

**COURSE OVERVIEW LE0061**  
**Water Sampling Certification**

**Course Title**

Water Sampling Certification

**Course Date/Venue**

August 18-22, 2024/Fujairah Meeting Room,  
 Grand Millennium Al Wahda Hotel, Abu Dhabi,  
 UAE

**Course Reference**

LE0061

**Course Duration/Credits**

Five days/3.0 CEUs/30 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 Water Sampling. It covers the importance of water sampling in water quality monitoring, regulatory compliance and public health; the different water sources and their unique sampling requirements; the basics of water quality parameters; the tools, containers and preservation materials used in water sampling; and the best practices for ensuring personal and public safety during the sampling process.



Further, the course will also discuss the regulatory framework for water sampling; the steps for developing a water sampling plan; the standard operating procedures (SOPs) for sampling; the sampling techniques for physical and chemical analysis, microbiological analysis, field measurements and on-site testing; and the proper documentation practices, including field notes, sample labels and maintaining the chain of custody for samples.

During this interactive course, participants will learn the QA/QC in water sampling, QA/QC procedures, checklists, data management and reporting; the common issues encountered during water sampling, such as contamination and sample degradation; conducting audits and reviews to ensure continuous improvement in sampling processes and compliance with SOPs; the sampling techniques for emerging contaminants; the passive sampling technologies and their applications in monitoring water quality over time; the remote sensing technologies and automated sampling equipment for continuous monitoring; the advanced techniques for preserving and transporting samples to prevent chemical changes or microbial growth; and the innovative analytical methods and technologies for water quality analysis in the laboratory.

### **Course Objectives**

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

- Apply and gain an in-depth knowledge on water sampling
- Discuss the importance of water sampling in water quality monitoring, regulatory compliance and public health
- Identify the different water sources and their unique sampling requirements as well as the basics of water quality parameters
- Recognize the tools, containers and preservation materials used in water sampling
- Apply best practices for ensuring personal and public safety during the sampling process and review regulatory framework for water sampling
- Illustrate the steps for developing a water sampling plan and apply standard operating procedures (SOPs) for sampling
- Carryout proper sampling techniques for physical and chemical analysis, microbiological analysis, field measurements and on-site testing
- Employ proper documentation practices including field notes, sample labels and maintaining the chain of custody for samples
- Implement QA/QC in water sampling, QA/QC procedures and checklists and data management and reporting
- Identify and troubleshoot common issues encountered during water sampling, such as contamination and sample degradation
- Conduct audits and reviews to ensure continuous improvement in sampling processes and compliance with SOPs
- Apply sampling techniques for emerging contaminants including passive sampling technologies and their applications in monitoring water quality over time
- Recognize remote sensing technologies and automated sampling equipment for continuous monitoring
- Carryout advanced techniques for preserving and transporting samples to prevent chemical changes or microbial growth
- Apply innovative analytical methods and technologies for water quality analysis in the laboratory

### **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 water sampling for water samplers, laboratory technicians, water resource managers, environment engineers, chemical engineers, water quality specialist, plant managers, operators and HSE staff and sampling assistant technicians.

**Course Certificate(s)**

(1) Internationally recognized Competency Certificates and Plastic Wallet Cards will be issued to participants who completed a minimum of 80% of the total tuition hours and successfully passed the exam at the end of the course. Certificates are valid for 5 years.

**Recertification is FOC for a Lifetime.**

**Sample of Certificates**

The following are samples of the certificates that will be awarded to course participants:-



- (2) Official Transcript of Records will be provided to the successful delegates with the equivalent number of ANSI/IACET accredited Continuing Education Units (CEUs) earned during the course.

\* Haward Technology \* CEUs \* Haward Technology \* CEUs \* Haward Technology \* CEUs \* Haward Technology \*



**Haward Technology Middle East**

Continuing Professional Development (HTME-CPD)



## CEU Official Transcript of Records

**TOR Issuance Date:** 14-Nov-22

**HTME No.** 74852

**Participant Name:** Waleed Al Habeeb

Program Ref.	Program Title	Program Date	No. of Contact Hours	CEU's
LE0061	Water Sampling Certification	November 10-14, 2022	30	3.0

