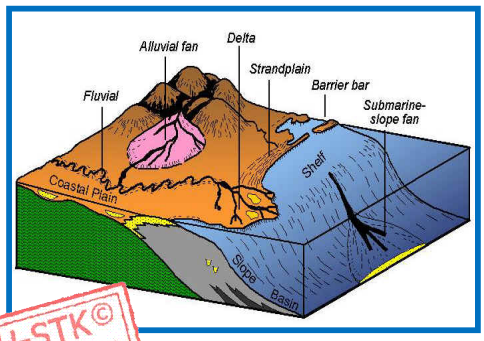
COURSE OVERVIEW DE0660
Facies Analysis: from Sediments to Depositional Systems

Course Title
Facies Analysis: from Sediments to Depositional Systems



H-STK© INCLUDED

Course Date/Venue
Session 1: July 20-24, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE
Session 2: December 22-26, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Course Reference
DE0660

3.0 CEUs (30 PDHs) AWARD

Course Duration
Five days/3.0 CEUs/30 PDHs

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 make the participants familiar with the patterns and dynamics of clastic deposition and their control in modern environments, and to be able to reconstruct the original environment of deposition in the case of ancient sedimentary terrains, by using standard criteria. A special focus will be dedicated to recognize the depositional bodies within different settings, as they could be potential sources for various substances.

The first day will be dedicated to understanding of the fundamental facies categories and methods for investigation - in other words, the standard criteria used in facies analysis and palaeo environmental reconstruction. The next three days will be largely dedicated to the case of various depositional settings. The attendees will become familiar with: the specific processes and associated products (facies), and their control; cyclic and event sedimentation; possible evolutions, and standard facies associations (sequences); large-scale geometry of the sedimentary bodies (architectural elements), stacking-patterns and bounding surfaces; and associated resources.

The lectures will focus firstly on the sedimentation processes in some modern, well documented environments; starting from this, the participants will have the opportunity to study the case of various ancient formations, to understand the dynamic of sedimentation in the associated palaeoenvironments, and finally to be able to offer models of evolution (facies models) and to delineate bodies within these settings. During the entire course participants will be given the opportunity to gain experience and practice in applying the standard criteria in facies and architectural reconstruction, using some examples. The last day will consolidate what has been learned, and the participants will undertake a project to develop a practical application, and to discuss the results.

Course Objectives

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

- Apply and gain an in-depth knowledge on clastic depositional systems and facies models
- Define depositional environment and discuss the principles of facies and sequence analysis and architectural analysis
- Explain the economic potential od sedimentary sequences and architectures and carryout the processes and products (facies) in modern environments – the actualism as a key to geological past
- Employ alluvial fan systems and recognize the fluvial sedimentation including braided meandering and anastomosing systems
- Differentiate architecture versus associated resources in alluvial and fluvial (sub) systems
- Identify clastic coastal that includes fluvial-wave and tide-dominated deltas
- Recognize shallow clastic seas and discuss architectures vs associated resources in coastal and shallow sea systems
- Distinguish deep-sea systems and carryout processes in turbiditic fans and associated architectures

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 for reservoir engineers, managers, oil geologists who want to be able to understand the patterns of sedimentation, and the associated facies, in different environments, and also to learn to apply the basic criteria in facies and architectural reconstruction. A good knowledge on facies, facies associations and associated 3-D architectures is the base for a good exploration strategy, and a condition to improve productivity as well. No significant experience is needed, but the atendees should be comfortable with the basic sedimentology.

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:

