COURSE OVERVIEW OE0114
Offshore Engineering & Subsea Construction

Course Title
Offshore Engineering & Subsea Construction



Course Date/Venue
Session 1: April 11-15, 2027/Meeting Plus 9, City Centre Rotana Doha Hotel, Doha, Qatar
Session 2: September 19-23, 2027/Meeting Plus 9, City Centre Rotana Doha Hotel, Doha, Qatar

3.0 CEUs (30 PDHs) AWARD

Course Reference
OE0114

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.

Offshore engineering encompasses all forms of engineering found on land, but with the added difficulty of often being situated on an isolated structure which has to be self-sufficient to a high degree for energy, food, water, materials, equipment, labour and expertise. Furthermore, this structure is usually located in a very harsh environment – deep water, heavy seas, severe weather, marine saline atmosphere – and far away from external assistance and a safe location to escape to should the need arise. Offshore engineers have to live and work in this setting despite these disadvantages and perform their jobs to a very high standard, knowing that there is less margin for error in the unforgiving environment. Mistakes may cost millions of dollars, cause significant pollution or damage to the environment, or lead to injury and even death.

Offshore Engineers play a vital role in the delivery of the many complex and challenging projects being developed today and they can do this because of their problem-solving skills. A trained engineer has the ability to model and solve a problem, describe and deliver an economical solution and then supervise and manage the work through to completion.

The end product needs to be feasible, economical, safe, delivered on time and to budget, while also being respectful of the environment and not wasteful in use of materials - a tough wish list. All of this takes a special combination of aptitude, knowledge, vision and commitment.

Offshore Engineers perform various tasks on wide variety of departments. They are involved in the identification and extraction of oil and gas from the reservoirs beneath the seabed. They design and install subsea pipelines and offshore structures. They are responsible for the design, construction and testing of subsea vessels and their efficient operation. While doing these activities, they have to keep in check about the pollution or damage they are causing to the environment. There are totally responsible for maximum efficiency of the production and cost reduction. They also act as safety engineers, ensuring all jobs performed in a safe and efficient manner.

This course is designed to introduce participants to the fundamental concepts of offshore engineering. The course will cover the vital activities that the offshore engineer usually performs during an offshore project including the design, construction, operation, maintenance and inspection of offshore structures and subsea pipelines within an offshore oil and gas field.

Course Objectives/Outcomes & Benefits for the Participants

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

- Apply and gain a fundamental knowledge of offshore systems design and construction
- Discuss the offshore petroleum industry, layout of offshore fields, wellhead, x-mas tree and conductors
- Calculate the environmental and oceanographic forces including wind, wave, tides and current
- Identify the materials for offshore platforms, subsea pipelines and risers
- Perform all the activities involved in the design of offshore platforms, welding and fabrication of offshore platforms and the utilization of barges, vessels and tugs (marine spread)
- Employ proper transportation of offshore platforms to site, proper installation and hookup of offshore platforms
- Demonstrate piling and grouting operations and recognize topside layout piping and equipment
- Lay subsea pipelines and design weight coating, corrosion coating and anodes (sacrificial and impressed current types)
- Implement proper stacking and transportation of pipes and employ correct pipelay barge operations
- Calculate the on-bottom stability of subsea pipeline and correct free span
- Install cathodic protection systems for subsea pipelines, risers and offshore platforms
- Carryout pipeline drying, purging, pigging and hydrotesting and discuss tie-ins engineering, hyperbaric welding and commissioning of pipelines and offshore structures
- List the project fleet, marine spread, equipment and manpower
- Carryout systematic techniques on marine operations and anchor handling as well as diving and ROV operations and offshore surveying
- Perform accurate inspection and maintenance of offshore structures and subsea pipelines

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 is intended for engineers from oil and gas companies, construction companies, pipe and service suppliers and regulatory authorities, who are newly qualified, have recently moved into offshore engineering or hold broad responsibilities that include offshore operations or offshore project management and engineering.

Training Methodology

Our courses employ an interactive, learner-centred methodology that integrates theoretical knowledge with practical application. The training is delivered through a suitable combination of some or all of the following methods, selected according to the course content and learning objectives:

- Instructor-led presentations and facilitated discussions
- Practical workshops and participant presentations
- Hands-on exercises and real-world case studies
- Equipment demonstrations and technical drawings
- Hardware- and software-based simulations
- Gamification & Role Play in soft-skills courses only
- Virtual Reality (VR) and Augmented Reality (AR)
- Instructional videos and other relevant training resources

This blended approach encourages active participation, strengthens practical skills and supports the effective application of acquired knowledge in the workplace.

Learning Design & Customization

This course can be customized to the exact requirements of clients. Haward Technology is so proud of our huge capabilities in tailoring our courses to the training needs of our valued clients.

