



COURSE OVERVIEW OE0370

Onshore Land Surveying for Oil & Gas Upstream

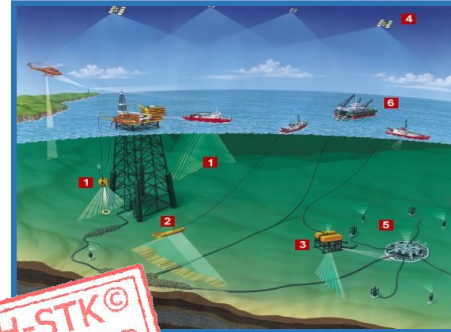
Course Title

Onshore Land Surveying for Oil & Gas Upstream

Course Date/Venue

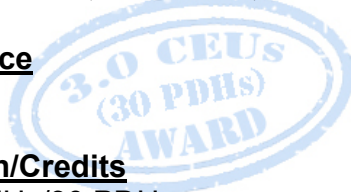
Session 1: July 27-31, 2025/Boardroom 1, Elite Byblos Hotel, UAE

Session 2: November 24-28, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE



Course Reference

OE0370



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.



Continuous innovation has characterized the oil and gas industry throughout its history. In recent decades, new technologies have been key to finding and extracting recoverable oil and gas resources. Offshore Survey has the most fast paced technology within the offshore petroleum industry. There are continual developments in areas such as global positioning systems (GPS), swathe and laser based bathymetry systems, acoustic positioning and in the use of autonomous underwater vehicles.



The offshore oil and gas industry relies upon survey and positioning for exploration, facilities planning, construction and maintenance. Exploration surveys include positioning and orientation of exploration drilling rigs. The planning and installation of offshore production platforms and pipelines also requires accurate survey techniques and precise positioning.



This course is designed to provide an updated overview of the Offshore Survey within oil and gas fields. The course covers this interesting technology from precise positioning to acquisition and processing of data including information on quality and movement of seawater at offshore development sites. The course covers the Hydrographic “analog” search and survey tools. These include echosounders, sidescan sonars, swathe bathymetry, autonomous underwater vehicle, pingers, boomers, and multi-electrode sparkers. The course will focus on Multibeam Echo Sounders, Airborne Laser Bathymetry, Satellite Navigation (GPS) and Differential Corrections of Satellite Navigation (DGPS). Further, the course will introduce new technologies such as Worldwide GNSS Augmentation, Electronic Charts, Underwater Positioning and Autonomous Underwater Vehicles (AUVs).

Seismic Survey is not covered by this course.

Course Objectives

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

- Apply and gain a comprehensive knowledge on offshore survey of oil and gas fields
- Develop an in-depth understanding of offshore survey projects including the project planning and preparation until the project execution
- Review geodesy and mathematics as being applied in offshore survey of oil and gas field and discuss vessel dynamics and their measurement
- Recognize the electromagnetic waves, satellite navigation, sensors and other components of the positioning systems used in offshore surveying, their features and functions
- Analyze the application of survey physics in offshore survey and explain sound, sound velocity, magnetism and tides
- Discuss the acquisition systems of offshore surveying including the mechanical depth measuring systems, echo sounders, side scan sonar, deep seismic systems, etc and recognize their importance and use
- Review and improve data processing which includes the process of preparation, data validation, tidal correction, interpolation, presentation and volume calculations
- Determine the new technologies used for offshore surveying of oil & gas fields such as the worldwide GNSS augmentation, electronic charts, underwater positioning, etc

Exclusive Smart Training Kit - H-STK®



Participants of this course will receive the exclusive “Howard 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 a wide understanding and deeper appreciation of offshore survey in oil and gas fields for managers, engineers, team leaders and other technical staff in all departments of offshore operating companies. The course is ideal for newcomers to offshore survey departments and for those who want to have a good overview of the offshore petroleum survey such as fresh or limited experienced surveyors. However, experienced surveyors can also benefit from this course as it will update and refresh their knowledge and skills.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course completed a minimum of 80% of the total tuition hours.