Mr. Stan Constantino, MSc, BSc, is a **Senior Petroleum & Reservoir Engineer** with over **35 years** of **Offshore & Onshore** extensive experience within the **Oil**, **Gas & Petroleum** industries**.** His area of expertise include **Reserves & Resources**, **Reserves Estimation & Uncertainty**, **Reservoir** Characterization, **Unconventiona**l **Resource & Reserves** Evaluation, **Oil & Gas Reserves** Estimation, Methods for **Aggregation of Reserves & Resources**, **Fractured Reservoir** Classification & Evaluation, **Sequence Stratigraphy**, **Petrophysics & Rock** Properties, **Seismic** Technology, **Geological** Modelling, **Water Saturation**, **Crude Oil & Natural Gas** Demand, **Exploration Agreements & Financial** Modelling, **Seismic Survey** Evaluation, **Exploration Well** Identification, **Field Production** Operation, **Field Development** Evaluation, Crude Oil Marketing, **Core & Log Data** Integration, **Core Logging**, Advanced **Core & Log Integration**, **Well Logs & Core Analysis**, Advanced Petrophysics/Interpretation of **Cased Hole Logs**, **Cased Hole Formation Evaluation**, **Cased Hole Formation** Evaluation, **Cased Hole Evaluation**, **Cased-Hole Logging**, Applied **Production Logging & Cased Hole & Production Log** Evaluation, **Cased Hole Logging & Formation** Evaluation, Open & Cased Hole Logging, Screening of Oil Reservoirs for **Enhanced Oil Recovery**, **Enhanced Oil Recovery**, **Enhanced Oil Recovery** Techniques, **Petroleum Economic** Analysis, **Oil Industry** Orientation, **Oil Production & Refining**, **Crude Oil Market**, **Global Oil Supply & Demand**, **Global Oil Reserves**, **Crude Oil** Types & Specifications, **Oil Processing**, **Oil Transportation-Methods**, **Oil & Gas** Exploration and Methods, **Oil & Gas** Extraction, Technology Usage in Industrial Security; **Upstream**, **Midstream** & **Downstream Operations**; **Oil Reservoir** Evaluation & Estimation, **Oil Supply & Demand**, **Oil Contracts**, **Government Legislation & Oil Contractual Agreements**, **Oil Projects** & Their Feasibility (revenue and profitability), **Water Flooding**, **Reservoir** Souring & Water Breakthrough, **Reservoir Performance** Using Classical Methods, **Fractured Reservoir** Evaluation & Management, **Reservoir Surveillance** & Management, **Reservoir Engineering** & Simulation, **Reservoir Monitoring**, **Pressure Transient** Testing & **Reservoir** Performance Evaluation, **Reservoir** Characterization, **Reservoir** Engineering Applications with ESP and Heavy Oil, **Reservoir** Volumetrics, Water Drive Reservoir, **Reserve** Evaluation, Rock & Fluid Properties, Fluid Flow Mechanics, PVT Analysis, Material Balance, Darcy's Law & Applications, Radial Flow, **Gas Well** Testing, Natural Water Influx, EOR Methods, Directional Drilling, **Drilling** Production & Operations, Field Development & Production of Oil & Gas, **Wireline Logging**, **Mud Logging**, **Cased Hole Logging**, **Production Logging**, **Slick Line**, **Coil Tubing**, Exploration Wells Evaluation, **Horizontal Wells**, **Well Surveillance**, **Well Testing**, **Design & Analysis**, **Well Testing & Oil Well Performance**, **Well Log Interpretation** (**WLI**), **Formation Evaluation**, **Well Workover Supervision**, **Pressure Transient Analysis** and **Petrophysical Log Analysis**. Currently, he is the **CEO** & **Managing Director** of **Geo Resources Technology** wherein he is responsible in managing the services and providing technical supports to underground energy related projects concerning **field development**, **production**, **drilling**, **reservoir engineering** and **simulation**.

Throughout his long career life, Mr. Stan has worked for many international companies such as the **Kavala Oil**, **North Aegean Petroleum Company** and **Texaco Inc.**, as the **Managing Director**, **Operations Manager**, **Technical Trainer**, **Training Consultant**, **Petroleum Engineering & Exploration Department Head**, **Assistant Chief Petroleum Engineer**, **Reservoir Engineer, Resident Petroleum Engineer**, **Senior Petroleum Engineer** and **Petroleum Engineer** wherein he has been managing the evaluation of exploration wells, reservoir simulation, development training, production monitoring, wireline logging and well testing including selection and field application of well completion methods.

Mr. Stan has a **Master's** degree in **Petroleum Engineering** and a **Bachelor's** degree in **Geology** from the **New Mexico Institute of Mining & Technology** (**USA**) and from the **Aristotelian University** (**Greece**) respectively. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership of Management (ILM**) and a member of the Society of Petroleum Engineers, USA (**SPE**), Society of Well Log Professional Analysts, USA (**SPWLA**) and European Association of Petroleum Geoscientists & Engineers (**EAGE**). Moreover, Mr. Stan published numerous scientific and technical papers and delivered various trainings, courses and workshops worldwide.

