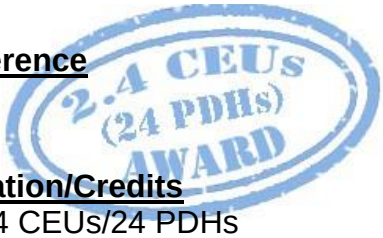
COURSE OVERVIEW TE0087-4D
Smart Water Technologies

Course Title
Smart Water Technologies

Course Date/Venue
December 09-12, 2024/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Course Reference
TE0087-4D



Course Duration/Credits
Four days/2.4 CEUs/24 PDHs

Course Description

This practical and highly-interactive course includes 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 smart water technologies. It covers the smart water management system technologies, water meters, sensors and flow instruments; the water monitoring and optimization; analyzing data and visualizing water systems; the advanced topics in water and energy management; and the cloud computing for water and energy systems.

During the interactive course, participants will learn the installation and calibration of sensors and instruments; the data storage and visualization with big data analytics; the water quality monitoring and investigating smart water networks; developing automation solutions; the advanced metering infrastructure and smart grid technologies; designing and implementing smart water grids; developing strategies for emergency water management; and the smart irrigation technologies, designing intelligent water systems and the groundwater remediation strategies and technologies.

Course Objectives

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

- Apply and gain an in-depth knowledge on smart water technologies
- Discuss smart water management system technologies, water meters, sensors and flow instruments
- Carryout water monitoring and optimization as well as analyze data and visualize water systems
- Discuss advanced topics in water and energy management and recognize cloud computing for water and energy systems
- Install and calibrate sensors and instruments and apply data storage and visualization with big data analytics
- Apply water quality monitoring and smart water networks investigation
- Develop automation solutions and recognize advanced metering infrastructure and smart grid technologies
- Design and implement smart water grids and develop strategies for emergency water management
- Identify smart irrigation technologies, design intelligent water systems and apply groundwater remediation strategies and technologies

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 smart water technologies for water engineers, water purification engineers, water treatment professionals, distribution system leaders, resource engineers, water management specialists, chief technology officers and pump manufacturers.

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: -

- 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 **2.4 CEUs** (Continuing Education Units) or **24 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.

Course Fee

US$ 4,500 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.

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. Karl Thanasis, PEng, MSc, MBA, BSc, is a **Senior Water Engineer** with over **45 years** of practical experience within the **Oil**, **Gas**, **Refinery**, **Petrochemical**, **Utilities** and related industries. His expertise widely includes in the areas of **Water Distribution** System, **Water Reservoir**, **Water Tanks**, **Water Pumping Station**, **Water Network** System, **Water Pipes & Fittings**, **Water Hydraulic** Modelling, **Water Network Hydraulic** Simulation Modelling, **Water Balance** Modelling, **Water Distribution Network**, **Water Network** System Design, **Water Network System** Analysis, **Water Forecasts** Demand, **Water Network** System Extension, **Water Network** System Replacement & Upgrade, **Water Networks** Optimization, **Water Distribution Systems & Pumping Stations**, **Reservoirs & Pumping Stations** Design & Operation, **Water Reservoirs & Pumping Stations**, **Water Storage Reservoir**, **Pumping** Systems, Interconnecting Pipelines, **Pump** Houses & Booster Pumping Stations, **Water Pipelines** Materials & Fittings, **Waste Water Effluent Treating** Facilities, **Sewage & Industrial Waste Water** Treatment & Environmental Protection Best Practices, **Oily Water Treatment Technology**, **Water Equipment** Selection & Inspection, **Effluent Treatment & Slurry Handling**, **Water Testing & Commissioning** Techniques, **Wastewater** Treatment, **Water Supply** Design, **Potable Water** Transmission, Districts Meters Areas (**DMA**s), **Water Supply & Desalination** Plants Rehabilitation, **Water Supply & Distribution Systems** Efficiency & Effectiveness, **Water Treatment** Technology, **Reverse Osmosis**, **MSF Plants**, **Industrial Water Treatment** in Refineries & Petrochemical Plants, **Piping System**, **Water Movement**, **Water Filtering**, **Mud Pumping**, **Sludge Treatment** and **Drying**, **Aerobic Process** of **Water Treatment** that includes **Aeration**, **Sedimentation** and **Chlorination Tanks**. His strong background also includes **Design** and **Sizing** of all **Waste Water Treatment Plant Associated Equipment** such as **Sludge Pumps**, **Filters**, **Metering Pumps**, **Aerators** and **Sludge Decanters**.

Mr. Thanasis has acquired his thorough and practical experience as the **Water Engineer**, **Project Manager**, **Plant Manager**, **Area Manager - Equipment Construction**, **Construction Superintendent**, **Project Engineer**, **Design Engineer**, **Mechanical Engineer**, **Maintenance Engineer** and **Senior Instructor/Lecturer**. His duties covered **Plant Preliminary Design**, **Plant Operation**, **Write-up** of **Capital Proposal**, **Investment Approval**, **Bid Evaluation**, **Technical Contract Write-up**, **Construction** and **Sub-contractor Follow up**, **Lab Analysis**, **Sludge Drying** and **Management** of **Sludge Odor** and **Removal**. He has worked in various companies worldwide in the **USA**, **Germany**, **England** and **Greece**.

