091

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

Course Description

This hands-on, 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 practical CCTV installation. It covers the CCTV system design and system requirements; the CCTV system design considerations and the components of CCTV systems comprising of cameras, lenses, housing and mounts; the video monitors, switchers and multiplexers; the digital video recorders (DVR), data compression methods, hard drive recorders, network video recorder (NVR), portable storage devices, video monition detection and other recording options; and the wired transmission, wireless transmission and IP network transmission.

Further, this course will also discuss the video storage covering media storage, scalable network storage, interface protocols, direct attached storage, storage area network and network attached storage; the video analytics, system integration, system approach and other considerations; and the emerging technology, digital technologies, improvement to existing technology and major IT trends.

During this interactive course, participants will learn the vendor selection considerations comprising of selection criteria and vendor resources; the configuration of cameras, selection, connection and installing cables over UTP and configuring an IP/network CCTV solution; running the cable properly and terminating cable with connectors; the configuration and programming of digital/analogue recording devices; handling video and data storage media; setting up a range of color, monochrome, day/night and dome cameras and using test equipment effectively; the proper commissioning on fault finding and routine maintenance; and setting up and terminating display screens and checking features of NVR.

Course Objectives

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

- Apply and gain an in-depth knowledge on CCTV installation
- Describe CCTV system design and define system requirements
- Identify CCTV system design considerations and the components of CCTV systems comprising of cameras, lenses, housing and mounts
- Review video monitors, switchers and multiplexers
- Recognize digital video recorders (DVR), data compression methods, hard drive recorders, network video recorder (NVR), portable storage devices, video monition detection and other recording options
- Discuss wired transmission, wireless transmission and IP network transmission
- Describe video storage covering media storage, scalable network storage, interface protocols, direct attached storage, storage area network and network attached storage
- Carryout video analytics, system integration, system approach and other considerations
- Recognize emerging technology, digital technologies, improvement to existing technology and major IT trends
- Apply vendor selection considerations comprising of selection criteria and vendor resources
- Configure cameras, select, connect and install cables over UTP and configure an IP/network CCTV solution
- Run cable properly and terminate cable with connectors
- Configure and programme digital/analogue recording devices as well as handle video and data storage media
- Set up a range of color, monochrome, day/night and dome cameras and use test equipment effectively
- Apply proper commissioning on fault finding and routine maintenance
- Set up and terminate display screens and check features of NVR

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 an overview of all significant aspects and considerations of CCTV operating system and maintenance staff who are involved in the installation, commissioning and maintaining CCTV systems. The course is specifically designed to enhance the competence of both technical and non-technical personnel such as managers, superintendents, engineers, heads of departments, team leaders and unit supervisors.

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.

Accommodation

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

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)

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: -

- 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.

- 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.

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. Abdel Aziz Issa Saf, MSc, BSc, is a Senior **Instrumentation & Communications Engineer** with extensive years of experience in the **Water & Electricity** and **Utilities**. He specializes in **CompTIA**, **Network+**, **Network** Configuration & Management, **Network** Monitoring, **Network** Design & Implementation, **Systems & Networks Protection**, **Network** Fundamentals & Troubleshooting, Advanced **Networking** Technology, **Operating System** Installation & Upgrading, **IP** Installation & Networking, **Ethical Hacking** (CEH V.10), **Access Control** Management, Software, Hardware, Modeling, Simulation & Design, **WiMax Broadband Wireless**, **SDH Networks**, **IPT Avaya Network**, **WAN & Satellite** Communication, **Wireless** Technology RC-400, **Detection System** Using Machine Learning, Certified **Computer Forensics**, Certified **Secure Computer User** (**CSCU**), Computer-Based Office Administration & Organization, ICDL, MS Office & Excel, **Security** Protocols & Best Practices, **Security** Awareness & Training, **Security Audits**, **Security Policies & Procedures** Development, **Risk** Management, **Resource** Management, **Leadership** & Management, **Vendor** Management, **Operations** Management, **Finance** Management, **Communication** Skills, **Strategic Thinking**, Continuous Learning & Development and **Team Building**.

During his career life, Mr. Abdel has gained his practical and field experience through his various significant positions and dedication as the **Network & System Administrator**, **Information Security Specialist**, **Network Engineer**, **Computer Networks & Cybersecurity Technical Practitioner**, **Sales & Computer Technician**, **Lecturer**, **Practitioner** and **Instructor/Trainer** for Saudi Arabia Culture Mission, Applied Science University and Microtech for Computers, just to name a few.

Mr. Abdel has a **Master's** degree in **Computer Science**, a **Bachelor's** degree in **Information Technology & Computing** and a **Diploma** in **Computer Technology**. Further, he is a **Certified Ethical Hacker**, a **Microsoft System Center IT Professional** (**MCITP**), a **Microsoft System Center Configuration Manager** (**SCCM**) and has numerous academic certifications on **Hardware & Software** Maintenance, **CCNA** (Cisco Certified Network Associate), **Cisco Wireless LANs**, **Oracle** 10g, **Mac** Certificate from Modern Systems Co. (OSX, Technical and Server), **FortiAnalyzer**, **FortiGate UTM**, **Data Center Design Professional** (**DCDP**) and has further delivered numerous trainings, courses, workshops, seminars and conferences globally.

