COURSE OVERVIEW TM0315
Oil and Gas Value Chain Concepts & Project Phase Concepts

Course Title
Oil and Gas Value Chain Concepts & Project Phase Concepts

Course Date/Venue
Session 1: April 12-16, 2026/Tamra Meeting Room, Bandar Rotana Creek, Dubai, UAE or Online Virtual Training
Session 2: September 13-17, 2026/Tamra Meeting Room, Bandar Rotana Creek, Dubai, UAE or Online Virtual Training

Course Reference
TM0315

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 Oil and Gas Value Chain Concepts & Project Phase Concepts. It covers the global energy system, structure of the oil and gas industry and oil and gas value chain; the hydrocarbons, major petroleum products and by-products and environmental and social impacts of oil and gas; the exploration phase concepts and appraisal phase drilling operations, well completion and testing; the production operations and upstream project phase deliverables; and the pipeline systems and operations.

During this interactive course, participants will learn the LNG and gas processing, storage systems, marine and rail transportation; the midstream economics, midstream project development, refining process and petrochemical production; the downstream distribution, marketing and sales channels, quality control and regulations and downstream project examples; the oil and gas project lifecycle, capital project development, decision gates and economic evaluation of oil and gas projects; the risk management in energy projects, value chain analysis and optimization; and the trends, innovation and energy transition.

Course Objectives

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

- Apply and gain an in-depth knowledge on oil and gas value chain concepts and project phase concepts
- Discuss global energy system, structure of the oil and gas industry and oil and gas value chain
- Recognize hydrocarbons, major petroleum products and by-products and environmental and social impacts of oil and gas
- Explain exploration phase concepts and appraisal phase as well as apply drilling operations, well completion and testing
- Carryout production operations, upstream project phase deliverables and pipeline systems and operations
- Illustrate LNG and gas processing, storage systems, marine and rail transportation
- Recognize midstream economics and apply midstream project development, refining process and petrochemical production
- Illustrate downstream distribution and discuss marketing and sales channels, quality control and regulations and downstream project examples
- Discuss oil and gas project lifecycle, capital project development and decision gates and economic evaluation of oil and gas projects
- Apply risk management in energy projects, value chain analysis and optimization including trends, innovation and energy transition

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 provides an overview of all significant aspects and considerations of oil and gas value chain concepts and project phase concepts for project managers and project engineers, project managers and project engineers, operations and production personnel, HSE and risk management professionals, supply chain, logistics and procurement staff, business analysts and planners, technical support staff and other technical staff.

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 Fee

F2F Classroom: 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.

Online Virtual: US$ 2,750 per Delegate + **VAT**.

Virtual Training (If Applicable)

If this course is delivered online as a Virtual Training, the following limitations will be applicable:-

Certificates	Only soft copy certificates will be issued to participants through Haward's Portal. This includes Wallet Card Certificates if applicable
Training Materials	Only soft copy Training Materials (PDF format) will be issued to participant through the Virtual Training Platform
Training Methodology	80% of the program will be theory and 20% will be practical sessions, exercises, case studies, simulators or videos
Training Program	The training will be for 4 hours per day starting at 0930 and ending at 1330
H-STK Smart Training Kit	Not Applicable
Hands-on Practical Workshops	Not Applicable
Site Visit	Not Applicable
Simulators	Only software simulators will be used in the virtual courses. Hardware simulators are not applicable and will not be used in Virtual Training

