COURSE OVERVIEW IE0650
Telecom Transmission Systems

Course Title
Telecom Transmission Systems

Course Date/Venue
Session 1: April 21-25, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
Session 2: October 19-23, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Course Reference
IE0650

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

Course Description

This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using one of our state-of-the-art simulators.

This hands-on training demonstrates the techniques and methods used to design low voltage systems for these projects. All aspects of design from point-of-feed through horizontal and vertical distribution systems to the workstation will be discussed in the course.

This course is designed to provide participants with a detailed and up-to-date overview of Telecom Transmission Systems. It covers the recommended telecommunications design sequence, benefits, determining type, number and size of telecommunication closets and calculating space; backbone closets, cables, rules and regulations of network; the interface locations, space allocation and satellite closets; the horizontal distribution systems, components of an underfloor system, cellular floor systems, raised floor systems, EIA/TIA Standards, LAN overview and ISDN; the ceiling zone distribution systems, voice and data requirements, poke-thru method and UTC systems, how to plan and design telecommunication distribution systems.

During this interactive course, participants will learn the conduit distribution systems, design standards for public telephones, NEC and National Electrical Safety Code and wiring guidelines; installation costs and maintenance costs, minimum point of presence and the methods of fire stopping; the main terminal planning and equipment of designing telecommunications distribution systems, service entrances for NEC and NESC Standards.

Course Objectives

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

- Apply and gain an in-depth knowledge on telecom transmission systems
- Become familiar with the recommended telecommunications design sequence including the benefits, determining type, number and size of telecommunication closets and calculating space
- Have a good understanding of backbone closets and cables including the rules and regulations of network
- Learn the interface locations, space allocation and satellite closets
- List and explain the different horizontal distribution systems, components of an underfloor system, cellular floor systems, raised floor systems, EIA/TIA Standards, LAN overview and ISDN
- Describe the ceiling zone distribution systems, voice and data requirements, poke-thru method and UTC systems as well as know how to plan and design telecommunication distribution systems
- Identify the conduit distribution systems, design standards for public telephones, NEC and National Electrical Safety Code and wiring guidelines
- Compare installation costs and maintenance costs & become aware of the minimum point of presence and the methods of fire stopping
- Understand the main terminal planning and equipment of designing telecommunications distribution systems as well as the service entrances for NEC and NESC Standards

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 telecom transmission systems for communications, project, civil, electrical and mechanical engineers involved in building design and layout.

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: -

- 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)

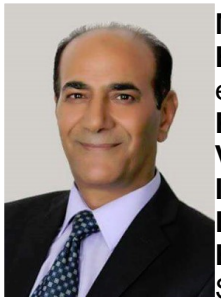
Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** 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. Taiseer Ali, MSc, BSc, is a **Senior Electrical & Telecommunications Engineer** with over **30 years** of extensive experience and academic experience as a **University Professor** specializing in **Power System Protection and Relaying**, **Power Distribution**, **HV/LV Equipment**, **High Voltage Electrical Safety**, **LV & HV Electrical System**, **HV Equipments Inspection & Maintenance**, **HV Switchgear Operation & Maintenance**, **LV Distribution Switchgear & Equipment**, **Lock & Tag Out**, **Circuit Breakers & Switchgears**, Portable **Cables**, **Transformers**, Gas Insulated Substations (**GIS**), **HV Substation Inspection & Reporting**, **HV Cable Design**, **HV Electrical System Commissioning**, **HV Equipments Inspection & Maintenance**, Electrical Signal Analysis (**ESA**), **Electrical Equipment Circuits**, **Wiring & Testing**, **Electronic Circuits**, Electrostatic Discharge (**ESD**), Distributed Control System (**DCS**) Applications & Troubleshooting, **SCADA & Industrial Communication**, Process Logic Controller (**PLC**), **Load Flow** Calculation, **Cable** Installation, **Transformer** Maintenance, **Electrical** Safety, **Electrical** Drawing, **Power Generation & Transmission**, **Power Distribution & Network**, **Protection Relays**, **Electrical** Troubleshooting, **Earthing**, **Bonding**, **Lightning & Surge Protection**, **UPS & Battery**, **Instrumentation & Control**, **Process Control & Instrumentation**, **Industrial Communication**, **Flow** Measurement, **Level** Measurement, **Temperature & Vibration** Measurement, **Measurement** Instrumentation, **Pressure** Measurement, **Analytical** Instrumentation, **Calibration & Testing** Procedures, Final Control Elements, **Control Loops** Operation, **Control Panels**, **Power Generation**, **Power Transformers**, **Uninterruptible Power Systems** (**UPS**), **Battery Chargers**, **AC** & **DC Transmission**, **Distribution Network**, **Grid Input Assessment**, Load Flow, Short Circuit, Smart Grid, Grounding, **Electrical Equipment**, **Electrical Motors** & **Drives**, Power System Harmonics, **Electrical Substation Design**, **Power Cable Testing & Fault Location**, **Circuit Breakers & Switchgears**, Electrical Distribution Design, Installation & Commissioning and **HVDC Transmission** & **Control**, Advanced Networking, Datron Maintenance, Cisco Internet, Data Base Access, Advanced Computer, AutoCAD, Standard Radio Devices, Advanced Calibration, Repair and Maintenance of VHF Portable Role, Combat Vehicle Reconnaissance 76mm and Target Engagement Using Simulaser.

