

COURSE OVERVIEW DE0441(AD6)
Advanced PVT & EOS Fluid Characterization

Course Title

Advanced PVT & EOS Fluid Characterization

Course Date/Venue

February 23-27, 2025/AI Buraimi Meeting Room,
 Sheraton Oman Hotel, Muscat, Oman

Course Reference

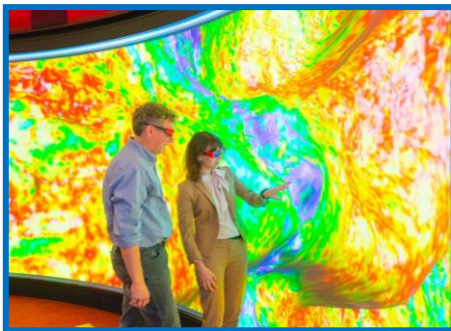
DE0441(AD6)

Course Duration/Credits

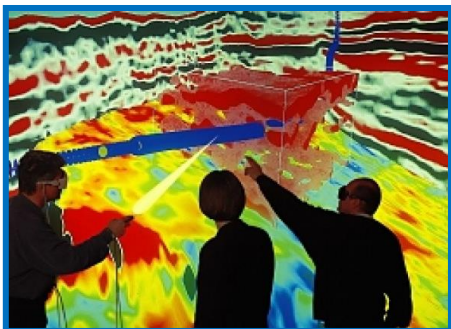
Five days/3.0 CEUs/30 PDHs



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.



The drilling in new fields is planned to start in early 2013, where one of the objectives of the first well is data gathering and especially fluid sampling that enables engineers to deliver a proper fluid characterization (from sampling to EOS characterization). This course will enable the participants to ensure optimum sampling strategy, strong laboratories follow-up capabilities and high-quality EOS characterization.



This course is designed to provide participants with a detailed and up-to-date overview of advanced pressure-volume-temperature (PVT) simulation. It covers the fluid phase behavior and basic fluid properties; the PVT measurements and sampling methods; the EOS models as well as how to properly characterize the plus fraction and tune EOS; and the process of lumping and de-lumping.

During this interactive course, participants will learn the PVT data for reservoir simulation; the miscible process and how is it modeled; the quality checking of the data provided by vendors; and the appropriate regressing methods on how to develop a PVT model (EOS) that match the available data.

Course Objectives

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

- Apply and gain an advanced knowledge on pressure-volume-temperature (PVT) simulation
- Discuss fluid phase behavior and basic fluid properties
- Perform PVT measurements and sampling methods
- Recognize EOS models as well as how to properly characterize the plus fraction and tune EOS
- Identify and discuss process of lumping and de-lumping
- Prepare PVT data for reservoir simulation
- Explain the miscible process and how is it modeled
- Demonstrate quality checking of the data provided by vendors
- Determine appropriate regressing methods on how to develop a PVT model (EOS) that match the available data

Exclusive Smart Training Kit - H-STK®



Participants of this course will receive the exclusive “Howard 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 advanced pressure-volume-temperature (PVT) simulation for reservoir engineers and petroleum engineers who have a medium background of PVT.

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 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)

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 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.

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. Ron Guney, MSc, BSc, is a Senior Geophysicist & Drilling Engineer with over 35 years of Offshore & Onshore experience within the Oil, Gas, Refinery and Petrochemical industries. His expertise widely covers Drilling, Core-to-Log Data Integration (SCAL), Basin Modelling & Total Petroleum System (TPS), Well Logging, Formation Evaluation, Well Testing & Data Interpretation, Geophysics, Geophysical Technology, Borehole Geophysics, Seismology, Wave Propagation & Velocities, Seismic Acquisition Techniques, Fluid Characterization, Fluid Properties, Seismic Data Processing, Vertical Seismic Profiling (VSP), Seismic Data Interpretation, Geomodelling, Prospect Generation-Delineation & Reservoir Modelling, Static Modelling, Prospect Generation through Seismic Structural & Stratigraphic Interpretation, Prospect-Play Risk Assessment & Ranking, Resource & Reserve Estimations, Post Stack Seismic Attribute Analysis, Post Stack Seismic Inversion, Traveltime Inversion, Crossborehole Seismic Tomography, Seismic Sequence Stratigraphy, Program Coding (VSP & Cross-borehole Travel Time Inversion ART and SIRT), Post Drill Well Assessment, Field Development, Seismostratigraphy, Seismotectonics & Geodynamics & Modelling, Cartographic Information Systems (CIS), Geographic Information Systems (GIS), Geodesy & Topography, Geodesy, Map Projections & Coordinate Systems, Geological Maps (GM), Topographic & Geologic Maps, Cartography Assisted by Computer (CAC), Global Positional System (GPS), Petroleum Geology, Advanced Petrophysics, Petroleum Exploration, Petroleum Economics, Pore Pressure Prediction and Oil & Gas Reserves Estimations. He is also an expert in 2D & 3D Seismic Interpretation Oil Risk Analysis, Landmark, Zmap+ Mapping Package, Petrel Schlumberger, Promax Processing System and 3D Seismic Data Acquisition. Currently, he is the Senior Geophysicist Consultant of Eastern Offshore Black Sea E&P Projects.

During his long career, Mr. Guney has gained his practical and field experience through his various significant positions and dedication as the **Senior Geophysicist Consultant, Senior Geophysicist, Senior Project Geophysicist, Teaching Assistant, Lecturer, Instructor/Trainer** from numerous international companies such as the Eastprime Service Co., Emirates National Oil Company (ENOC) - Dragon Oil, OMV Petrol and Turkish Petroleum Corp, just to name a few.