Total No. of CEU's Earned as of TOR Issuance Date **3.0**

**TRUE COPY**



**Jaryl Castillo**  
Academic Director

Haward Technology has been approved as an Accredited Provider by the International Association for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this approval, Haward Technology has demonstrated that it complies with the ANSI/IACET 1-2018 Standard which is widely recognized as the standard of good practice internationally. As a result of their Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for programs that qualify under the ANSI/IACET 1-2018 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 Association 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 is accredited by




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\* Haward Technology \* CEUs \* Haward Technology \* CEUs \* Haward Technology \* CEUs \* Haward Technology \*

## 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 **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.

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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 centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

## 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.

### 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. Nikolas Karnavos**, MSc, BSc, is a **Senior Analytical Chemist** with over **35 years** of extensive experience within the **Oil, Gas, Refinery and Petrochemical** industries. His expertise widely covers **Gas & Liquid Chromatograph Process Analysers, Process Analyzer Techniques (Online & Offline)**, Laboratory Information Management System (**LIMS**), **Data & Method Validation in Analytical Laboratories**, **Laboratory Automation Techniques, Practical Problem Solving in Chemical Analysis, Practical Statistical Analysis of Lab Data, Chemical Laboratory, Analytical Laboratory & Instrumentation, Laboratory Health & Safety, GLP, Laboratory Quality Management (ISO 17025), ISO 9001** and Medical Laboratory Quality Management (**ISO 15189**). Further, he is also well-versed in Environmental **Online Analyzers (Air & Water)**, **Gas Chromatography** and various instrumental methods of analysis such as **Water Analysis & Quality Control, Water and Wastewater Chemical Analysis, Statistical Data and Laboratory Analysis, Gas Analysis, Qualitative Fuel Analysis, Environmental Chemical Analysis, Laboratory Environmental Analysis** including Water Quality Testing, Process Water and **Wastewater Effluents, Oily Sludge Treatment**, Atomic Absorption and Spectroscopic Methods in Analytical Chemistry, **Analytical Method Development** and **Methods of Environmental Measurements (Water, Air, Liquid & Solid Wastes)**.

Mr. Karnavos was the **Laboratory Manager** of **Exxon** wherein he was responsible for **ISO 17025 certification**, upgrading laboratory equipment in **refinery, petrochemical** and **polypropylene** plants, upgrading and extending **LIMS**, handling the transition plan process of the existing laboratory to a new as well as formulating and executing the plans for applied research and technology transfer. During his career life, he had occupied several significant positions as the **Laboratory Analyst, Laboratory Professor, Quality Manager, Partner & Managing Director, Environmental Engineer, Process Engineer, Environmental Management Corporate Department Head** and **Quality Control & Plastics Application Head** with different international companies like the **AQUACHEM, Hellenic Petroleum (EXXON)** and **Technological Institute**.

Mr. Karnavos holds a **Master** degree in **Chemical Engineering** and **Bachelor** degrees in **Mechanical Engineering** and **Petroleum Engineering** from the **Aristotelian University of Thessaloniki, Technological Institute** and **KATEE Kavala** respectively. He is an **Accredited Trainer** for the Organization for the Certifications & Vocational Guidance (**EOPPEP**), a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)**, a **Certified Instructor/Trainer** and an **Accredited Environmental Auditor** from the **IEMA**. Further, he is the **President** of Greek **Association of Chemical Engineers** and an active member of various professional engineering bodies internationally like the **IEMA, Technical Chamber of Greece** and the **CONCAWE**. He also **published numerous books** and **scientific papers** and delivered various trainings and workshops worldwide.

### 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 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, 18<sup>th</sup> of August 2024**

0730 – 0800	<i>Registration &amp; Coffee</i>
0800 – 0815	<i>Welcome &amp; Introduction</i>
0815 – 0830	<b>PRE-TEST</b>
0830 – 0930	<b>Overview of Water Sampling:</b> <i>Introduction to the Importance of Water Sampling in Water Quality Monitoring, Regulatory Compliance &amp; Public Health</i>
0930 – 0945	<i>Break</i>
0945 – 1030	<b>Types of Water Sources:</b> <i>Understanding Different Water Sources (Surface Water, Groundwater, Drinking Water, Wastewater) &amp; Their Unique Sampling Requirements</i>
1030 – 1115	<b>Basics of Water Quality Parameters:</b> <i>Overview of Key Water Quality Parameters (Physical, Chemical, Biological) &amp; What they Indicate About Water Quality</i>
1115 – 1230	<b>Sampling Equipment &amp; Materials:</b> <i>Introduction to the Tools, Containers &amp; Preservation Materials Used in Water Sampling</i>
1230 – 1245	<i>Break</i>
1245 – 1420	<b>Safety in Water Sampling:</b> <i>Best Practices for Ensuring Personal &amp; Public Safety During the Sampling Process, including Personal Protective Equipment (PPE) &amp; Hazard Identification</i>
1420 – 1430	<b>Recap</b>
1430	<i>Lunch &amp; End of Day One</i>