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(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. Chris Kapetan, PhD, MSc, BSc, is a **Senior Drilling & Process Engineer** with over **30 years** of international experience within the **onshore** and **offshore oil and gas** industry. His wide experience covers **Asset Operational Integrity** for Operations, **Process Plant** Operations, Control & Troubleshooting, **Plant Shutdown** System & **Flare** Systems, **Heat Exchangers & Fired Heaters** Operation & Troubleshooting, **Gas Conditioning**, Treatment & Processing Technology, **Production Operations** in the Oil & Gas Fields & **Surface Facilities**, **LNG Process**, **Applied Process** Engineering Elements, **Production Control** Systems, Well Commissioning & Crude Oil Specifications, **Hydrogenation** & **Gasification** Technology, **Physical** & **Chemical** Solvents, Sulfide Stress Cracking (**SSC**), Hydrogen Induced Cracking (**HIC**), **Corrosion**, Steels & Alloys, **Fertilizer Manufacturing** Process Technology, **Fertilizer Storage** Management (Ammonia & Urea), **Process Calculation Methods**, **Directional Planning**, **Completion Design**, **Directional Surveying**, **Drilling Fluids**, **Matrix Acidizing**, **Hydraulic Fracturing**, **Well Completion** Design & Operation, **Cased Hole Formation Evaluation**, **Cased Hole Logs**, **Production** Management, **Drilling Operations**, **Directional Drilling**, **Gas Lift** Operations, **Petroleum Business**, **Petroleum Economics**, **Gas Lift Valve** Changing & Installation, **Horizontal & Multilateral Wells**, **Well Stimulation** & **Control** and **Workover Planning**, **Completions** & **Workover**, **Rig** Sizing, **Hole Cleaning** & **Logging**, **Well Completion**, **Servicing** & **Work-Over** Operations, Practical **Reservoir** Engineering, **X-mas Tree & Wellhead** Operations, Maintenance & Testing, **Advanced Petrophysics/Interpretation** of **Well Composite**, **Construction Integrity** & **Completion**, **Coiled Tubing Technology**, **Corrosion Control**, **Wireline & Coil Tubing**, **Pipeline Pigging**, **Corrosion Monitoring**, **Cathodic** Protection, Root Cause Analysis (**RCA**), Root Cause Failure Analysis (**RCFA**), **Production Safety** and **Delusion of Asphalt**. Currently, he is the **Operations Manager** at **GEOTECH** and an independent **Drilling Operations Consultant** of various engineering services providers to the international clients as he offers his expertise in many areas of the **drilling discipline** and is well **recognized & respected** for his process and procedural expertise as well as ongoing participation, interest and experience in continuing to promote technology to producers around the world. Currently, he is the **Operations Consultant & the Technical Advisor** at **GEOTECH** and an independent **Drilling Operations Consultant** of various engineering services providers to the international clients as he offers his expertise in many areas of the **drilling & petroleum** discipline and is well **recognized & respected** for his process and procedural expertise as well as ongoing participation, interest and experience continuing to promote technology to producers around the world.

Throughout his long career life, Dr. Chris has worked for many international companies and has spent several years **managing** technically **complex wellbore interventions** in both **drilling** & **servicing**. He is a **well-regarded** for his **process** and **procedural expertise**. Further, he was the **Operations Manager** at **ETP Crude Oil Pipeline Services** where he was fully responsible for optimum operations of crude oil pipeline, **workover** and **directional drilling**, **drilling rigs** and equipment, drilling of various geothermal deep wells and **exploration wells**. Dr. Chris was the **Drilling** & **Workover Manager** & **Superintendent** for **Kavala Oil** wherein he was responsible for supervision of **drilling** operations and **offshore exploration**, quality control of performance of **rigs**, **coiled tubing**, **crude oil** transportation via pipeline and abandonment of **well** as per the API requirements. He had occupied various key positions as the **Drilling Operations Consultant**, **Site Manager**, **Branch Manager**, **Senior Drilling** & **Workover Manager** & **Engineer**, **Drilling** & **Workover Engineer**, **Process Engineer**, **Operations Consultant** and **Technical Advisor** in several petroleum companies responsible mainly on an **offshore** sour oil field (under water flood and gas lift) and a gas field. Further, Dr. Chris has been a **Professor** of the **Oil Technology College**.

Dr. Chris has **PhD** in **Reservoir Engineering** and a **Master's** degree in **Drilling & Production Engineering** from the **Petrol-Gaze Din Ploiesti University**. Further, he is a **Certified Surfaced BOP Stack Supervisor** of **IWCF**, a **Certified Instructor/Trainer**, a **Certified Trainer/Assessor/Internal Verifier** by the **Institute of Leadership & Management** (**ILM**) and has conducted numerous short courses, seminars and workshops and has published several technical books on **Production Logging**, **Safety Drilling Rigs** and **Oil Reservoir**.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the workshop 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	***Overview of the Global Energy System*** *Role of Oil & Gas in the Global Energy Mix • Comparison with Renewables, Nuclear, Coal and Hydropower • Energy Demand versus Supply Trends • Future Outlook: Energy Transition & Decarbonization*
0930 – 0945	*Break*
0945 – 1030	***Structure of the Oil & Gas Industry*** *National Oil Companies (NOCs) versus International Oil Companies (IOCs) • Service Companies and EPC/EPCM Contractors • Downstream Marketing Companies • Traders and Commodity Brokers*
1030 – 1130	***Definition of the Oil & Gas Value Chain*** *Upstream, Midstream, Downstream Segmentation • Key Activities in Each Segment • Flow of Materials, Data and Revenue • Integration Strategies (Vertical versus Horizontal)*
1130 – 1215	***Introduction to Hydrocarbons*** *Oil, Natural Gas, Condensates, NGLs • Reservoir Formation and Trapping Mechanisms • Conventional versus Unconventional Resources • API Gravity and Gas Composition Basics*
1215 – 1230	*Break*
1230 – 1330	***Major Petroleum Products & By-products*** *Gasoline, Diesel, Jet Fuel, LPG • Bitumen, Lubricants, Petrochemicals • Sulfur and Coke • Product Specifications & Quality*
1330 – 1420	***Environmental & Social Impacts of Oil & Gas*** *Carbon Footprint and Emissions • Water Usage and Land Disturbance • Community and Social License to Operate • ESG Principles in Energy Projects*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day One*

