COURSE OVERVIEW DE0389
Resource & Reserve Evaluation

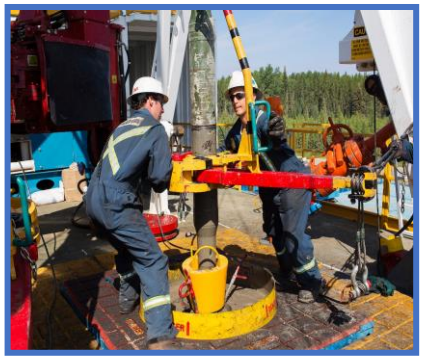
Course Title
Resource & Reserve Evaluation

Course Date/Venue
Session 1: May 04-08, 2025/ Meeting Plus 8, City Centre Rotana Doha Hotel, Doha, Qatar
Session 2: September 28-October 02, 2025/Meeting Plus 8, City Centre Rotana Doha Hotel, Doha, Qatar

Course Reference
DE0389

Course Duration/Credits
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 provide participants with a detailed and up-to-date overview of resource and reserve evaluation. It presents advanced techniques for reserve estimation and addresses the difference in classification of resource and reserves. The course will also cover the reserves reporting guidelines according to SPE PRMS; the deterministic and probabilistic methods for resources and reserves estimation; the analogy, volumetric and recovery factors; the different methods for aggregation of reserves and resources; the treatment of unconventional resources; the expected changes in SPE PRMS; and the petroleum resources definitions and classifications.

During this interactive course, participants will learn the different systems for reporting reserves and resources, reserves estimation and link to project economics; the material balance analysis, classical decline curve analysis, advanced decline curve analysis and deterministic analysis on an example field; the basics of descriptive statics, probability and operations with probabilities, probability distributions and expected value; the aggregating over reserves level, adding proved reserves, aggregating over resource classes and the scenario methods; and the normalization and standardization of volumes, cash-flow-based commercial evaluations and development and analysis of project cash flows.

Course Objectives

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

- Apply and gain in-depth knowledge on resource and reserve evaluation
- Learn definitions of reserves and resources and guidelines for their application from various regulatory and industry authorities, including Society of Petroleum engineers (SPE), World Petroleum Council (WPC), American Association of Petroleum Geologists (AAPG), and the US Securities and Exchange Commission (SEC)
- Discover the latest and most accurate methods for estimating reserves, both deterministic and probabilistic, and gain a thorough understanding of various reserves levels and their equivalence in both systems, including proved, proved plus probable, and proved plus probable plus possible
- Review reserves reporting guidelines according to SPE PRMS
- Carryout deterministic and probabilistic methods for resources and reserves estimation
- Identify analogy, volumetric and recovery factors
- Apply different methods for aggregation of reserves and resources as well as the treatment of unconventional resources
- Recognize the changes expected in SPE PRMS and discuss petroleum resources definitions and classifications
- Identify the different systems for reporting reserves and resources, reserves estimation and link to project economics
- Carryout material balance analysis, classical decline curve analysis, advanced decline curve analysis and deterministic analysis on an example field
- Discuss the basics of descriptive statics, probability and operations with probabilities, probability distributions and expected value
- Aggregate over reserves level, add proved reserves, aggregate over resource classes and apply scenario methods
- Illustrate normalization and standardization of volumes, cash-flow-based commercial evaluations and development and analysis of project cash flows

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 resource and reserve evaluation for reservoir engineers and geoscientists working in integrated teams in unconventional assessments. Managerial staff requiring an understanding of unconventional reservoir reserve and resource evaluation standards will also benefit from this course.

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: -

- 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.

- 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.

Course Fee

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 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. David Berryman is a **Senior Drilling Operations Engineer** with over **40 years** of **Offshore** & **Onshore** experience within the **Oil & Gas** industries. He is an international expert in **Drill String** Intensity & Design, **Drill String** Optimization, **Stuck Pipe Prevention**, **Wireline** Operations & Techniques, **Fishing** Operations, **Drilling & Petroleum** Engineering, **ERD Drilling**, **Well Service** Operations, **Well Test** Design & Analysis, **Well Composite**, **Construction Integrity**, **Completion & Production** Optimization, **Well Completion**, **Well Integrity** Management, **Well Bore** Analysis, **Well Control** & **Blowout Prevention**, **Well Bore Integrity**, High Pressure High Temperature (**HPHT**), Pulling Out of Hole (**POOH**), **PWD Interpretation**, **Surface Logging**, **Drilling Optimization**, **Well Planning**, **Horizontal** & **Directional Drilling**, **Well Hole Cleaning**, **Mud-Logging**, **Downhole Vibration**, **Extended Reach Drilling**, **Torque & Drag Modelling**, **Pore Pressure** Evaluation, **Pressure Transient Testing & Reservoir Performance** Evaluation, **Review Process Data & Fluid Properties**, **Conductor Line Pressure Surveys** and **Chemical Tubing Cutting**. He is also well-versed in Bow-Tie HSE Risk Management System, **Hydraulics** Management, Data Interpretation, **Petroleum Data** Management, Hydraulic Calculations, Safety Management System, **Rig** Operations and various **drilling softwares** including **Well Plan** and **Compass** (**Landmark**); DFG, Planit, Insite Anywhere (**Halliburton**); Discovery Well, Discovery Web (Kongsberg); Digital Well File (Petrolink) and Well View (Peloton).

