COURSE OVERVIEW DE0385
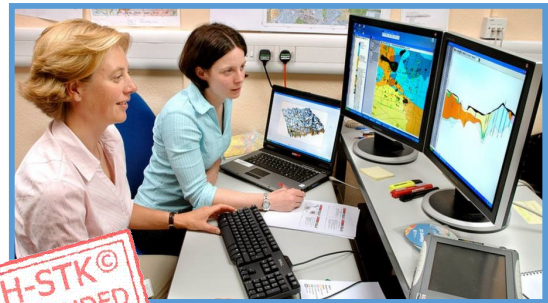## Petrel Mapping & Geological Workflow

Course Title
Petrel Mapping & Geological Workflow

Course Date/Venue
Session 1: May 19-23, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
Session 2: November 09-13, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

H-STK© INCLUDED

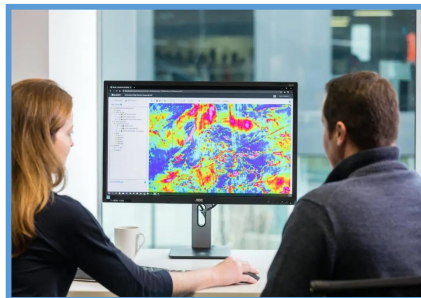### Course Reference
DE0385

3.0 CEUs (30 PDHs) AWARD

Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

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 Mapping & Geological Workflow. It covers the capabilities of Petrel software in geological modeling and navigating Petrel interface; importing geological data and creating simple geological maps and effective ways to visualize geological data; the base maps and grids for geological mapping and systematic techniques for creating contour and surface maps; and the fault modeling and representation and the three-dimensional geological models.
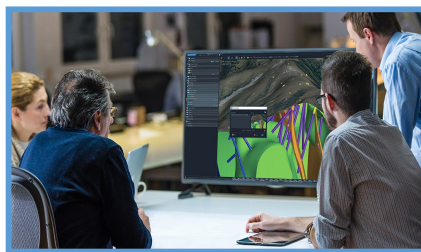
During this interactive course, participants will learn the integration of seismic data with geological maps; the volume calculations and resource estimations using Petrel; the basics of petrophysical analysis and techniques for analyzing well logs; the methods for modeling properties like porosity and permeability and utilizing crossplots for data interpretation; incorporating core analysis data into geological models and the basics of workflow development in Petrel; creating automated workflows for geological tasks and customizing workflows for specific projects; the best practices for efficient workflow development and scripting for advanced workflow automation; integrating geological models with reservoir simulation; the quality control and validation of geological models; the impactful reports and presentations of geological models; and the best practices in geological modelling and mapping.

Course Objectives

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

- Apply and gain an in-depth knowledge on Petrel mapping and geological workflow

- Discuss the capabilities of Petrel software in geological modeling and navigate the Petrel interface

- Import geological data and create simple geological maps and effective ways to visualize geological data

- Create base maps and grids for geological mapping and apply systematic techniques for creating contour and surface maps

- Illustrate fault modeling and representation and three-dimensional geological models

- Integrate seismic data with geological maps and carryout volume calculations and resource estimations using Petrel

- Recognize the basics of petrophysical analysis and discuss the techniques for analyzing well logs

- Implement methods for modeling properties like porosity and permeability and utilize crossplots for data interpretation

- Incorporate core analysis data into geological models and discuss the basics of workflow development in Petrel

- Create automated workflows for geological tasks and customize workflows for specific projects

- Carryout best practices for efficient workflow development and scripting for advanced workflow automation

- Integrate geological models with reservoir simulation and quality control and validation of geological models

- Create impactful reports and presentations of geological models and best practices in geological modelling and mapping

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 Petrel mapping and geological workflow for geologists, geophysicists, reservoir engineers, petroleum engineers, data analysts, managers and decision makers and those who are involved in subsurface exploration and reservoir management.

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 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 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:

Ms. Diana Helmy, PgDip, MSc, BSc, is a **Senior Petroleum & Geologist** with extensive years of experience within the **Oil & Gas**, **Refinery** and **Petrochemical** industries. Her expertise widely covers in the areas of **Tubular & Pipe** Handling, **Tubular Strength**, **Casing & Tubing** Design, **Production/Injection Loads** for Casing Strings & Tubing, **Drilling** Loads, **Drilling & Production Thermal** Loads, **Well** Architecture, **Wellhead Integrity**, **Well Integrity & Artificial Lift**, **Well Integrity** Management, **Well** Completion & Workover, Applied **Drilling** Practices, Horizontal **Drilling**, **Petroleum** Production, **Resource & Reserve Evaluation**, **Reserves Estimation & Uncertainty**, Methods for **Aggregation of Reserves & Resources**, **Horizontal & Multilateral Wells**, **Well Completion & Stimulation**, **Artificial Lift System Selection & Design**, **Well** Testing & Oil Well Performance, **Well** Test Design Analysis, **Well Test** Operations, **Well Testing & Perforation**, **Directional** Drilling, **Formation Damage** Evaluation & Preventive, **Formation Damage** Remediation, **Drilling & Formation Damage**, Simulation Program for The **International Petroleum Business**, **Well** Testing & Analysis, **Horizontal & Multilateral Wells & Reservoir** Concerns, **Oil & Gas Analytics**, **Petrophysics & Reservoir Engineering**, **Subsurface Geology & Logging** Interpretation, **Petroleum Geology**, **Geophysics**, **Seismic** Processing & Exploration, **Seismic** Interpretation, **Sedimentology**, **Stratigraphy & Biostratigraphy**, **Petroleum Economy**, **Core** Analysis, Well Logging Interpretation, **Core Lab Analysis** & **SCAL**, **Sedimentary Rocks**, **Rock** Types, Core & Ditch Cuttings Analysis, Clastic, Carbonate & Basement Rocks, **Stratigraphic Sequences**, **Petrographically** Analysis, Thin Section Analysis, Scanning Electron Microscope (**SEM**), X-ray Diffraction (**XRD**), Cross-Section Tomography (**CT**), **Conventional & Unconventional** Analysis, **Porosity & Permeability**, **Geological & Geophysical** Model, **Sedimentary** Facies, **Formation Damage** Studies & Analysis, **Rig** Awareness, 2D&3D **Seismic** Data Processing, Static & Dynamic Correction, Noise Attenuation & Multiple Elimination Techniques, Velocity Analysis & Modeling and various software such as Petrel, OMEGA, LINUX, Kingdom and Vista. She is currently a **Senior Consultant** wherein she is responsible in different facets of **Petroleum & Process Engineering** from managing **asset integrity**, **well integrity process**, **pre-commissioning/commissioning** and **start up** onshore & offshore process facilities.

During her career life, Ms. Diana worked as a **Reservoir Geologist**, **Seismic Engineer**, **Geology Instructor**, **Geoscience Instructor & Consultant** and **Petroleum Geology Researcher** from various international companies like the **Schlumberger**, Corex Services for Petroleum Services, Petrolia Energy Supplies and Alexandria University.

Ms. Diana has a **Postgraduate Diploma** in **Geophysics**, **Master's** degree in **Petroleum Geology** and **Geophysics** and a **Bachelor's** degree in **Geology**. Further, she is a **Certified Trainer/Assessor/Internal Verifier** by the **Institute of Leadership & Management** (**ILM**) and has delivered numerous trainings, courses, workshops, seminars and conferences internationally.

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.

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 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 Petrel Software****: Its Capabilities in Geological Modeling*
0930 – 0945	*Break*
0945 – 1030	***Navigating the Petrel Interface****: Understanding the Workspace, Tools & Navigation*
1030 – 1130	***Data Import & Management****: Best Practices for Importing Geological Data*
1130 – 1215	***Basic Mapping Techniques in Petrel****: Creating Simple Geological Maps*
1215 – 1230	*Break*
1230 – 1330	***Visualization Tools in Petrel****: Effective Ways to Visualize Geological Data*
1330 – 1420	***Creating Base Maps & Grids****: Fundamentals of Grid Creation for Geological Mapping*
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0830	***Contouring & Surface Mapping****: Techniques for Creating Contour & Surface Maps*
0830 – 0930	***Fault Modeling & Representation****: Accurately Modeling Faults in Geological Maps*
0930 – 0945	*Break*
0945 – 1100	***3D Geological Modeling****: Building Three-Dimensional Geological Models*
1100 – 1215	***Integrating Seismic Data with Geological Maps****: Combining Seismic Interpretation with Geological Mapping*
1215 – 1230	*Break*
1230 – 1330	***Volume Calculations & Estimations****: Using Petrel for Resource Estimation*
1330 – 1420	***Case Studies****: Real-World Examples of Geological Mapping in Petrel*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

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0730 – 0830	**Petrophysical Modeling**: *The Basics of Petrophysical Analysis*
0830 – 0930	**Well Log Interpretation & Analysis**: *Techniques for Analyzing Well Logs*
0930 – 0945	*Break*
0945 – 1100	**Petrophysical Property Modeling**: *Methods for Modeling Properties Like Porosity and Permeability*
1100 – 1215	**Crossplot Analysis**: *Utilizing Crossplots for Data Interpretation*
1215 – 1230	*Break*
1230 – 1330	**Integrating Core Data**: *Incorporating Core Analysis Data into Geological Models*
1330 – 1420	**Practical Exercise**: *Petrophysical Modeling Based on Real Data*
1420 – 1430	**Recap**
1430	*Lunch & End of Day Three*