#### **Day 2: Monday, 19<sup>th</sup> of August 2024**

0730 – 0830	<b>Regulatory Framework for Water Sampling:</b> <i>Overview of National &amp; International Regulations &amp; Guidelines Governing Water Sampling &amp; Quality Standards</i>
0830 – 0930	<b>Sampling Plan Development:</b> <i>Steps for Developing a Water Sampling Plan, Including Objectives, Sampling Points, Frequency &amp; Parameter Selection</i>
0930 – 0945	<i>Break</i>
0945 – 1100	<b>Standard Operating Procedures (SOPs) for Sampling:</b> <i>Detailed Review of SOPs for Various Types of Water Sampling, Including Legal &amp; Regulatory Compliance</i>



1100 – 1230	<b>Sampling for Physical &amp; Chemical Analysis:</b> Techniques for Collecting Water Samples Intended for Physical & Chemical Analysis, including Temperature, pH, Dissolved Oxygen & Contaminants
1230 – 1245	Break
1245 – 1330	<b>Sampling for Microbiological Analysis:</b> Methods for Collecting & Handling Samples for Microbiological Testing, Including Coliforms & Pathogens
1330 - 1420	<b>Field Measurements &amp; On-Site Testing:</b> Introduction to Conducting Field Measurements & On-Site Tests, Including the Use of Portable Equipment
1420 - 1430	<b>Recap</b>
1430	Lunch & End of Day Two

**Day 3: Tuesday, 20<sup>th</sup> of August 2024**

0730 – 0830	<b>Documentation &amp; Chain of Custody:</b> Proper Documentation Practices, Including Field Notes, Sample Labels & Maintaining the Chain of Custody for Samples
0830 - 0930	<b>Introduction to QA/QC in Water Sampling:</b> Importance of Quality Assurance & Quality Control (QA/QC) Measures to Ensure Reliability & Accuracy of Sampling & Analysis
0930 – 0945	Break
0945 – 1100	<b>QA/QC Procedures &amp; Checklists:</b> Implementation of QA/QC Procedures, Including Calibration of Instruments, Use of Blanks, Duplicates & Standards
1100 – 1230	<b>Data Management &amp; Reporting:</b> Best Practices for Data Management, Analysis & Reporting Results in a Scientifically Accurate & Comprehensible Manner
1230 – 1245	Break
1245 – 1420	<b>Troubleshooting Common Sampling Problems:</b> Identifying & Addressing Common Issues Encountered During Water Sampling, such as Contamination & Sample Degradation
1420 - 1430	<b>Recap</b>
1430	Lunch & End of Day Three

**Day 4: Wednesday, 21<sup>st</sup> of August 2024**

0730 – 0830	<b>Auditing &amp; Review of Sampling Processes:</b> Conducting Audits & Reviews to Ensure Continuous Improvement in Sampling Processes & Compliance with SOPs
0830 - 0930	<b>Case Studies in QA/QC:</b> Review of Real-World Case Studies Highlighting the Importance & Impact Of QA/QC in Water Sampling
0930 – 0945	Break
0945 – 1100	<b>Emerging Contaminants &amp; Special Sampling Techniques:</b> Sampling Techniques for Emerging Contaminants, Such as Pharmaceuticals, Personal Care Products & Endocrine Disruptors
1100 – 1230	<b>Passive Sampling Technologies:</b> Introduction to Passive Sampling Technologies & Their Applications in Monitoring Water Quality Over Time
1230 – 1245	Break
1245 – 1420	<b>Remote Sensing &amp; Automated Sampling:</b> Overview of Remote Sensing Technologies & Automated Sampling Equipment for Continuous Monitoring
1420 - 1430	<b>Recap</b>
1430	Lunch & End of Day Four





