

**COURSE OVERVIEW PE0443**  
**Oil Dehydration and Desalting - Basic**

**Course Title**

Oil Dehydration and Desalting – Basic

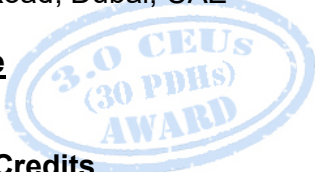
**Course Date/Venue**

Session 1: February 17-21, 2025/Fujairah  
 Meeting Room, Grand Millennium Al  
 Wahda Hotel, Abu Dhabi, UAE  
 Session 2: September 14-18, 2025/Boardroom 1,  
 Elite Byblos Hotel Al Barsha, Sheikh  
 Zayed Road, Dubai, UAE



**Course Reference**

PE0443



**Course Duration/Credits**

Five days/3.0 CEUs/30PDHs

**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 Crude Wet Oil Dehydration and Desalting with Heater. It covers the crude oil properties including dehydration and desalting; the formation and stability of oil-water emulsions and chemistry of emulsion breaking; managing risks associated with the dehydration and desalting process; the mechanical dehydration methods and thermal dehydration techniques; the operational parameters for dehydration; troubleshooting common issues; and the process control and instrumentation.



During this interactive course, participants will learn the routine and preventive maintenance requirements for dehydration equipment; the fundamentals of desalting, desalting technology and equipment and chemical injection systems; the operational challenges and solutions in desalting; the quality control in desalting; the energy conservation measure and emerging technologies in dehydration and desalting; the cost analysis, operational costs and impact on refinery economics; complying with environmental and safety regulations; and the practical drills related to potential hazards in dehydration and desalting operations.

## Course Objectives

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

- Apply a comprehensive knowledge on crude wet oil dehydration and desalting with heater
- Identify crude oil properties including crude oil dehydration and desalting
- Discuss the formation and stability of oil-water emulsions and chemistry of emulsion breaking
- Manage risks associated with the dehydration and desalting process as well as apply mechanical dehydration methods and thermal dehydration techniques
- Explain the operational parameters for dehydration, troubleshoot common issues and discuss process control and instrumentation
- Identify routine and preventive maintenance requirements for dehydration equipment
- Discuss the fundamentals of desalting, desalting technology and equipment and chemical injection systems
- Recognize the operational challenges and solutions in desalting and apply quality control in desalting
- Integrate dehydration and desalting and apply energy conservation measure
- Discuss the emerging technologies in dehydration and desalting as well as the cost analysis, operational costs and impact on refinery economics
- Comply with environmental and safety regulations and apply practical drills related to potential hazards in dehydration and desalting operations

## Who Should Attend

This course provides an overview of all significant aspects and considerations of drilling problems for drilling engineers, drilling representatives, drilling fluid engineers and contractor personnel, drilling supervisors, mud engineers, cementing engineers and technical support.

## 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 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)**







- (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:-



 <p><b>Crude Wet Oil Dehydration and Desalting with Heater</b>          Certification Number: 74851          Certification Date: 14-Nov-2022          Expiration Date: 14-Nov-2027</p> <p>This is to certify that <b>Waleed Al Habeeb</b> has successfully met the requirements of the <b>Crude Wet Oil Dehydration and Desalting with Heater</b> Program, PE0443-IH.</p>  <p>Mr. Jaryl Castillo Academic Director</p> <p>Haward Technology is accredited by:</p> 	 <p><b>Crude Wet Oil Dehydration and Desalting with Heater</b>          Certification Program</p> <p>This program is designed to assist companies in identifying professionals who have satisfied the minimum competencies specified in PE0443-IH.</p> <p>P.O. Box 26070          Abu Dhabi, UAE          Tel: +971 2 30 91 714          Http://www.haward.org</p>  <p>74851</p> <p>Haward Technology is accredited by:</p> 
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- (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.