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	***Introduction to CCTV Installation***
0930 – 0945	*Break*
0945 – 1030	***CCTV System Design*** *Defining System Requirements ● Multidisciplinary System Design Team ● Needs Assessment ● CCTV Site Survey ● System Layout Considerations*
1030 – 1130	***CCTV System Design Consideration*** *Lightning ● Power Distribution ● Video Transmission ● Scalability ● Cost ● Infrastructure ● Reliability and Maintainability ● Annunciation, Assessment and Response ● Requirements and Design Worksheets*
1130 – 1245	*Break*
1245 – 1420	***Components of CCTV Systems*** *Cameras ● Fixed Cameras ● PTZ Cameras ● Connectivity Type ● Day/Night Cameras ● Low-Light or Night Vision Cameras ● Thermal Imaging Cameras ● Miniature or Covert Features ● Types of Images Sensors*
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0930	***Lenses*** *Fixed Focal Length Lenses ● Varifocal Lenses ● Zoom Lenses ● Optical Versus Digital Zoom Ranges ● Features of Lenses ● Image Quality and CCTV Lenses ● Resolution ● Filters*
0930 – 0945	*Break*
0945 – 1100	***Housing & Mounts*** *Camera Housing ● Housing Features ● Indoor Camera Mounts ● Outdoor Camera Mounts*
1100 – 1230	***Video Monitors*** *Pixels ● Size ● Monitors ● Video Walks*
1230 – 1245	*Break*
1245 – 1420	***Switches & Multiplexers*** *Switchers ● Multiplexers ● Multiplexer Networks*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0930	***Video Recorders*** *Digital Video Recorders (DVR) ● Data Compression Methods ● Hard Drive Recorders ● Network Video Recorder (NVR) ● Portable Storage Devices ● Video Motion Detection ● Other Recording Options*
0930 – 0945	*Break*

0945 – 1100	***Transmission*** *Wired Transmission ● Coaxial Cable ● UTP Wire ● Fiber Optics ● Telephone Network ● Category 5 Cable*
1100 – 1230	***Wireless Transmission*** *Wireless Network (AP) ● Laser ● Infrared ● Radio Frequency ● Microwave*
1230 – 1245	*Break*
1245 – 1420	***IP Network Transmission*** *Benefits of IP-Based Systems ● IP-Based System Components ● Cyber Security*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

0730 – 0900	***Video Storage*** *Media Storage ● Scalable Network Storage ● Interface Protocols ● Direct Attached Storage ● Storage Area Network ● Network Attached Storage*
0900 – 0930	***Video Analytics***
0930 – 0945	*Break*
0945 – 1100	***System Integration*** *Systems Approach ● Integrating CCTV Components ● Other Considerations*
1100 – 1230	***Emerging Technology*** *Digital Technologies ● Improvements to Existing Technology ● Major IT Trends*
1230 – 1245	*Break*
1245 – 1420	***Vendor Selection Considerations*** *Selection Criteria ● Vendor Resources*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0930	***Practical Sessions*** *Configure Cameras ● Selecting, Connecting & Installing Cables Over UTP ● Configure an IP/Network CCTV Solution*
0930 – 0945	*Break*
0945 – 1100	***Practical Sessions (cont'd)*** *Run Cable Properly & Terminate Cable with Connectors ● Configure & Programme Digital/Analogue Recording Devices ● Handling Video & Data Storage Media*
1100 – 1230	***Practical Sessions (cont'd)*** *Set Up a Range of Color, Monochrome, Day/Night & Dome Cameras ● Use Test Equipment Effectively ● Commissioning, Fault Finding & Routine Maintenance*
1230 – 1245	*Break*
1245 – 1345	***Practical Sessions (cont'd)*** *Setting Up & Terminating Display Screens ● Checking Features of NVR ● Health & Safety*
1345 – 1400	***Course Conclusion***
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Hands-on Practical Sessions

Practical session will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using the "NVR 8 Channel with PoE - HikVision", "PTZ Dome CCTV Camera Mini 2MP", "Dome CCTV Camera VeryFocal 4MP", "Bullet CCTV Camera 4MP", Video Surveillance Hard Disk 1TB", "Monitor", "Network Tools", "Cat6 Cables" and "RJ45".

NVR 8 Channel with PoE - HikVision

PTZ Dome CCTV Camera Mini 2MP

Dome CCTV Camera VeryFocal 4 MP

Bullet CCTV Camera 4MP

Video Surveillance Hard Disk 1TB

Monitor

Network Tools

Cat6 Cables

RJ45

Course Coordinator

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