Throughout his long career life, Mr. Berryman has worked for many international companies in the **Gulf of Mexico**, **Europe**, **Africa**, **Central Asia** (Kazakhstan) the **Middle East**, **Far East** and the **North Sea** such as Marathon Oil UK, Talisman-Sinopec, BG Group, Sperry Drilling, Stavanger, BP, Hycalog, Camtest/Camco and Gearheart. He had occupied various key positions as the **Drilling Manager**, **Drilling Engineer Supervisor**, **Drilling Supervisor**, **Drilling Operations Engineer**, **Applied Drilling Technology Engineer**, **Data Engineer**, **Mud Logger**, **Sales & Service Engineer** and **Downhole Gauge Engineer** and **Senior Instructor/Trainer**. During this period, he has led the development of a **software solution** for real-time monitoring of drag whilst tripping in extended reach wells.

Mr. Berryman has a **Bachelor's** degree in **Mining** from the **University of Leeds**, **UK**. Further, he has acquired **certifications** from the **IWCF** for **Combined Surface** and **Subsea Blow-Out Preventer Stack**, the **BOSIET**, the **UKCS** for Offshore Working and the **Prince2 Foundation** for **Project Management**. Further, he is a **Certified Instructor/Trainer**, a **Drill String Design Proctor** by **Fearnley**, a **Certified Trainer/Assessor/Internal Verifier** by the **Institute of Leadership & Management** (**ILM**) and has delivered and presented innumerable training courses and workshops 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 – 0900	***Introduction to Resource & Reserve Evaluation***
0900 - 0915	***Definitions of Reserves & Resources***
0915 – 0930	*Break*
0930 – 1030	***Guidelines for Reserve & Resource Application from Various Regulatory & Industry Authorities, including Society of Petroleum Engineers (SPE), World Petroleum Council (WPC), American Association of Petroleum Geologists (AAPG), & the US Securities & Exchange Commission (SEC)***
1030 - 1100	***Reserves Reporting Guidelines According to SPE PRMS***
1100 – 1215	***Deterministic & Probabilistic Methods for Resources & Reserves Estimation***
1215 – 1230	*Break*
1230 – 1330	***Analogy, Volumetric & Recovery Factors***
1330 - 1420	***The Latest & Most Accurate Methods for Estimating Reserves, Both Deterministic & Probabilistic***
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0830	***Various Reserves Levels & Their Equivalence in Both Deterministic & Probabilistic Systems***
0830 - 0915	***Proved, Proved Plus Probable & Proved Plus Probable Plus Possible***
0915 – 0930	*Break*
0930 – 1030	***Case Histories for Reserves & Resources Estimation & Reporting***
1030 - 1100	***Different Methods for Aggregation of Reserves & Resources***
1100 – 1215	***The Treatment of Unconventional Resources***
1215 – 1230	*Break*
1230 – 1330	***Changes Expected in SPE PRMS***
1330 - 1420	***Petroleum Resources Definitions & Classifications (SPE PRMS, SEC, CIM, Russian Classification System)***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0830	***The Different Systems for Reporting Reserves & Resources***
0830 - 0915	***Reserves Estimation & Link to Project Economics***
0915 – 0930	*Break*
0930 – 1030	***Material Balance Analysis***
1030 - 1100	***Classical Decline Curve Analysis***
1100 – 1215	***Advanced Decline Curve Analysis***

1215 – 1230	Break
1230 – 1330	**Reserves: Link to Project Economics & Valuation**
1330 - 1420	**Deterministic Analysis on an Example Field**
1420 – 1430	**Recap**
1430	Lunch & End of Day Three

Day 4

0730 – 0830	**Basics of Descriptive Statics**
0830 - 0915	**Basic Probability & Operations with Probabilities**
0915 – 0930	Break
0930 – 1030	**Probability Distributions**
1030 - 1100	**Expected Value**
1100 – 1215	**Probabilistic Reserve Estimation**
1215 – 1230	Break
1230 – 1330	**Probabilistic Reserves Estimation (cont'd)**
1330 - 1420	**Monte Carlo Simulation**
1420 – 1430	**Recap**
1430	Lunch & End of Day Four

Day 5

0730 – 0830	**Aggregating Over Reserves Level (Wells, Reservoirs, Fields, Companies, Countries)**
0830 - 0915	**Adding Proved Reserves**
0915 – 0930	Break
0930 – 1030	**Aggregating Over Resource Classes**
1030 - 1130	**Scenario Methods**
1130 – 1215	**Normalization & Standardization of Volumes**
1215 – 1230	Break
1230 – 1300	**Cash-Flow-Based Commercial Evaluations**
1300 - 1345	**Development & Analysis of Project Cash Flows**
1345 – 1400	**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 real-life case studies and exercises:-

Course Coordinator

Reem Dergham, Tel: +974 4423 1327, Email: reem@haward.org