

COURSE OVERVIEW DE0470
Seismic Inversion and Attributes

Course Title

Seismic Inversion and Attributes

Course Date/Venue

Session 1: July 23-17, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Session 2: November 17-21, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

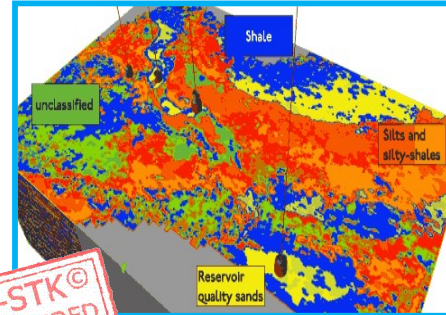
Course Reference

DE0470

Course Duration/Credits

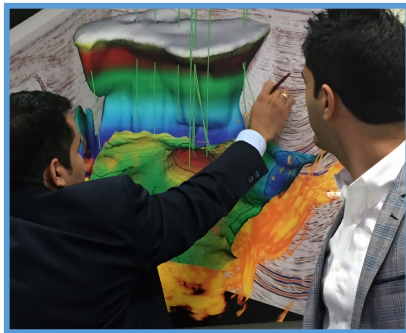
Five days/3.0 CEUs/30 PDHs

Course Description



H-STK[©] INCLUDED

3.0 CEUs (30 PDHs) AWARD

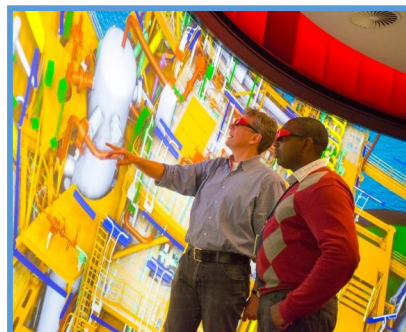


This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.

How reliable and successful is your AVO or seismic attribute analysis? Did you know that not all AVO/seismic attribute anomalies are caused by oil and gas reservoirs? And that there is a whole range of natural and artificial factors that can influence AVO and attribute results? This course presents the basic principles of AVO and attribute analysis. The participant is guided in: (i) selecting the correct processing techniques, (ii) determining whether an AVO analysis is at all applicable, and (iii) choosing the appropriate attributes for analysis.



Seismic Inversion and Attributes is a specialized course that focuses on extracting valuable subsurface information from seismic data to improve reservoir characterization and hydrocarbon exploration. The course covers seismic inversion techniques, which convert seismic reflection data into quantitative rock property models, enhancing interpretations of lithology, porosity, and fluid content. It also explores seismic attributes, which are derived from seismic signals to highlight structural, stratigraphic, and depositional features. By integrating inversion results with well log and geological data, students gain a deeper understanding of reservoir properties, leading to better decision-making in exploration and production.



Course Objectives

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

- Apply the principles and systematic strategic applications on seismic modeling, AVO and inversion
- Discuss basic petrophysics in well logs and recognize its functions and importance
- Enumerate pros and cons of AVO and differentiate basic rock physics and well inversion
- Implement the latest methodology on AVO analysis and distinguish amplitude versus angle
- Determine AVO anomalies and employ AVO cross-plotting systematic techniques
- Classify the types of AVO processing such as relative amplitude processing and true amplitude processing and identify their effects on the determination of lame parameters
- Employ the methodological applications of amplitude, energy and frequency related attributes

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 AVO, inversion and attributes for interpreters, geophysicists, geologists, technical support personnel, seismic processors, exploration, data processing managers, data acquisition managers, drilling engineers, reservoir engineers, petroleum engineers, and field operation 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 H-STK® (Howard Smart Training Kit), 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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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.

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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.

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:



Mr. Ron Guney, MSc, BSc, is a Senior Geophysicist with over 30 years of Offshore & Onshore experience within the Oil, Gas, Refinery and Petrochemical industries. His expertise widely covers Geophysics, Geophysical Technology, Borehole Geophysics, Seismology, Wave Propagation & Velocities, Seismic Acquisition Techniques, 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, Play Assessment & Prospect Evaluation, 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, Drilling, Core-to-Log Data Integration (SCAL), Basin Modelling & Total Petroleum System (TPS), Well Logging, Formation Evaluation, Well Testing & Data Interpretation, 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.

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 – 0745	<i>Registration & Coffee</i>
0745 – 0800	<i>Welcome & Introduction</i>
0800 – 0815	PRE-TEST
0815 – 0930	General Introduction
0930 – 0945	<i>Break</i>
0945 – 1100	Basic Geology & Petrophysics & Rock Physics
1100 – 1215	Basic Geology & Petrophysics & Rock Physics & Examples
1215 – 1230	<i>Break</i>
1230 – 1420	Principles of Geophysics
1420 – 1430	Recap
1430	<i>Lunch & End of Day One</i>

Day 2

0730 – 0930	Advanced Geophysical Techniques
0930 – 0945	<i>Break</i>
0945 – 1100	Advanced Geophysical Techniques (cont'd)
1100 – 1215	Advanced Geophysical Techniques, Examples Specific & Discussion
1215 – 1230	<i>Break</i>
1230 – 1420	Introduction for the Reservoir Characterizations & AVO Theoretical
1420 – 1430	Recap
1430	<i>Lunch & End of Day Two</i>

Day 3

0730 – 0930	AVO Analysis
0930 – 0945	<i>Break</i>
0945 – 1100	AVO Analysis (cont'd)
1100 – 1215	Case Studies of AVO
1215 – 1230	<i>Break</i>
1230 – 1420	Case Studies of AVO & Discussion
1420 – 1430	Recap
1430	<i>Lunch & End of Day Three</i>

Day 4

0730 – 0930	Introduction & Theoretical of Seismic Inversion
0930 – 0945	<i>Break</i>
0945 – 1100	Seismic Inversion Techniques
1100 – 1215	Seismic Inversion Techniques & Application
1215 – 1230	<i>Break</i>
1230 – 1420	Case Studies of Seismic Inversion & Discussion
1420 – 1430	Recap
1430	<i>Lunch & End of Day Four</i>

Day 5

0730 – 0930	<i>Introduction & the Theoretical of Seismic Attributes</i>
0930 – 0945	<i>Break</i>
0945 – 1100	<i>Seismic Attributes Techniques</i>
1100 – 1215	<i>Seismic Attributes Techniques, Application & Discussion</i>
1215 – 1230	<i>Break</i>
1230 – 1345	<i>Final Discussion & Recommendation</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

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