Mr. Guney has a **Master's degree in Geology** from the **University of New Orleans, USA** and a **Bachelor's degree in Geophysics** from the **Istanbul Technical University**. Further, he is a **Certified Instructor/Trainer, a Certified Trainer/Assessor** by the **Institute of Leadership & Management (ILM)** and has **published books and scientific papers** such as **Iterative Wavefront Reconstruction Technique (IWR), Mathematical Geophysics, Model Optimisation in Exploration Geophysics, Importance of Seismic Interpretation Systems** and delivered various trainings, seminars, workshops, courses and conferences worldwide.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

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, 23rd of February 2025

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 – 0930	Fluid Phase Behavior
0930 – 0945	Break
0945 – 1100	Fluid Phase Behavior (cont'd)
1100 – 1215	Basic Fluid Properties
1215 – 1230	Break
1230 – 1420	Basic Fluid Properties (cont'd)
1420 – 1430	Recap
1430	Lunch & End of Day One

Day 2: Monday, 24th of February 2025

0730 – 0930	PVT Measurements
0930 – 0945	Break
0945 – 1100	PVT Sampling Methods
1100 – 1215	EOS Methods
1215 – 1230	Break
1230 – 1420	How to Properly Characterize the Plus Fraction
1420 – 1430	Recap
1430	Lunch & End of Day Two

Day 3: Tuesday, 25th of February 2025

0730 – 0930	How to Tune an EOS
0930 – 0945	Break
0945 – 1100	How to Tune an EOS (cont'd)
1100 – 1215	Process of Lumping
1215 – 1230	Break
1230 – 1420	Process of De-Lumping
1420 – 1430	Recap
1430	Lunch & End of Day Three

Day 4: Wednesday, 26th of February 2025

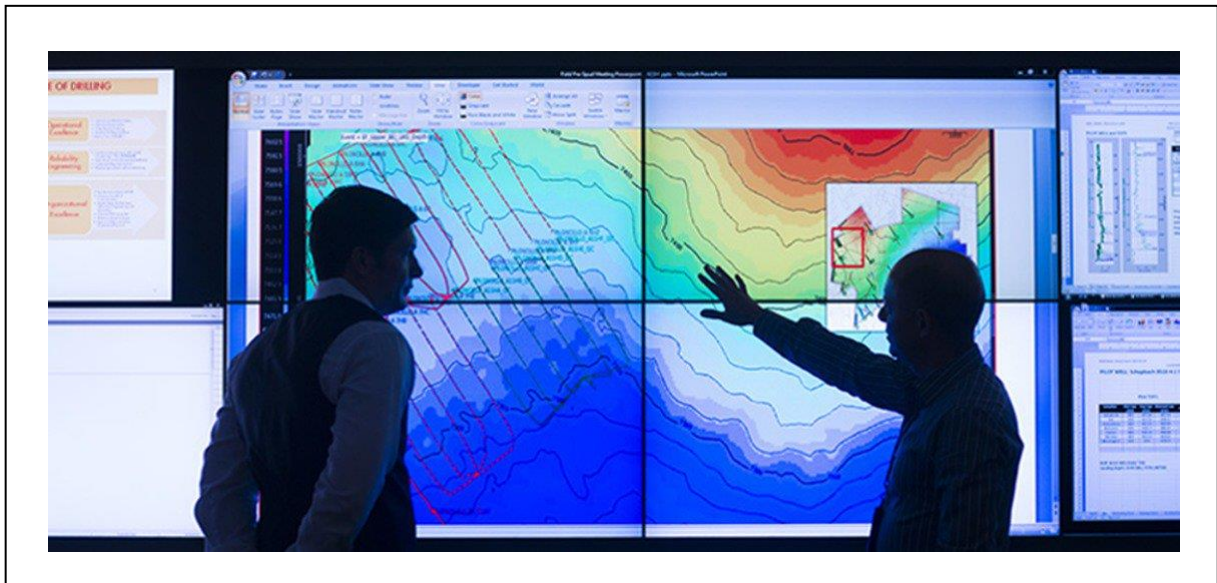
0730 – 0930	How to Prepare PVT Data for Reservoir Simulation
0930 – 0945	Break
0945 – 1100	How to Prepare PVT Data for Reservoir Simulation (cont'd)
1100 – 1215	Understanding the Miscible Process and How is it Modeled
1215 – 1230	Break
1230 – 1420	Proper Planning of a PVT Study Including Sampling Strategy
1420 – 1430	Recap
1430	Lunch & End of Day Four

Day 5: Thursday, 27th of February 2025

0730 – 0930	<i>Quality Check of the Data Provided by Vendors</i>
0930 – 0945	<i>Break</i>
0945 – 1100	<i>Quality Check of the Data Provided by Vendors (cont'd)</i>
1100 – 1215	<i>Appropriate Regressing Methods on How to Develop a PVT Model (EOS) that Match the Available Data</i>
1215 – 1230	<i>Break</i>
1230 – 1345	<i>Appropriate Regressing Methods on How to Develop a PVT Model (EOS) that Match the Available Data (cont'd)</i>
1345 – 1400	<i>Course Conclusion</i>
1400 – 1415	<i>POST-TEST</i>
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

Mari Nakintu, Tel: +971 2 30 91 714, Email: mari1@haward.org