

COURSE OVERVIEW DE0075
Casing-Casing Design (Size, Type, Etc.)

Course Title

Casing-Casing Design (Size, Type, Etc.)

Course Date/Venue

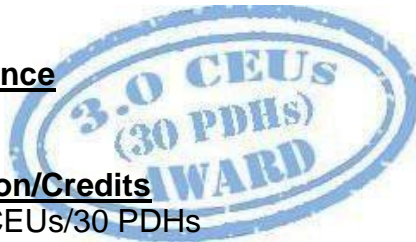
February 11-15, 2024/Hourous Meeting Room, Holiday Inn Suites Maadi, Cairo, Egypt

Course Reference

DE0075

Course Duration/Credits

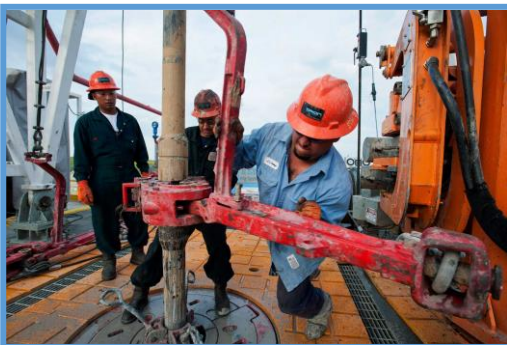
Five days/3.0 CEUs/30 PDHs



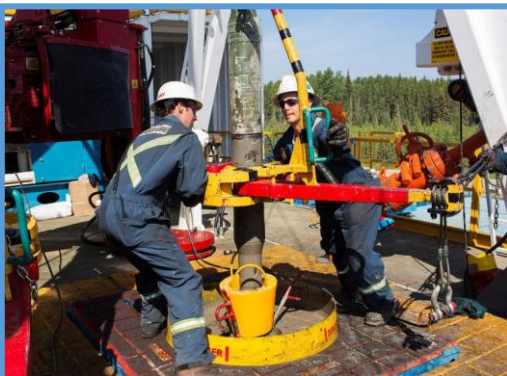
Course Description



This practical and highly-interactive course includes real-life case studies 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 casing design. It covers the hole and casing sizes consideration and selection including pore pressures and fracture gradients; the casing shoe depth and the individual casing points; the mechanical properties of steel, safety factors and factors affecting pipe yield strengths; and the various methods of applying buoyancy effects including the methods to calculate casing design criteria.



During this interactive course, participants will learn to calculate burst and collapse loads including biaxial effects, axial loads, buckling (Nb) and torsional loads; the triaxial stress analysis and the design for casing off massive salt formations; the casing properties and other considerations including material grades, casing connections, casing and liner accessories and wellheads; and the casing design criteria, casing test pressure and casing design.

Course Objectives

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

- Apply and gain comprehensive knowledge on casing design
- Discuss hole and casing sizes consideration and selection including pore pressures and fracture gradients
- Determine the general points of casing shoe depth and identify the individual casing points
- Recognize mechanical properties of steel, safety factors and factors affecting pipe yield strengths
- Carryout various methods of applying buoyancy effects including the methods to calculate casing design criteria
- Calculate burst and collapse loads including biaxial effects, axial loads, buckling (Nb) and torsional loads
- Apply triaxial stress analysis and illustrate the design for casing off massive salt formations
- Identify casing properties and other considerations including material grades, casing connections, casing and liner accessories and wellheads
- Recognize casing design criteria and apply casing test pressure and casing design

Who Should Attend

This course provides an overview of all significant aspects and considerations of casing design for drilling engineers, drilling representatives, petroleum engineers, production engineers, reservoir engineers, workover and completion engineers.

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 Participants Pack (Folder, Manual, Hand-outs, etc.), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.




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

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.