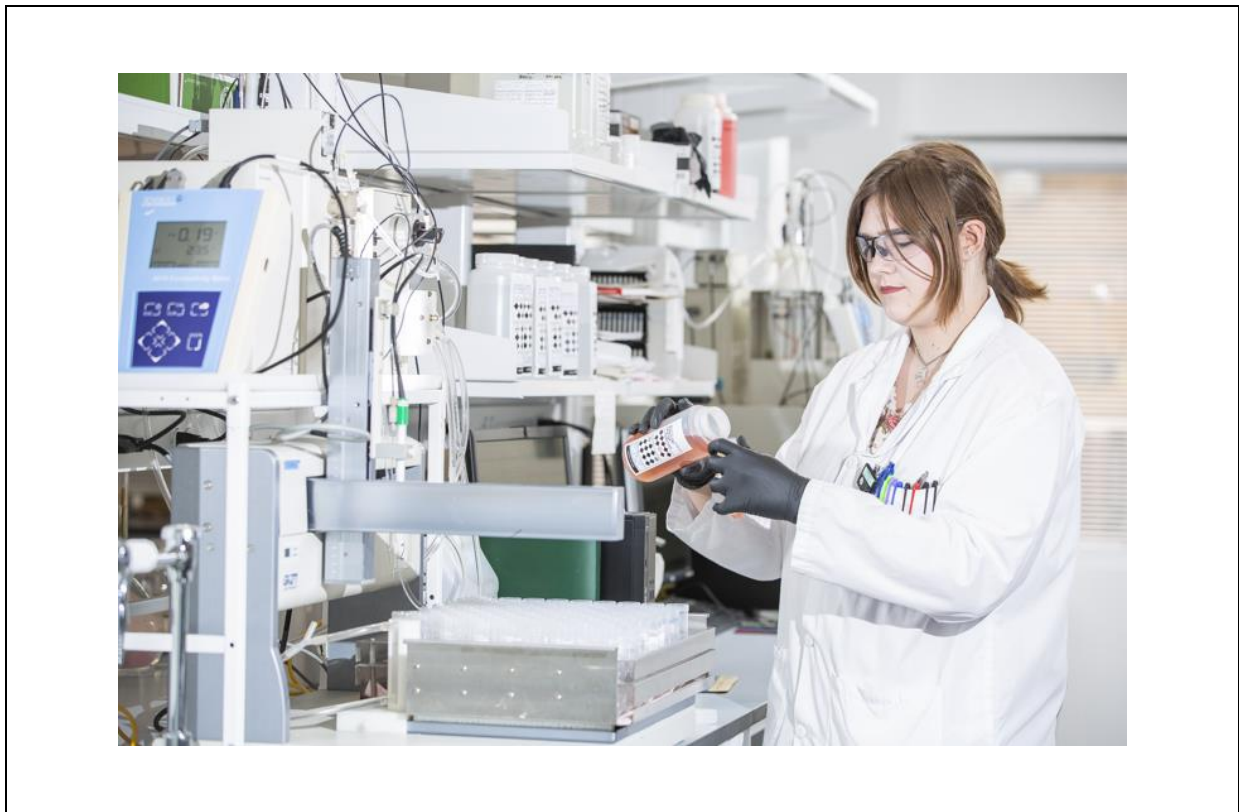


**Day 5: Thursday, 22<sup>nd</sup> of August 2024**

0730 – 0930	<b>Sample Preservation &amp; Transportation:</b> Advanced Techniques for Preserving & Transporting Samples to Prevent Chemical Changes or Microbial Growth
0930 – 0945	Break
0945 – 1100	<b>Innovative Analytical Methods:</b> Brief Overview of Innovative Analytical Methods & Technologies for Water Quality Analysis in the Laboratory
1100 – 1200	<b>Workshop on Sampling Equipment &amp; Technologies:</b> Hands-On Workshop Demonstrating the Use of Advanced Sampling Equipment & Technologies
1200 – 1215	Break
1215 – 1300	<b>Review &amp; Q&amp;A Session:</b> Comprehensive Review of Key Concepts Covered During the Course & an Open Q&A Session to Address Any Uncertainties.
1300 – 1315	<b>Course Conclusion</b>
1315 – 1415	<b>COMPETENCY EXAM</b>
1415 – 1430	Presentation of Course Certificates
1430	Lunch & End of Course

**Practical Sessions**

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



**Course Coordinator**

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