Day 2

0730 – 0830	***Exploration Phase Concepts*** *Geological Surveys and Basin Analysis • 2D & 3D Seismic Interpretation • Prospect Identification • Exploration Risk Analysis*
0830 – 0930	***Appraisal Phase*** *Delineation Drilling • Reservoir Data Acquisition • Reserve Estimation Methods • Commercial Viability Analysis*
0930 – 0945	*Break*
0945 – 1100	***Drilling Operations*** *Onshore versus Offshore Drilling • Drilling Rig Types and Components • Drilling Fluids, Casing, Cementing • Well Control and Safety Systems*

1100 – 1215	***Well Completion & Testing*** *Perforation and Stimulation Methods • Well Testing and Logging • Production Tubing and Packers • Artificial Lift Introduction*
1215 – 1230	*Break*
1230 – 1330	***Production Operations*** *Primary, Secondary and Tertiary Recovery • Surface Facilities (Separators, Tanks) • Flow Assurance Concepts • Production Optimization*
1330 – 1420	***Upstream Project Phase Deliverables*** *Exploration Reports • Feasibility & FDP Documents • Drilling Programs • Production and Reservoir Models*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Two*

Day 3

0730 – 0830	***Pipeline Systems & Operations*** *Crude & Gas Transmission Pipelines • Pumping and Compressor Stations • SCADA Monitoring Systems • Leak Detection & Integrity Management*
0830 – 0930	***LNG & Gas Processing*** *Gas Dehydration and Sweetening • NGL Separation • Liquefaction & Regasification • LNG Carrier Operations*
0930 – 0945	*Break*
0945 – 1100	***Storage Systems*** *Above-Ground and Underground Storage • Tanks, Spheres and Terminals • Strategic Oil Reserves • Inventory Management*
1100 – 1215	***Marine & Rail Transportation*** *Crude Oil Tankers and LNG Ships • Railcars for Petroleum Transport • Port and Terminal Facilities • Shipping Safety Regulations*
1215 – 1230	*Break*
1230 – 1330	***Midstream Economics*** *Tariffs and Transportation Fees • Throughput Capacity Planning • Contract Structures • Profit Margin Analysis*
1330 – 1420	***Midstream Project Development*** *Route Planning and Terminal Siting • FEED and EPC Phases • Environmental Permitting • Commissioning and Handover*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Three*

Day 4

0730 – 0830	***Refining Process Overview*** *Crude Distillation (Atmospheric & Vacuum) • Conversion Processes (Cracking, Reforming) • Hydrotreating & Desulfurization • Blending Operations*
0830 – 0930	***Petrochemical Production*** *Ethylene, Propylene, Aromatics • Polymers and Plastics • Fertilizers and Chemical Feedstocks • Integration with Refineries*
0930 – 0945	*Break*

0945 – 1100	***Downstream Distribution*** *Bulk Storage & Terminals • Fuel Stations & Retail Networks • Aviation Fueling • Industrial & Marine Fuels*
1100 – 1215	***Marketing & Sales Channels*** *Wholesale & Retail Markets • Export & Import Dynamics • Pricing Mechanisms (Brent, WTI, Dubai) • Customer Segmentation*
1215 – 1230	*Break*
1230 – 1330	***Quality Control & Regulations*** *Product Specifications (ASTM, EN) • Blending Quality Control • Compliance & Product Testing • Environmental Fuel Standards*
1330 – 1420	***Downstream Project Examples*** *Refinery Construction Projects • Petrochemical Complex Expansion • Pipeline to Terminal Integration • Fuel Depot Development*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Four*

Day 5

0730 – 0830	***Oil & Gas Project Lifecycle*** *Concept & Pre-Feasibility • FEED (Front-End Engineering Design) • EPC/Execution Phase • Operation & Decommissioning*
0830 – 0930	***Capital Project Development & Decision Gates*** *Stage-Gate / Phase-Gate Processes • Investment Decision Points • Risk versus Reward Evaluation • Stakeholder Approvals*
0930 – 0945	*Break*
0945 – 1100	***Economic Evaluation of Oil & Gas Projects*** *NPV (Net Present Value) • IRR (Internal Rate of Return) • Payback Period • Sensitivity Analysis*
1100 – 1215	***Risk Management in Energy Projects*** *Technical Risks • Commercial and Political Risks • Environmental & HSE Risks • Mitigation & Contingency Planning*
1215 – 1230	*Break*
1230 – 1300	***Value Chain Analysis & Optimization*** *Bottleneck Identification • Cost Reduction Strategies • Supply Chain Optimization • Integration Benefits*
1300 – 1345	***Trends, Innovation & Energy Transition*** *Digital Oilfields & AI • Hydrogen & CCUS Technologies • Energy Transition Strategies • Future Role of Oil & Gas Companies*
1345 – 1400	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about t Topics that were Covered During the Course*
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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