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:



Captain Mohamed Ghanem, MSc, BSc, is a Senior Jack-up Barge Captain with extensive experience in Drilling Rigs, Jackup Barge Operations and MODU within the Oil & Gas industry. His expertise widely covers in the areas of Jack-up Barges, Rig Safety Protocols, Drilling Rigs & Jack-up Barges Maintenance & Servicing, Drilling Rig Components, Naval & Marine Engineering, Marine Planning & MODU Stability, Rig Move Operation, UWILD, Stability Reports,

Draft Surveys, Rig Reactivation & Under Water Surveys, Damage Survey & Cost Estimation, Tanker Vetting for Terminals, Loading Master Certification for Oil & Gas Terminals, Marine Terminal Operation, Liquefied Gas Tankers & Jetty Operation, Global Maritime Distress Safety System (GMDSS), International Maritime Conventions & Codes, International Ship and Port Facility Security Code (ISPS) Code, Buoyage System & International Code of Signals, Oil & Gas Marine Terminals, Port Terminals Crisis Management & Major Emergency Response, Marine Hazards Prevention & Control, Single Buoy Mooring System (SBM), Emergency Response Procedure, Oil Spill Management & Recovery, Oil Spill Prevention & Control, Oil Spill Combating Operations, Oil & Gas Marine Terminals, Offshore Marine Operation Management, Vessel Hull & Machinery Survey, Oil & Gas Fields Offshore Survey, Oil & Gas Terminals Loading & Discharging, Terminal Operations, Seamanship, Shipping Overview, Marine Fire Fighting Equipment, Hull Damage Control, Vessel Rescue, Life Saving, Safety Process, Major Emergency Management & Control, Crisis Management during Oil Spill and Firefighting. He is currently the **Jack Up Barge Captain & Marine Planner** wherein he oversee all the operations onboard the vessel including navigation, maintenance and compliance with local regulations.

During his life career, Captain Mohamed has gained his practical and field experience through his various significant positions and dedication as the **Barge Engineer & Marine Planner Onboard, Trainee Barge Engineer Onboard, Assistant Barge Master II Onboard, Assistant Barge Master Onboard, Design Engineer, Ship Yard Site Engineer/QC Engineer, Marine Draft Surveyor, Ship Repair Engineer, Vessel Repairing Engineer, Metal Cutting & Welding Planner, Marine Engineer Onboard, Technical Manager, Maintenance Mechanical Engineer and Reserve Marine Officer** from the Shelf Drilling Co, Marine & Engineering Consulting, ADMARINE III (X-GSF 103) at ADES, Oceandro Large Yacht Builder, International Inspection Company, Synchrony-Lift Works and B-Tech Company.

Captain Mohamed has **Bachelor's** degree in **Naval Architecture & Marine Engineering** and currently enrolled in **Master's** degree in **Naval Architecture & Marine Engineering**. Further, he is a **Certified Instructor/Trainer, a Certified Trainer, Assessor & Internal Verifier** by the **Institute of Leadership of Management (ILM)** and holds a certificate in **Marine III Engineer** and **OIM & Mobile Offshore Drilling Unit (MODU)**. He is an **active member** of The International Transport Workers' Federation (**ITF**), UK and has delivered numerous courses, workshops, trainings and conferences worldwide.





Course Fee

US\$ 8,000 per Delegate + **VAT**. This rate includes H-STK® (Howard 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 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	Offshore Survey Projects General • Inspection • Offshore Construction Installation • Pipe- and Cablelay
0930 – 0945	Break
0945 – 1100	Offshore Survey Projects (cont'd) Dredging • Project Planning and Preparation • Project Execution
1100 – 1230	Geodesy & Mathematics Basics • Statistics • Co-ordinate Systems • Positioning
1230 – 1245	Break
1245 – 1420	Geodesy & Mathematics (cont'd) Geodesy • Vessel Dynamics and their Measurement • Accuracy and Quality
1420 – 1430	Recap
1430	Lunch & End of Day One

Day 2

0730 – 0900	Positioning Systems Electromagnetic Waves • Satellite Navigation (GPS) • Range Bearing Systems
0900 – 0915	Break



0915 – 1100	Positioning Systems (cont'd) Underwater Positioning Systems • LBL Underwater Positioning • USBL Underwater Positioning
1100 – 1230	Positioning Systems (cont'd) Heading Sensors • Speed Sensors • Attitude Sensors
1230 – 1245	Break
1245 – 1420	Positioning Systems (cont'd) Inertial Sensors • Land Survey
1420 – 1430	Recap
1430	Lunch & End of Day Two