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:



Dr. Hesham Abdou, PhD, MSc, BSc, is a Senior Drilling & Petroleum Engineer with over 35 years of integrated industrial and academic experience as a University Professor. His specialization widely covers in the areas of Drilling & Completion Technology, Directional Drilling, Horizontal & Sidetracking, Drilling Operation Management, Drilling & Production Equipment, ERD Drilling & Stuck Pipe Prevention, Natural & Artificial Flow Well Completion, Well Testing Procedures & Evaluation, Well Performance, Coiled Tubing Technology, Oil Recovery Methods Enhancement, Casing Design, Well Integrity Management, Well Casing & Cementing, Acid Gas Removal, Heavy Oil Production & Treatment Techniques, Crude Oil Testing & Water Analysis, Crude Oil & Water Sampling Procedures, Equipment Handling Procedures, Crude & Vacuum Process Technology, Gas Conditioning & Processing, Cooling Towers Operation & Troubleshooting, Sucker Rod Pumping, ESP & Gas Lift, PCP & Jet Pump, Pigging Operations, Electric Submersible Pumps (ESP), Progressive Cavity Pumps (PCP), Water Flooding, Water Lift Pumps Troubleshooting, Water System Design & Installation, Water Networks Design Procedures, Water Pumping Process, Pipelines, Pumps, Turbines, Heat Exchangers, Separators, Heaters, Compressors, Storage Tanks, Valves Selection, Compressors, Tank & Tank Farms Operations & Performance, Oil & Gas Transportation, Oil & Gas Production Strategies, Artificial Lift Methods, Piping & Pumping Operations, Oil & Water Source Wells Restoration, Pump Performance Monitoring, Rotor Bearing Modelling, Hydraulic Repairs & Cylinders, Root Cause Analysis, Vibration & Condition Monitoring, Piping Stress Analysis, Amine Gas Sweetening & Sulfur Recovery, Heat & Mass Transfer and Fluid Mechanics.

During his career life, Dr. Hesham held significant positions and dedication as the **General Manager, Petroleum Engineering Assistant General Manager, Workover Assistant General Manager, Workover Department Manager, Artificial Section Head, Oil & Gas Production Engineer and Senior Instructor/Lecturer** from various companies and universities such as the Cairo University, Helwan University, British University in Egypt, Banha University and Agiba Petroleum Company.

Dr. Hesham has a **PhD and Master** degree in **Mechanical Power Engineering** and a **Bachelor** degree in **Petroleum Engineering**. Further, he is a **Certified Instructor/Trainer** and a **Peer Reviewer**. Dr. Hesham is a member of Egyptian Engineering Syndicate and the Society of Petroleum Engineering. Moreover, he has published technical papers and journals and has delivered numerous trainings, workshops, courses, seminars and conferences 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: Sunday, 11th of February 2024

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 – 0930	Hole & Casing Sizes: Considerations
0930 – 0945	Break
0945 – 1030	Hole & Casing Sizes: Selection
1030 – 1230	Pore Pressures & Fracture Gradients
1230 – 1245	Break
1245 – 1420	Casing Shoe Depth Determination: General Points
1420 – 1430	Recap
1430	Lunch & End of Day One

Day 2: Monday, 12th of February 2024

0730 – 0930	Individual Casing Points
0930 – 0945	Break
0945 – 1100	Mechanical Properties of Steel
1100 – 1230	Safety Factors
1230 – 1245	Break
1245 – 1420	Factors Affecting Pipe Yield Strengths
1420 – 1430	Recap
1430	Lunch & End of Day Two

Day 3: Tuesday, 13th of February 2024

0730 – 0930	Methods of Applying Buoyancy Effects
0930 – 0945	Break
0945 – 1100	Casing Design Criteria: Definitions & Methods of Calculation
1100 – 1230	Calculating Burst & Collapse Loads, Including Biaxial Effects
1230 – 1245	Break
1245 – 1420	Calculating Axial Loads
1420 – 1430	Recap
1430	Lunch & End of Day Three