During his career life, Mr. Taiseer has gained his expertise and thorough practical experience through handling challenging positions such as being the **Head of the Command Control & Communication Department**, **Head of the Academic and Technical Branch**, **Chief of the Frequency Branch**, **Commander**, **Electrical Engineer**, **Spectrum Management Engineer**, **Safety Engineer**, **Engineering Manager**, **Electrical Engineering Head**, **Quality Control Department Head**, **Engineering Supervisor** and **Lecturer/Instructor** for various companies and universities such as the Yarmouk University, C3 Directorate, JAF C3 Communication Workshops, Jordan Armed Forces Joint Officer and Military Communication College and multi-national companies and institutes.

Mr. Taiseer has a **Master's** degree in **Industrial Engineering/Engineering Management** and a **Bachelor** degree in **Electrical/Communication Engineering**. Further, he is a **Certified Instructor/Trainer** and delivered various trainings internally in his previous companies.

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 - 0945	***Recommended Telecommunications Design Sequence***
0945 - 1000	*Break*
1000 - 1145	***Benefits • Determining Type • Number & Size of Telecommunications Closets • Calculating Space***
1145 - 1200	*Break*
1200 - 1330	***Benefits • Determining Type • Number & Size of Telecommunications Closets • Calculating Space (cont'd)***
1330 - 1430	***Backbone Closets Cables • Rule & Regulations of Network***
1430	*Lunch & End of Day One.*

Day 2

0730 - 0900	***Interface Locations • Space Allocation; Satellite Closets***
0900 - 0915	*Break*
0915 - 1045	***Interface Locations • Space Allocation • Satellite Closets (cont'd)***
1100 - 1230	***Horizontal Distribution Systems • Components of an Underfloor System; Cellular Floor Systems • Raised Floor Systems; EIA/TIA Standards • LAN Overview • ISDN***
1230 - 1245	*Break*
1245 - 1430	***Horizontal Distribution Systems • Components of an Underfloor System • Cellular Floor Systems • Raised Floor Systems • EIA/TIA Standards • LAN Overview • ISDN (cont'd)***
1430	*Lunch & End of Day Two*

Day 3

0730 - 0900	***Ceiling Zone Distribution Systems • Voice & Data Requirements • Poke-Thru Method***
0900 - 0915	*Break*
0915 - 1100	***UTC Systems • How to Plan and Design***
1100 - 1230	***Conduit Distribution Systems • Design Standards for Public Telephones • NEC & National Electrical Safety Code • Wiring Guidelines***
1230 - 1245	*Break*
1245 - 1430	***Conduit Distribution Systems • Design Standards for Public Telephones, NEC • National Electrical Safety Code • Wiring Guidelines (cont'd)***
1430	*Lunch & End of Day Three*

Day 4

0730 - 0900	***Installation Costs versus Maintenance Costs***
0900 - 0915	*Break*
0915 - 1100	***Minimum Point of Presence • Fire Stopping***
1100 - 1230	***Minimum Point of Presence • Fire Stopping (cont'd)***
1230 - 1245	*Break*
1245 - 1430	***Main Terminal Planning & Equipment***
1430	*Lunch & End of Day Four*

