

## **COURSE OVERVIEW DE0338**

## Concept Selection and Specification of Production Facilities in Field **Development Projects**

### **Course Title**

Concept Selection and Specification of Production Facilities in Field Development Projects

#### Course Reference DE0338

Course Duration/Credits

Five Days days/3.0 CEUs/30 PDHs

#### **Course Date/Venue**

Session(s)	Date	Venue
1	July 27-31, 2025	Meeting Plus 9, City Centre Rotana, Doha Qatar
2	October 12-16, 2025	Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE
3	December 21-25, 2025	Safir Meeting Room, Divan Istanbul, Turkey
4	January 25-29, 2026	Olivine Meeting Room, Fairmont Nile City, Cairo, Egypt

#### **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.

This course is designed to provide participants with a detailed and up-to-date overview of Concept Selection and Specification of Production Facilities in Field Development Projects. It covers the phases of a field development project and key components of a field development plan; the decision tree analysis and risk and opportunity assessments; the factors influencing facility design including fluid properties and their impact on facilities; the importance of location and contractual obligations including the operating conditions from wellhead to separation; and the types of separators, separator sizing and design.

Further, the course will also discuss the reasons for stabilization and dehydration, equipment methodologies; water handling, treatment methods and equipment; the specifications for produced water systems and gas compression systems; the initial gas treatment methods and gas dehydration techniques; the gas sweetening processes and adsorption methods as well as the types of artificial lift systems; and the impact of artificial lift on facilities design.



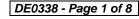
























During this interactive course, participants will learn the secondary/tertiary production techniques and asset integrity and inherently safe design principles; the principles of asset integrity including the rate, composition, temperature and pressure of design impacts; the design aspects of midstream facilities, performance of production versus midstream facilities and delivering saleable products to the market; and exploring future trends in production facilities design covering technological advancements, sustainability and environmental considerations.

### **Course Objectives**

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

- Apply and gain a comprehensive knowledge on concept selection and specification of production facilities in field development projects
- How to develop the project framework and decision making strategy
- How the specification of production, processing facilities is influenced by reservoir type, drive mechanism, fluid properties, location and contractual obligations
- Operating conditions that affect the specification of the production facilities from the wellhead through initial separation
- Parameters that affect the design and specification of oil stabilization and dehydration equipment
- The design and specification of produced water systems appropriate for the rate and composition of the produced water to meet the required environmental regulations and/or injection well capacity
- The design and specification of gas handling facilities including compression, dehydration and sweetening
- The impact of artificial lift systems and secondary/tertiary production projects on facilities selection and design
- The principles of asset integrity and inherently safe design given the rate, composition, temperature and pressure of the production stream
- About midstream facilities required downstream of the primary production facility to deliver saleable products to the market and how these facilities are affected by production rates, composition and production facility performance
- Discuss the phases of a field development project and key components of a field development plan
- Carryout decision tree analysis and risk and opportunity assessments
- Identify the factors influencing facility design including fluid properties and their impact on facilities
- Discuss the importance of location and contractual obligations including the operating conditions from wellhead to separation
- Recognize the types of separators, separator sizing and design as well as explain the reasons for stabilization and dehydration, equipment and methodologies













- Apply water handling, treatment methods and equipment and discuss specifications for produced water systems
- Recognize gas compression systems and apply initial gas treatment methods and gas dehydration techniques
- Illustrate gas sweetening processes and adsorption methods as well as identify the types of artificial lift systems and the impact of artificial lift on facilities design
- Employ secondary/tertiary production techniques and discuss asset integrity and inherently safe design principles
- Explain the principles of asset integrity including the design impacts of rate, composition, temperature and pressure
- Describe the design aspects of midstream facilities, performance of production versus midstream facilities and delivering saleable products to the market
- Explore future trends in production facilities design covering technological advancements, sustainability and environmental considerations

#### 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 concept selection and specification of production facilities in field development projects for those working on field development teams, as well as those who need to better understand how surface facilities are selected and how subsurface characteristics affect facility design and specification.

#### **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 reason.













#### **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: -



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.

The International Accreditors for Continuing Education and Training (IACET - USA)

the ANSI/IACET 2018-1 Standard.

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

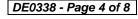
Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking Continuing Education Units (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international 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.

