

COURSE OVERVIEW DE0375
Petrel Reservoir Engineering

Course Title

Petrel Reservoir Engineering

Course Reference

DE0375

Course Duration/Credits

Five days/3.0 CEUs/3.0 PDHs

Course Date/Venue



Session(s)	Date	Venue
1	October 13-17, 2024	Boardroom, Warwick Hotel Doha, Doha, Qatar
2	November 17-21, 2024	

Course Description



This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.



This course is designed to provide participants with a detailed and up-to-date overview of petrel RE. It covers the reservoir engineering in petrel; the petrel user interface, rock physics and fluid models, simulation initialization and petrel volume calculation; dynamic modelling covering history and prediction strategies; well path design and completion design; results analysis and 3D results analysis; history matching workflow; and modifying a simulation model and discuss aquifers.



During this interactive course, participants will learn the workflows and describe simulation case editor; grids for well-based studies covering local grid refinement and simple and tartan grids; building a simulation grid from a fine geological grid and quality control of coarsened grids; completion items in wells using the automated and manuel well completion design tools; upscaling reservoir properties and simulation study challenge; screen alternative production extension strategies; and the chosen concept and quantify sensitivities to model uncertainty.

Course Objectives

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

- Apply and gain in-depth knowledge in petrel reservoir
- Discuss the reservoir engineering in petrel
- Understand the petrel user interface, rock physics and fluid models, simulation initialization and petrel volume calculation
- Identify dynamic modelling covering history and prediction strategies
- Explain well path design and completion design
- Summarize results analysis and 3D results analysis
- Learn history matching workflow
- Modify a simulation model and discuss aquifers
- Introduce to workflows and describe simulation case editor
- Recognize grids for well-based studies covering local grid refinement and simple and tartan grids
- Understand building a simulation grid from a fine geological grid and quality control of coarsened grids
- Creating completion items in wells using the automated and manual well completion design tools
- Define upscaling reservoir properties and simulation study challenge
- Understand screen alternative production extension strategies
- Optimize chosen concept and quantify sensitivities to model uncertainty

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 the petrel RE for development and exploration petroleum engineers, reservoir engineers and geoscientists.

Course Fees

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

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.

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 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:



Mr. Ahmed Abdelrazik, is a **Senior Drilling & Petroleum Engineer** with extensive years of **onshore & offshore** experience within the **Oil & Gas, Refinery and Petroleum** industries. His experience widely covers in the areas of **Well Testing** Fundamentals & Software application, **Well Performance & Analysis, Petrel for Reservoir Engineers, Reservoir Management & Monitoring, Reservoir Simulation (Black Oil), Advanced Reservoir Engineering, Basic RE for Non PE background, Introduction to Flow Assurance, MBAL, PVT & Phase Behavior of Reservoir Fluids, PVT & EOS**

Characterization, Well Test Design & Analysis, Well Test Analysis, Well Test Operations, Well Testing Completion & Workover, Well Integrity & Artificial Lift, Well Integrity Management, Wellhead Integrity, Wellhead Maintenance & Operations, Well Completion Design & Operations, Well Head Design, Well Drilling & Completion, Horizontal Well Control, Drilling Optimization & Well Planning, Well Production Optimisation, Well Control & Blowout Prevention, Nodal Analysis, Advanced Production Data Analysis & Nodal Analysis, ESP & Optimization using Nodal Analysis, Well Performance using Nodal System Analysis, Advanced Reservoir & Production Engineering, Advanced Reservoir Fluid Properties & EOS, Applied Reservoir Formation Well Deliverability Analysis, Depositional Environments & Geometry of Sandstone & Carbonate Reservoirs, Geomechanics & Petroleum Implications, Integrated Carbonate Reservoir Characterization, Naturally Fractured Reservoirs, Pressure Transient Testing & Reservoir Performance Evaluation, Integrated Reservoir Studies, Reservoir Production Operations, Reservoir Characterization, Reservoir Surveillance & Management, Reservoir & Facility Management, Advanced Reservoir Geology & Sedimentology, Production Logging & Reservoir Monitoring, Eclipse Black Oil, Hazard Identification & Risk Assessment, Lifesaving on Offshore Rig, OFM Monitoring & Surveillance Workflows, Sand Production Management, Well Completion Technology, Subsea Landing String Services, Waterflood & EOR, TCP & Casing Gun Perforation, Hydraulic Fracture, DST, RFT, ESP & Sucker Rod Pump Installation & Replacement, Open Hole Logs, Coiled Tubing & Lifting with Nitrogen, Detailed Analysis on Pressure, Volume & Temperature (PVT), Special Core Analysis (SCAL), Waterflooding & EOR and Applied Reservoir Evaluation. He has also experience with some of the software's like the Eclipse, Petrel, OFM, Saphir, Topaze, Emeraude, RTA, GAP, Prosper, MBAL, PVTP, PVTsim and Pipesim. He is currently the **Senior Reservoir Engineer of Rashid Petroleum Company wherein he is involved in leading and conducting subsurface related studies, routine reservoir engineering tasks, reservoir analytical studies, reserves reporting, well and reservoir performance review.**

During Mr. Ahmed's life, he has gained his practical and field experience through his various significant positions as the **Reservoir Engineer Specialist, Reservoir & Development Specialist, Reservoir Engineer** for numerous international companies such as the **PetroChina, Egyptian Natural Gas Holding Company, Khalda Petroleum Company, Wastani Petroleum Company and Rashid Petroleum Company.**