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. 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 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	***Introduction*** *What is a Depositional Environment • Depositional Environments vs. Processes (Dynamics, Controls, and Associated Products; Examples)*
0930 – 0945	*Break*
945 – 1100	***Principles of Facies & Sequence Analysis*** *What is a Facies (Facies Cathegories and Data) • How to Describe a Facies (Methods of Investigation and Alghorhythms for Study and Interpretations) • What are Facies Associations (Examples) • Codifications and Decodifications of Lithological Logs (Principles and Examples)*
1100 – 1230	***Principles of Architectural Analysis*** *Sequences vs. Spatial Extension • What is the Possible Geometry of a Sedimentary Body • How to Recognize the Architectures (Architectural Elements): From 2-D Views to 3-D Views Examples*
1230 – 1245	*Break*
1245 – 1330	***Economic Potential of Sedimentary Sequences & Architectures*** *Sedimentary Bodies Vs. Mineral Resources • Sedimentary Bodies Vs. Hydrocarbon Accumulations: Reservoir and Source-Rocks*

1330 – 1420	***Processes & Products (Facies) in Modern Environments – The Actualism as a Key to Geological Past; Some Examples*** *Processes and Dynamic of Clastic Sedimentation in Some Modern Environments • Interplays Clastic Vs. Chemical and Biotical Sedimentation in Modern Shoreface Systems*
1420 - 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0900	***Alluvial fan systems*** *Specific Processes, and Associated Facies (Gravity-Flow Fans, Fluvial-Fans and Terminal Fans) • Position of Alluvial Systems Vs. Tectonic & Climatic Control • Alluvial Architectures and Bounding Surfaces (Possible Evolutions of Alluvial Sedimentation and Basinal Significance)*
0900 – 0915	*Break*
0915 – 1100	***Fluvial Sedimentation: Braided, Meandering & Anastomosing Systems*** *Fluvial Processes in Channel and Overbank Areas, and Associated Facies Types • Fluvial Subsystems Vs. Criteria in Use • Large-Scale Geometry, Stacking-Pattern and Control (Specific Architectural Elements and Bounding Surfaces)*
1100 – 1230	***Architectures vs. Associated Resources in Alluvial & Fluvial (Sub)Systems - Case Studies***
1230 – 1245	*Break*
1245 – 1430	***Applications:*** *Sequence Analysis • Decodification of Lithological Logs • Facies and Sequence Types • Architectural Interpretation • Commentaries*
1420 - 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0930	***Clastic Coastal Systems: Fluvial-, Wave- And Tide-Dominated Deltas*** *Fluvial vs. Basinal Contro • Deltaic Processes and Subsystems (Delta Plain; Delta-Front; Prodelta; Constructional, Deformational, Resedimentation Processes) • Delta Facies Sequences and Bounding Surfaces, and Their Significance: Progradational, Transgressive And Abandonment/Avulsion Stages*
0930 - 0945	*Break*
0945 – 1100	***Shallow Clastic Seas*** *Clastic Shelf Models (Process-Response Models and Hydraulic Regimes) • Wave-, Storm- and Tide-Dominated Shallow Marine Systems (Processes and Facies) • Possible Evolutions of Shallow-Marine Clastic Systems*
1100 – 1215	***Architectures vs. Associated Resources in Coastal &Shallow Sea (Sub)Systems - Case Studies***
1215 – 1230	*Break*
1230 - 1430	***Applications:*** *Sequence Analysis • Decodification of Lithological Logs; Facies, and Sequence Types • Architectural Interpretation; Commentaries*
1420 - 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

0730 – 0930	***Deep-Sea Systems: Processes in Turbiditic Fans & Associated Architectures*** *Clastic Vs. Other Processes in Deep-Seas (Factors, Processes, Subsystems) • Cyclic Vs. Event Sedimentation in Deep-Sea • Resedimentation Processes And Stages (Sediment Creep, Slides, Slumps, Debris Flows, Liquefied/ Fluidized Flows, Turbidity Currents)*
0930 - 0945	*Break*
0945 – 1100	***Deep-Sea Systems: Processes in Turbiditic Fans & Associated Architectures (cont'd)*** *Modern Turbidite Environments, and their Characteristics • Turbidite Facies Vs. Orders (Parameters of Turbidite Fans) • Classifications of Turbidite Systems*
1100 – 1215	***Architectures Vs. Associated Resources in Deep Sea (Sub)Systems - Case Studies***
1215 – 1230	*Break*
1230 - 1430	***Applications:*** *Sequence Analysis • Decodification Of Lithological Logs • Facies And Sequence Types • Architectural Interpretation • Commentaries*
1420 - 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0930	***Discuss Reference Sources***
0930 - 0945	*Break*
0945 – 1100	***Select Class Project & Discuss Requirements***
1100 – 1215	***Execute Class Project***
1215 – 1230	*Break*
1230 - 1400	***Presentation Of Class Project; Review & Critique Class Project***
1420 - 1430	***Course Conclusion***
1400 - 1415	***POST-TEST***
1415 - 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Practical Sessions

This practical and highly-interactive course includes the real-life case studies and exercises: -

Course Coordinator

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