Mr. Thanasis is a **Registered Professional Engineer** in the **USA** and **Greece** and has a **Master's** and **Bachelor's** degree in **Mechanical Engineering** with **Honours** from the **Purdue University** and **SIU** in **USA** respectively as well as an **MBA** from the **University of Phoenix** in **USA**. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Trainer/Assessor** by the **Institute of Leadership & Management** (**ILM**) and delivered numerous courses, trainings, conferences, seminars and workshops internationally.

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, 09th of December 2024***

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Introduction to Smart Water Technologies***
0930 – 0945	*Break*
0945 – 1100	***Overview of Smart Water Management System Technologies***
1100 – 1215	***Water Meters, Sensors & Flow Instruments***
1215 – 1230	*Break*
1230 – 1420	***Water Meters, Sensors & Flow Instruments (cont'd)***
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2: ***Tuesday, 10th of December 2024***

0730 – 0830	***Water Monitoring & Optimization***
0830 – 0930	***Analyzing Data & Visualizing Water Systems***
0930 – 0945	*Break*
0945 – 1100	***Advanced Topics in Water & Energy Management***
1100 – 1215	***Introduction to Cloud Computing for Water & Energy Systems***
1215 – 1230	*Break*
1230 – 1420	***Installation & Calibration of Sensors & Instruments***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3: ***Wednesday, 11th of December 2024***

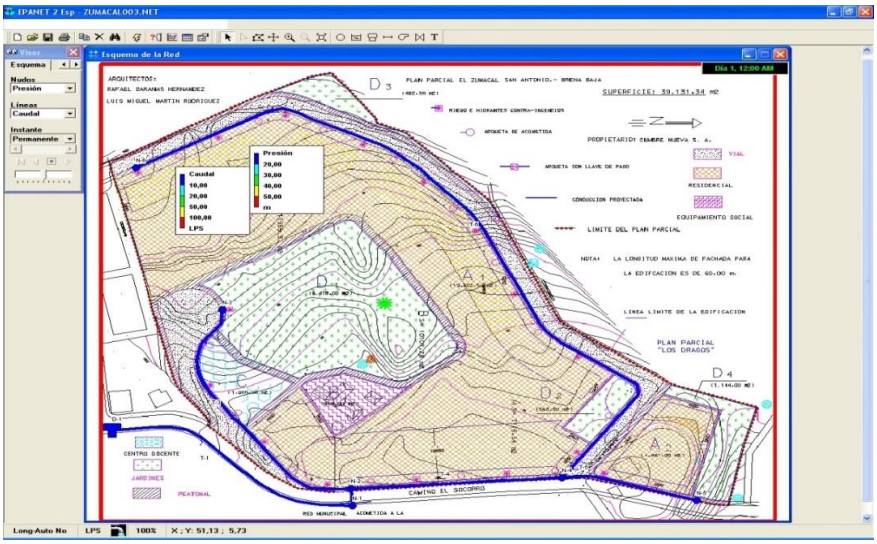
0730 – 0830	***Data Storage & Visualization with Big Data Analytics***
0830 – 0930	***Water Quality Monitoring***
0930 – 0945	*Break*
0945 – 1100	***Investigating Smart Water Networks***
1100 – 1215	***Developing Automation Solutions***
1215 – 1230	*Break*
1230 – 1420	***Advanced Metering Infrastructure & Smart Grid Technologies***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4: ***Thursday, 12th of December 2024***

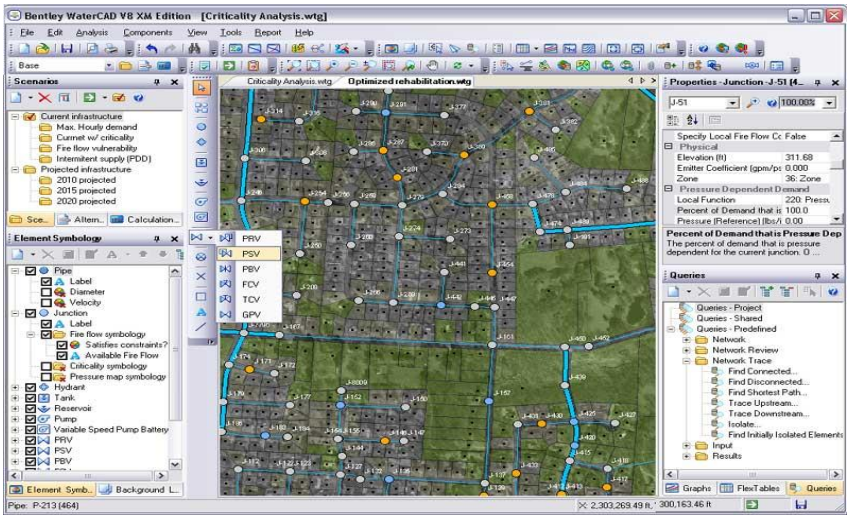
0730 – 0830	***Designing & Implementing Smart Water Grids***
0830 – 0930	***Developing Strategies for Emergency Water Management***
0930 – 0945	*Break*
0945 – 1100	***Exploring Smart Irrigation Technologies***
1100 – 1215	***Designing Intelligent Water Systems***
1215 – 1230	*Break*
1230 – 1345	***Groundwater Remediation Strategies & Technologies***
1345 – 1400	***Course Conclusion***
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course 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 the latest revision of EPANET and WATERCAD Simulators.



EPANET Simulator



WATERCAD Simulator

Course Coordinator

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