Mr. Ahmed has a **Bachelor's degree in Petroleum Engineering.** Further, he is a **Certified Instructor/Trainer** and a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership and Management (ILM).** He has further published scientific papers and delivered numerous trainings, workshops 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

0730 - 0800	Registration & Coffee
0800 - 0815	Welcome & Introduction
0815 - 0830	PRE-TEST
0830 - 0930	Reservoir Engineering in Petrel
0930 - 0945	Break
0945 - 1030	Petrel User Interface
1030 - 1130	Rock Physics & Fluid Models
1130 - 1215	Simulation Initialization
1215 - 1230	Break
1230 - 1420	Petrel Volume Calculation
1420 - 1430	Recap
1430	Lunch & End of Day One

Day 2

0730 - 0830	Dynamic Modelling History Strategies • Prediction Strategies
0830 - 0930	Well Path Design
0930 - 0945	Break
0945 - 1100	Completion Design
1100 - 1215	Summary Results Analysis
1215 - 1230	Break
1230 - 1420	3D Results Analysis
1420 - 1430	Recap
1430	Lunch & End of Day Two

Day 3

0730 - 0830	History Matching Workflow
0830 - 0930	Modify a Simulation Model
0930 - 0945	Break
0945 - 1100	Aquifers
1100 - 1215	Introduction to Workflows
1215 - 1230	Break
1230 - 1420	Simulation Case Editor
1420 - 1430	Recap
1430	Lunch & End of Day Three

Day 4

0730 - 0830	Grids for Well-Based Studies: Local Grid Refinement • Simple & Tartan Grids
0830 - 0930	Build a Simulation Grid from a Fine Geological Grid
0930 - 0945	Break
0945 - 1100	Quality Control of Coarsened Grids
1100 - 1215	Creating Completion Items in Wells Using the Automated & Manuel Well Completion Design Tools





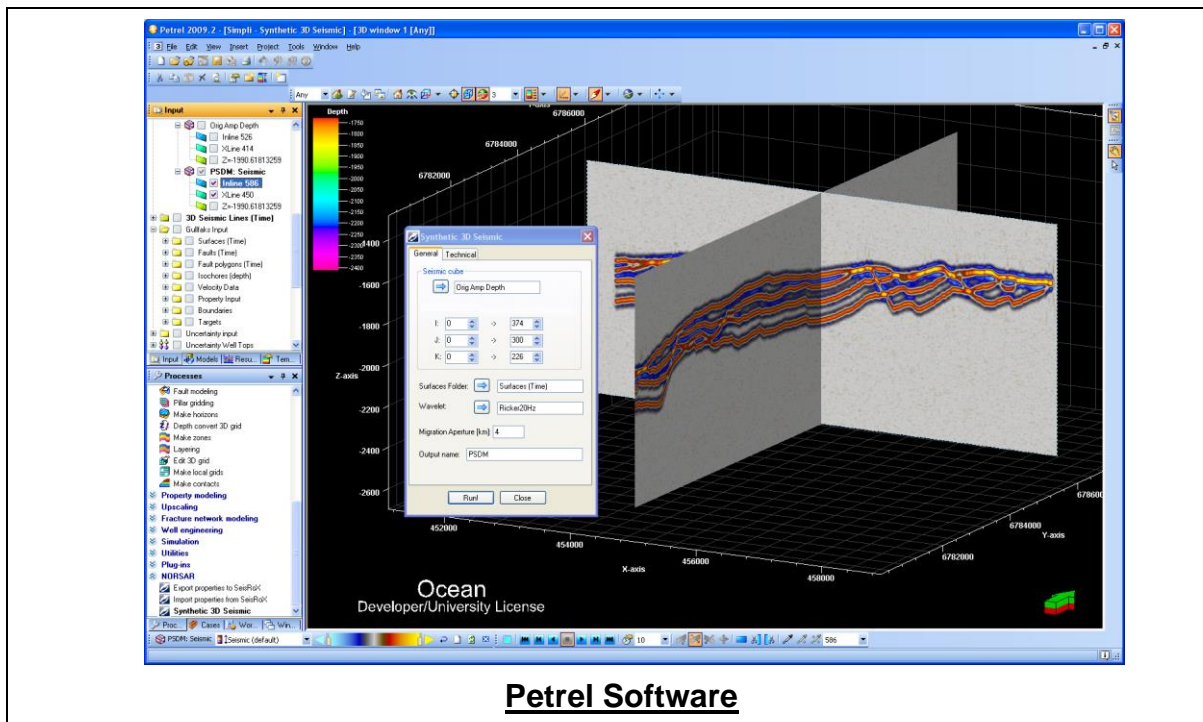
1215 - 1230	Break
1230 - 1420	Upscaling Reservoir Properties
1420 - 1430	Recap
1430	Lunch & End of Day Four

Day 5

0730 - 0930	Simulation Study Challenge
0930 - 0945	Break
0945 - 1100	Screen Alternative Production Extension Strategies
1100 - 1200	Optimize Chosen Concept
1215 - 1230	Break
1230 - 1345	Quantify Sensitivities to Model Uncertainty
1345 - 1400	Course Conclusion
1400 - 1415	POST-TEST
1415 - 1430	Presentation of Course Certificates
1430	Lunch & End of Course

Simulator (Hands-on Practical Sessions)

Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using the “Petrel” software.



Petrel Software

Course Coordinator

Jaryl Castillo, Tel: +974 4423 1327, Email: jaryl@haward.org