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**Haward Technology Middle East**  
Continuing Professional Development (HTME-CPD)

**CEUs**

**CEU Official Transcript of Records**

**TOR Issuance Date:** 14-Nov-22  
**HTME No.** 74851  
**Participant Name:** Waleed Al Habeeb

Program Ref.	Program Title	Program Date	No. of Contact Hours	CEU's
PE0443-IH	Crude Wet Oil Dehydration and Desalting with Heater	November 10-14, 2022	32.5	3.25

**Total No. of CEU's Earned as of TOR Issuance Date** **3.25**

**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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**Certificate Accreditations**

Certificates are accredited by the following international accreditation organizations: -

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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.

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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.

**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. Hany Ghazal** is a **Senior Process Engineer** with over **40 years** of experience within the **Oil & Gas, Hydrocarbon** and **Petrochemical** industries. His expertise widely covers in the areas of **Production** Operations, International Standards for Operation Supervision, Management of Change, **CPF Turnaround** Management, **CPF Equipment, Production & Test Separators, Dehydrators & Desalters, Heaters, Pumps, Compressors, Tanks, Valves**, Shut Down & Start Up Procedure & Stabilizer (Gas Boot) for Production Operation, **Relief & Flare System, Gas Processing, NGL & LPG, Mothballing & De-Mothballing** of Production Facilities, **Desalination & Mixed Bed, Absorption & Stripping Columns** Operation, **Mass Transfer, Gas Absorption, Tray Column & Packed Column Absorbers, Acid Gas** Removal Operation & Troubleshooting, **Ion Exchange, Demineralization, Resin Testing, Deaeration, Process Plant** Operations, **Process Plant** Troubleshooting & Engineering Problem Solving, **Wellheads & Christmas Trees**, Fields Services Facilities for Production Operation, **Surface Production** Facilities, **Pigging & Smart Pigging, Gas Wells** Production, **Reservoir** Management, **Emergency Shutdown** Philosophy, **Heating Medium** System, Personal Protection Equipment (**PPE**), **Fire Fighting, Fire & Gas Detection** System, **Permit to Work System, Emergency Response, Occupational Health**, Process Safety Integrity Management System (**PSIM**), **Natural Gas Processing, Crude Oil & Gas Export Specs, HAZOP** Analysis, Emergency Response Team Leader (**ERTL**), **Emergency Response**, Advanced **Safety Auditing, HAZOP, Process Measurement & Flow Metering, Process Control, Control Valves, API 510** Pressurized Vessel Inspection & Repair, **API 571** Deterioration Mechanism, **API 580** Risk-Based Inspection, **Corrosion** Monitoring & Corrosion Mitigation, **Infrastructure Integrity** Assurance, **Chemical Injection** in Water Treatment Plant, **Deaerator**, Fundamentals of **Water Treatment Plant** Operation, **Water Injection** and **Commercial Awareness**.

During his career life, Mr. Ghazal has gained his practical and field experience through his various significant positions and dedication as the **Training Instructor & Consultant, Chairman & Managing Director, Operation General Manager & Board Member, Field Operation General & Manager, Facilities Assistance General Manager, Environment & Corrosion Department Head** and **Operations Engineer** (Water Injection Plants) for Cairo University and Britch University, Joint ventures companies in the Egyptian oil & Gas sector, Natural gas production Company in The Egyptian Oil & Gas Sector Established and Ras Shukeir Oil Fields (GUPCO).

**Mr. Hany** has a **Bachelor's** degree of **Chemical Engineering**. Further, he is a **Certified Instructor/Trainer** and has delivered numerous trainings, courses, workshops, conferences and seminars 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

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	<b>PRE-TEST</b>
0830 -0930	<b>Introduction to Crude Oil Properties:</b> Understanding the Chemical & Physical Properties of Crude Oil Relevant to Dehydration & Desalting
0930 – 0945	Break
0945 – 1030	<b>Overview of Crude Oil Dehydration &amp; Desalting:</b> Purpose, Benefits & General Process Flow
1030 – 1130	<b>Principles of Emulsion Theory:</b> Formation & Stability of Oil-Water Emulsions
1130 - 1230	<b>Chemistry of Emulsion Breaking:</b> Demulsifiers & their Mechanisms
1230 – 1245	Break
1245 – 1345	<b>Equipment Overview:</b> Introduction to Heaters, Desalters & Associated Control Equipment
1345 – 1420	<b>Safety &amp; Environmental Considerations:</b> Identifying & Managing Risks Associated with the Dehydration & Desalting Process
1420 – 1430	<b>Recap</b>
1430	Lunch & End of Day One