Day 4

0730 – 0830	**Workflows in Petrel**: *Basics of Workflow Development*
0830 – 0930	**Automating Geological Processes**: *Creating Automated Workflows for Geological Tasks*
0930 – 0945	*Break*
0945 – 1100	**Customizing Workflows for Specific Projects**: *Tailoring Workflows to Project Needs*
1100 – 1215	**Efficiency Tips & Tricks in Workflow Creation**: *Best Practices for Efficient Workflow Development*
1215 – 1230	*Break*
1230 – 1330	**Scripting for Advanced Workflow Automation**: *Scripting within Petrel*
1330 – 1420	**Group Activity**: *Developing a Custom Workflow for a Geological Task*
1420 – 1430	**Recap**
1430	*Lunch & End of Day Four*

Day 5

0730 – 0830	**Integrating Geological Models with Reservoir Simulation**: *Techniques for Combining Static & Dynamic Models*
0830 – 0930	**Quality Control & Validation of Geological Models**: *Ensuring Accuracy & Reliability*
0930 – 0945	*Break*
0945 – 1100	**Effective Reporting & Presentation of Geological Models**: *Creating Impactful Reports & Presentations*
1100 – 1230	**Best Practices in Geological Modeling & Mapping**: *Consolidating Key Methodologies & Approaches*
1230 – 1245	*Break*
1245 – 1345	**Emerging Trends in Geological Modeling & Software Technologies**: *Discussing Future Developments in the Field*
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
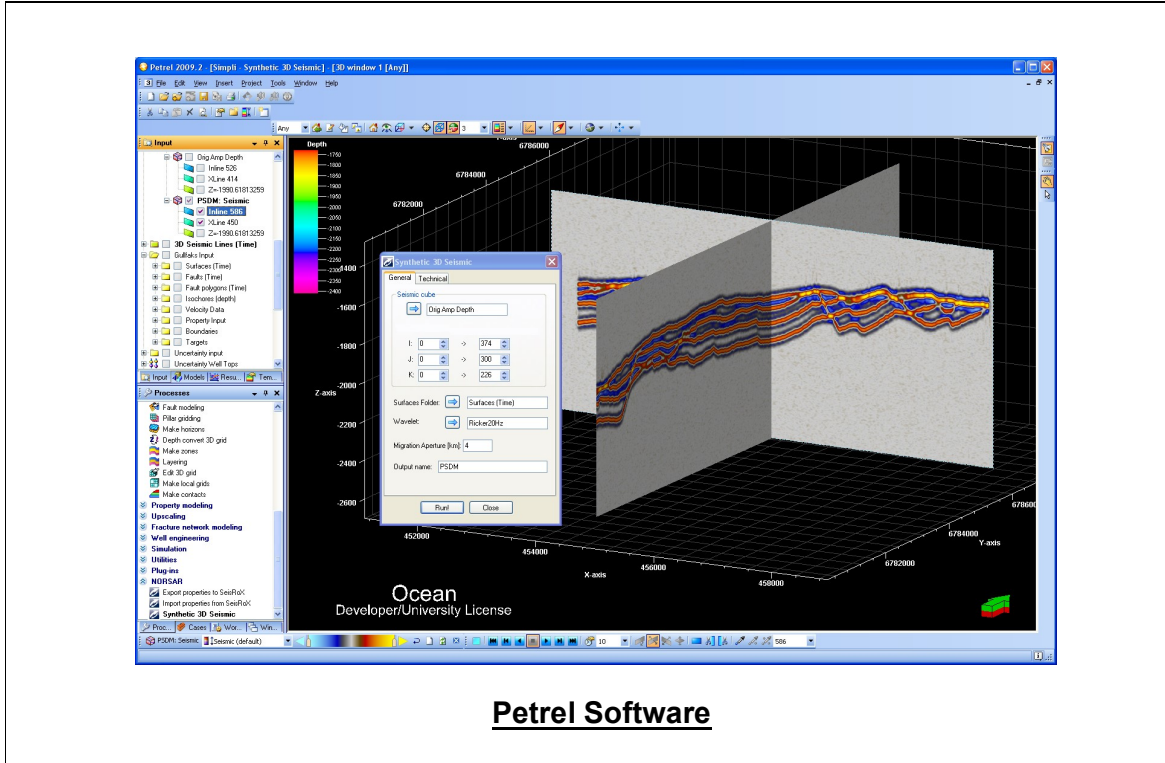
Course Coordinator

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