#### 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, 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, 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 Fee**

Doha	<b>US\$ 8,500</b> per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Dubai	<b>US\$ 8,000</b> per Delegate + <b>VAT</b> . This rate includes H-STK <sup>®</sup> (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Cairo	<b>US\$ 8,000</b> per Delegate + <b>VAT</b> . This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Istanbul	<b>US\$ 8,500</b> per Delegate + <b>VAT</b> . This rate includes H-STK <sup>®</sup> (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

<u>Course Program</u>
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

Day 1		
0730 - 0800	Registration & Coffee	
0800 - 0815	Welcome & Introduction	
0815 - 0830	PRE-TEST	
0830 - 0930	Introduction to Field Development Projects	
	Overview of the Upstream Sector • Phases of a Field Development Project	
0930 - 0945	Break	
0045 1100	How to Develop the Project Framework	
0945 – 1100	Key Components of a Field Development Plan • Setting Objectives & Goals	
1100 – 1200	Decision Making Strategy in Projects	
1100 - 1200	Decision Tree Analysis • Risk & Opportunity Assessments	
1200 – 1245	Factors Influencing Facility Design	
1200 - 1243	Reservoir Type & Its Importance • Drive Mechanisms	
1245 - 1300	Break	
1300 - 1345	Fluid Properties & their Impact on Facilities	
	PVT Analysis • Phase Behavior	
1345 - 1415	Importance of Location & Contractual Obligations	
	Accessibility & Logistical Challenges • Contractual Constraints & Flexibility	
1415 - 1430	Recap	
1430	Lunch & End of Day One	
1415 – 1430		

Day 2

0730 – 0930	Operating Conditions from Wellhead to Separation Flow Assurance • Wellhead Controls & Chokes	
0930 - 0945	Break	
0945 – 1100 Primary Production Facilities: Initial Separation Types of Separators • Separator Sizing & Design		















1100 – 1200	Oil Stabilization & Dehydration Equipment	
	Reasons for Stabilization Dehydration • Equipment & Methodologies	
1200 - 1230	Design of Produced Water Systems	
	Overview of Water Handling • Treatment Methods & Equipment	
1230 - 1245	Break	
1245 – 1345	Specifications for Produced Water Systems	
	Meeting Environmental Regulations • Injection Well Requirements	
1345 - 1415	Gas Handling: Basics	
	Gas Compression Systems • Initial Gas Treatment Methods	
1415 - 1430	Recap	
1430	Lunch & End of Day Two	

#### Dav 3

Day 3		
0730 - 0930	Gas Dehydration Techniques	
	Glycol Dehydration Units • Membrane Systems	
0930 - 0945	Break	
0945 – 1100	Gas Sweetening Processes	
	Amine Systems • Adsorption Methods	
1100 – 1200	Introduction to Artificial Lift Systems	
1100 - 1200	Reasons & Scenarios for Artificial Lift • Types of Artificial Lift Systems	
1200 - 1230	Impact of Artificial Lift on Facilities Design	
1200 - 1230	Surface Equipment Implications • Power Requirements	
1230 - 1245	Break	
1245 – 1345	Secondary/Tertiary Production Techniques	
	Water Flooding, Gas Injection • Impact on Facility Design	
1345 - 1415	Asset Integrity & Inherently Safe Design Principles	
	Importance of Safety in Design • Recognizing & Mitigating Hazards	
1415 – 1430	Recap	
1430	Lunch & End of Day Three	

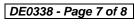
#### Day 4

<b>Principles of Asset Integrity in Detail</b> Corrosion Management • Inspection & Maintenance Planning	
Break	
Rate, Composition, Temperature & Pressure: Design Impacts	
Material Selection • Equipment Rating & Safety Factors	
Introduction to Midstream Facilities	
Overview of the Midstream Sector • Relationship with Upstream	
Design Aspects of Midstream Facilities	
Flow Stabilization • Storage & Transportation Considerations	
Break	
Performance of Production vs. Midstream Facilities	
Efficiency & Optimization • Matching Upstream & Midstream Operations	
Delivering Saleable Products to the Market	
Quality Standards • Transportation Methods: Pipeline, Truck, Rail & Shipping	
Recap	
Lunch & End of Day Four	



















### Day 5

Day 0		
0730 - 0930	Case Study: From Reservoir to Market: Integrating Topics from Days 1-4 into	
	a Holistic Field Development Plan	
0930 - 0945	Break	
0945 – 1145	Group Workshop: Designing a Facility Based on Provided Data: Applying	
	Concepts in a Practical Scenario	
1145 – 1230	Group Workshop: Designing a Facility Based on Provided Data: Applying	
	Concepts in a Practical Scenario (cont'd)	
1230 – 1245	Break	
1245 – 1345	Exploring Future Trends in Production Facilities Design	
	Technological Advancements • Sustainability & Environmental Considerations	
1345 - 1400	Course Conclusion	
1400 – 1415	POST-TEST	
1415 – 1430	Presentation of Course Certificates	
1430	Lunch & End of Course	

<u>Practical Sessions</u>
This practical and highly-interactive course includes the following real-life case studies:-



# **Course Coordinator**

Reem Dergham, Tel: +974 4423 1327, Email: reem@haward.org