#### Day 2

0730 – 0830	<b>Mechanical Dehydration Methods:</b> Use of Gravity Separators, Electrostatic Treaters, & Centrifugal Separators
0830 – 0930	<b>Thermal Dehydration Techniques:</b> Role of Heaters & Heat Integration in the Dehydration Process
0930 – 0945	Break
0945 – 1100	<b>Operational Parameters for Dehydration:</b> Temperature, Pressure, & Residence Time Optimization
1100 – 1230	<b>Troubleshooting Common Issues:</b> Handling Emulsions, Foaming, & Other Operational Challenges
1230 – 1245	Break
1245 – 1330	<b>Process Control &amp; Instrumentation;</b> Understanding Control Systems Used in Dehydration Units
1330 – 1420	<b>Maintenance Practices:</b> Routine & Preventive Maintenance Requirements for Dehydration Equipment
1420 – 1430	<b>Recap</b>
1430	Lunch & End of Day Two

#### Day 3

0730 – 0830	<b>Fundamentals of Desalting:</b> Need for Desalting, Process Description, & Objectives
0830 – 0930	<b>Desalting Technology &amp; Equipment:</b> Detailed Examination of Single-Stage & Two-Stage Desalting Processes
0930 – 0945	Break
0945 – 1100	<b>Chemical Injection Systems:</b> Types & Injection Points of Chemicals, Focusing on Demulsifiers & Wash Water



1100 – 1230	<b>Operational Challenges &amp; Solutions in Desalting:</b> Managing Salt Content, Water Quality, & Interface Control
1230 – 1245	Break
1245 – 1330	<b>Quality Control in Desalting:</b> Monitoring & Maintaining Crude Oil Quality Post-Desalting
1330 – 1420	<b>Case Studies:</b> Real-World Examples of Successful & Problematic Desalting Operations
1420 – 1430	<b>Recap</b>
1430	Lunch & End of Day Three

**Day 4**

0730 – 0830	<b>Integration of Dehydration &amp; Desalting:</b> Optimizing Processes for Efficiency & Cost-Effectiveness
0830 – 0930	<b>Energy Conservation Measure:</b> Heat Recovery Systems & Energy Audits
0930 – 0945	Break
0945 – 1100	<b>Emerging Technologies in Dehydration &amp; Desalting:</b> Innovations & Future Trends
1100 – 1230	<b>Simulation &amp; Modeling of Dehydration &amp; Desalting:</b> Processes Using Software Tools for Process Optimization
1230 – 1245	Break
1245 – 1420	<b>Economic Aspects:</b> Cost Analysis, Operational Costs, & Impact on Refinery Economics
1420 – 1430	<b>Recap</b>
1430	Lunch & End of Day Four

**Day 5**

0730 – 0930	<b>Regulatory &amp; Compliance Issues:</b> Understanding & Complying with Environmental & Safety Regulations
0930 – 0945	Break
0945 – 1100	<b>Troubleshooting Workshop:</b> Interactive Problem-Solving Scenarios Based on Common Industry Challenges
1100 – 1230	<b>Process Optimization Workshop:</b> Techniques to Enhance Process Efficiency & Output Quality
1230 – 1245	Break
1245 – 1330	<b>Safety &amp; Emergency Response Drills:</b> Practical Drills Related to Potential Hazards in Dehydration & Desalting Operations
1345 – 1400	<b>Course Conclusion</b>
1400 – 1415	<b>POST-TEST</b>
1415 – 1430	<b>Presentation of Course Certificates</b>
1430	Lunch & End of Course





**Practical Sessions**

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



**Who will Provide the Equipment/Software/Simulators**

No equipment required