Day 5

0730 - 0900	***Service Entrances • NEC & NESC Standards***
0900 - 0915	*Break*
0915 - 1045	***Service Entrances • NEC & NESC Standards (cont'd)***
1100 - 1230	***Service Entrances • NEC & NESC Standards (cont'd)***
1230 - 1245	*Break*
1245 – 1345	***Service Entrances • NEC & NESC Standards (cont'd)***
1345 – 1400	***Course Conclusion***
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Certificates*
1430	*Lunch & End of Course*

Simulator (Hands-on Practical Sessions)

Practical sessions 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 one of our state-of-the-art simulators "Allen Bradley SLC 500", "AB Micrologix 1000 (Digital or Analog)", "AB SLC5/03", "AB WS5610 PLC", "Siemens S7-1200", Siemens S7-400" "Siemens SIMATIC S7-300", "Siemens S7-200" "GE Fanuc Series 90-30 PLC", "Siemens SIMATIC Step 7 Professional Software", and "HMI SCADA".

Allen Bradley SLC 500 Simulator

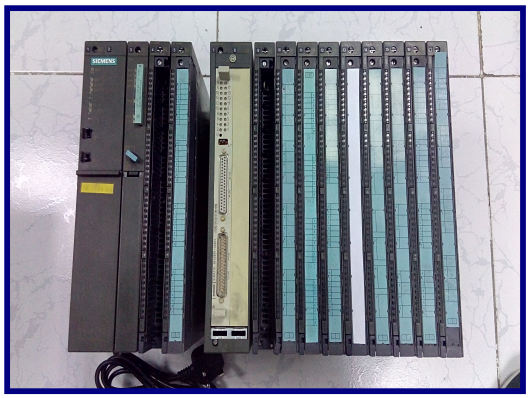
Allen Bradley Micrologix 1000 Simulator (Digital)

Allen Bradley Micrologix 1000 Simulator (Analog)

Allen Bradley SLC 5/03

Allen Bradley WS5610 PLC Simulator PLC5

Siemens S7-1200 Simulator

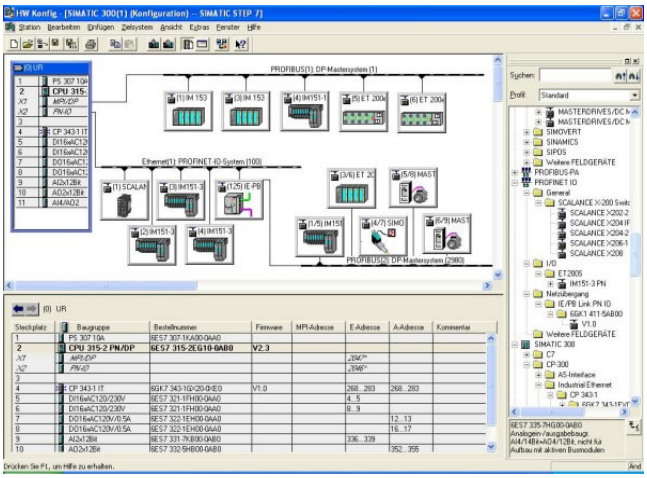


Siemens S7-400 Simulator

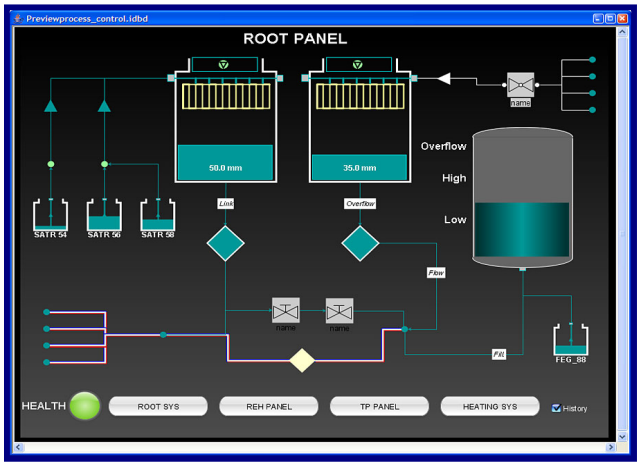
Siemens SIMATIC S7-300

Siemens S7-200 Simulator

GE Fanuc Series 90-30 PLC Simulator



Siemens SIMATIC Step 7 Professional Software



HMI SCADA

Course Coordinator

Mari Nakintu, Tel: +971 2 30 91 714, Email: mari1@haward.org