Day 4: Wednesday, 14th of February 2024

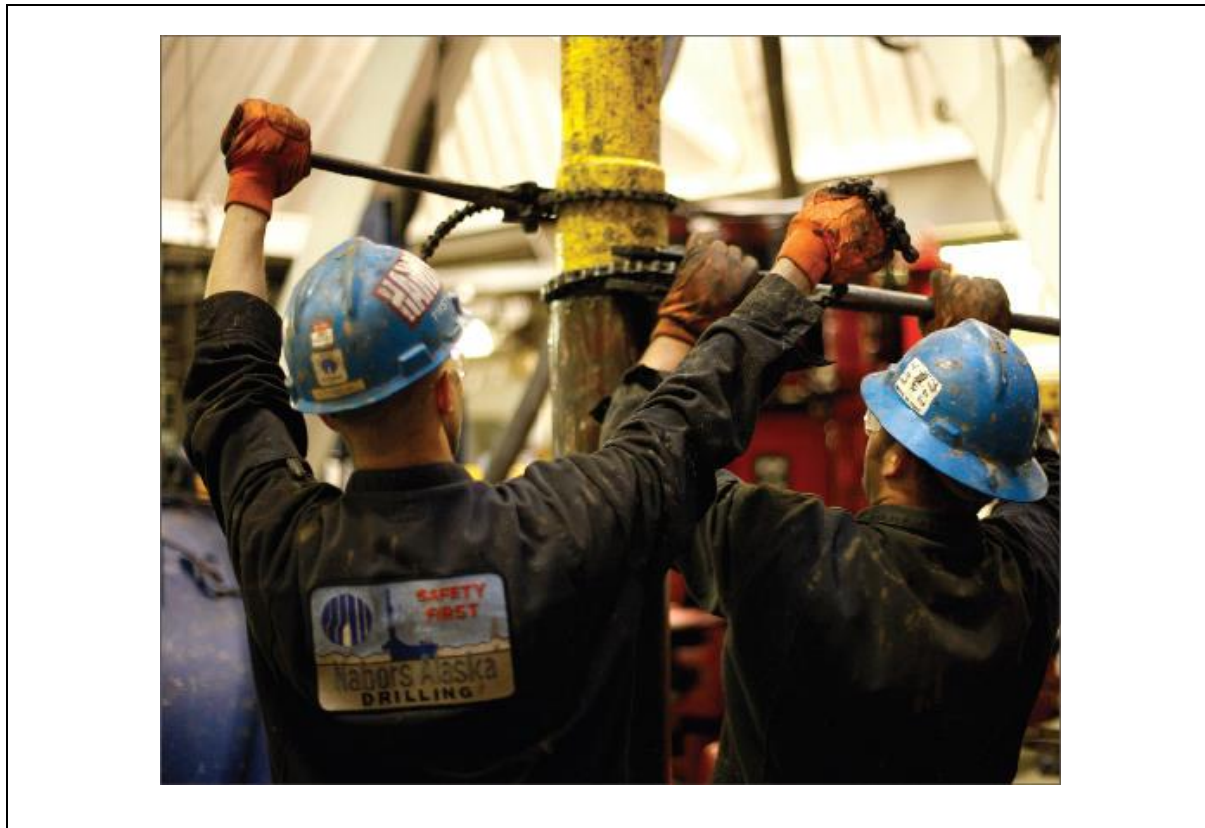
0730 – 0930	Calculating for Buckling (Nb)
0930 – 0945	Break
0945 – 1100	Calculating Torsional Loads
1100 – 1230	Triaxial Stress Analysis
1230 – 1245	Break
1245 – 1330	Design for Casing off Massive Salt Formations
1330 – 1420	Casing Properties & Other Considerations
1420 – 1430	Recap
1430	Lunch & End of Day Four

Day 5: Thursday, 15th of February 2024

0730 – 0830	<i>Material Grades</i>
0830 – 0930	<i>Casing Connections</i>
0930 – 0945	<i>Break</i>
0945 – 1030	<i>Casing & Liner Accessories</i>
1030 – 1100	<i>Wellheads: General Descriptions</i>
1100 – 1230	<i>Casing Design Criteria</i>
1230 – 1245	<i>Break</i>
1245 – 1315	<i>Casing Test Pressure</i>
1315 – 1345	<i>Casing Design Example</i>
1345 – 1400	<i>Course Conclusion</i>
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

Kamel Ghanem, Tel: +971 2 30 91 714, Email: kamel@haward.org