Course Fee

US$ 8,500 per Delegate. 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 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

Haward's 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**. Haward's certificates are internationally recognized and accredited by the British Accreditation Council (BAC). 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

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. Mohamed Aboussena is a **Senior Marine** and **Mechanical Engineer** with over **20 years** of industrial experience in **Oil**, **Gas**, **Petrochemical** and **Marine** industries. His wide expertise includes **Oil** & **Gas Marine Terminal Optimization**, **Major Terminal Management**, **Terminal Operations**, **Terminal Planning**, **Cargo Transfer Handling**, **Tank Cleaning** & **Ballasting**, **Oil Washing** & **Tank Cleaning**, **Terminal Support Operations**, **Oil Spill Contingency** & **Emergency Respond Plans**, **Qualitative** & **Quantitative Risk Assessment**, **Air Compressors**, **Pumps**, **Diesel Engines**, **Diesel Generators**, **Fans** & **Blowers**, **Screw Cutting**, **Pressure Vessel**, **Mechanical Seals**, **Pipes**, **Heat Exchangers**, **Oil Purifiers**, **Refrigeration Plants**, **Hydraulic Equipment**, **Metal Turing**, **Gas Welding**, **Arc Welding** and **Surface Grinding** & **Milling**. He is also well versed in marine oil tanker operation, marine terminal operations, liquefied gas tanker safety, LPG/LNG ships handling, **IGS**, **FRAMO III**, **COW**, first aid, prevention & combating of marine pollution, personal safety, survival crafts, search & rescue operation and firefighting prevention. Currently, he is the **Marine Head** of an **Oil Tanker Company** in the **Middle East**.

During his career life, Mr. Mohamed has gained his practical and field experience through his various significant positions with international ship carriers like **M/T Altahreer**, **LPG Gas Alminagish**, **M/T Ras Alzour**, **LPG Gas Almutlaa**, **M/T Gulf Navigator**, **M/V Abu Dhabi**, **M/V Alsabahia**, **M/V Deira**, **M/T Albahah**, **M/T Shaybah**, **M/T Aldebaran Star**, **M/T Altair Star**, **M/T Albahah**.

Mr. Aboussena has a **Bachelor** degree in **Marine Engineering**. Further, he is a **Certified Instructor/Trainer** and obtained various certifications in **Liberian Medical Exam**, **Dangerous Cargo**, **Oil Tanker Operation**, **Liquefied Gas Tanker**, **FRAMO III** to name a few. He has further delivered numerous trainings, seminars, courses, conferences and workshops globally.

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 – 0900	***Offshore Oil & Gas Industry***
0900 – 0930	***Layout of Offshore Fields***
0930 – 0945	*Break*
0945 – 1045	***Wellhead, X-mas Tree & Conductors***
1045 – 1200	***Environmental & Oceanographic Forces: Wind, Wave, Tide & Current***

1200 – 1215	Break
1215 – 1300	**Materials for Offshore Platforms**
1300 – 1420	**Materials for Subsea Pipelines & Risers**
1420 - 1430	**Recap**
1430	Lunch & End of Day One

Day 2

0730 – 0830	**Design of Offshore Platforms**
0830 – 0930	**Welding & Fabrication of Offshore Platforms**
0930 – 0945	Break
0945 – 1045	**Barges, Vessels & Tugs**
1045 – 1200	**Transportation of Offshore Platform to Site**
1200 – 1215	Break
1215 – 1300	**Installation & Hookup of Offshore Platforms**
1300 – 1420	**Piling & Grouting Operations**
1420 - 1430	**Recap**
1430	Lunch & End of Day Two

Day 3

0730 – 0830	**Topside Layout of Piping & Equipment**
0830 – 0930	**Riser Design & Installation**
0930 – 0945	Break
0945 – 1045	**Subsea Pipeline Design**
1045 – 1200	**Weight Coating, Corrosion Coating & Anods**
1200 – 1215	Break
1215 – 1300	**Stacking & Transportation of Pipes**
1300 – 1420	**Pipelay Barge Operations**
1420 - 1430	**Recap**
1430	Lunch & End of Day Three

Day 4

0730 – 0830	**On-Bottom Stability of Subsea Pipeline**
0830 – 0930	**Free Span Correction**
0930 – 0945	Break
0945 – 1045	**Cathodic Protection of Subsea Pipeline, Riser & Offshore Platform**
1045 – 1200	**Pipeline Drying, Purging, Pigging & Hydrotesting**
1200 – 1215	Break
1215 – 1300	**Tie-Ins Engineering & Hyperbaric Welding**
1300 – 1420	**Commissioning of Pipelines & Offshore Structures**
1420 - 1430	**Recap**
1430	Lunch & End of Day Four

Day 5

0730 – 0830	**Project Fleet, Marine Spread, Equipment & Manpower**
0830 – 0930	**Marine Operations & Anchor Handling**
0930 – 0945	Break
0945 – 1045	**Diving & ROV Operations**
1045 – 1200	**Offshore Surveying**
1200 – 1215	Break

1215 – 1300	***Inspection & Maintenance of Offshore Structure***
1300 – 1330	***Inspection & Maintenance of Subsea Pipelines***
1330 - 1345	***Course Conclusion***
1345 – 1415	***POST-TEST***
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

Jaryl Castillo, Tel: +974 6652 9196, Email: jaryl@haward.org