COURSE OVERVIEW OE0114
Fundamentals of Offshore Engineering

Course Title
Fundamentals of Offshore Engineering

Course Date/Venue
September 07-11, 2025/Jazeera Meeting Room,
Al Bandar Rotana-Creek Hotel, Dubai, UAE

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

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

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$ 8,000 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 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:

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 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, 07th of September 2025***

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 & Oceangraphic 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: ***Monday, 08th of September 2025***

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: ***Tuesday, 09th of September 2025***

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:	Wednesday, 10th of September 2025
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:	Thursday, 11th of September 2025
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 – 1345	***Inspection & Maintenance of Subsea Pipelines***
1345 - 1400	***Course Conclusion***
1400 – 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

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