Day 3

0730 – 0900	Survey Physics Sound • Creating and Receiving Sound • Sound Velocity
0900 – 0915	Break
0915 – 1100	Survey Physics (cont'd) Geology and Geophysics • Magnetism • Tides
1100 – 1230	Acquisition Systems Mechanical Depth Measuring Systems • Singlebeam Echo Sounder • Multi-Channel Echo Sounder
1230 – 1245	Break
1245 – 1420	Acquisition Systems (cont'd) Scanning Sonar/Profiler • Multi-Beam Echo Sounders
1420 – 1430	Recap
1430	Lunch & End of Day Three

Day 4

0730 – 0900	Acquisition Systems (cont'd) Airborne Laser Swath Sounders (LIDAR) • Side Scan Sonar
0900 – 0915	Break
0915 – 1100	Acquisition Systems (cont'd) Shallow Seismic Systems/Sub-bottom Profiler • Deep Seismic Systems
1100 – 1230	Acquisition Systems (cont'd) Magnetometer • Pipeline and Cable Tracking Systems
1230 – 1245	Break
1245 – 1420	Acquisition Systems (cont'd) Geotechnical Techniques • Tide and Current
1420 – 1430	Recap
1430	Lunch & End of Day Four

Day 5

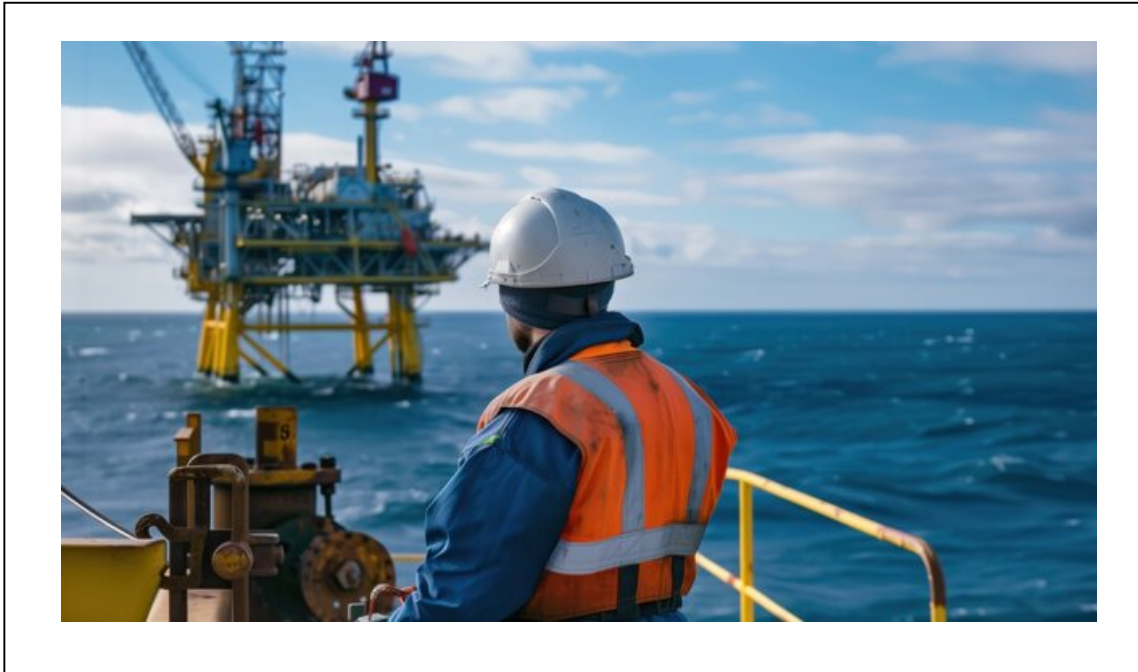
0730 – 0930	Data Processing Preparation • Processing of Data • Data Validation • Tidal Correction
0930 – 0945	Break
0945 – 1100	Data Processing (cont'd) Interpolation • Digital Terrain Models • Presentation • Volume Calculations
1100 – 1215	New Technologies Worldwide GNSS Augmentation • Electronic Charts
1215 – 1230	Break



1230 - 1345	New Technologies (cont'd) <i>Underwater Positioning • Autonomous Underwater Vehicles (AUV)</i>
1345 - 1400	Course Conclusion
1400 - 1415	POST-TEST
1415 - 1430	<i>Presentation of Course Certificates</i>
1430	<i>Lunch & End of Course</i>

Practical Sessions

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



Course Coordinator

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