COURSE OVERVIEW DE618
IPM (Integrated Production Modelling)
(E-Learning Module)

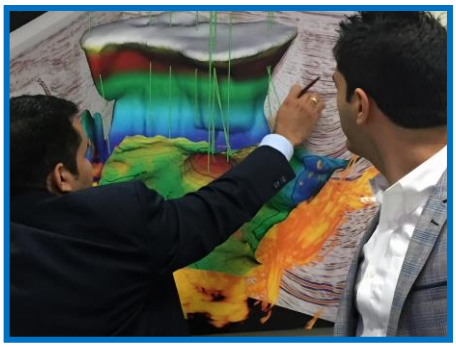
Course Title
IPM (Integrated Production Modelling)
(E-Learning Module)

Course Reference
DE0618

Course Format & Compatibility
SCORM 1.2. Compatible with IE11, MS-Edge, Google Chrome, Windows, Linux, Unix, Android, IOS, iPadOS, macOS, iPhone, iPad & HarmonyOS (Huawei)

Course Duration
30 online contact hours
(3.0 CEUs/30 PDHs)

Course Description



This E-Learning course is designed to provide participants with a detailed and up-to-date overview of integrated production modelling (IPM). It covers the field analysis through integrated modeling and simulation and lower Slochteren reservoir; the production analysis, decline curve analysis, production split and water production split; the well test analysis, IPM workflow, model input data and technical input data; the material balance equation and important parameters, relative permeability curves and pressure history matching; the modeling of surface facilities and GAP modeling of surface facilities; the forecasting results and small oilfield integrated production management model.

During this course, participants will learn the decision making process based on integrated model and integrated production systems optimization; the optimization of field X with integrated well/reservoir management; the material balance analysis (MBAL); the choke optimization using nodal analysis for well X-04 and choke optimization using nodal analysis for X-05; the debottlenecking of surface network, information on supported operating systems and hardware requirements for IPM and DOF product suites; and the operating systems and hardware that IPM and DOF suite applications supported on.

Course Objectives

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

- Apply and gain an in-depth knowledge on integrated production modelling (IPM)
- Employ field analysis through integrated modeling and simulation including lower Slochteren reservoir
- Carryout production analysis, decline curve analysis, production split and water production split
- Apply well test analysis, IPM workflow, model input data and technical input data
- Recognize material balance equation and important parameters, relative permeability curves, pressure history matching
- Employ modeling of surface facilities and GAP modeling of surface facilities
- Review forecasting results and describe small oilfield integrated production management model
- Apply decision making process based on integrated model and integrated production systems optimization
- Optimize field X with integrated well/reservoir management and perform material balance analysis (MBAL)
- Carryout choke optimization using nodal analysis for well X-04 and choke optimization using nodal analysis for X-05
- Employ debottlenecking of surface network and review information on supported operating systems and hardware requirements for IPM and DOF product suites
- Identify what operating systems and hardware are IPM and DOF suite applications supported on

Who Should Attend

This course provides an overview of all significant aspects and considerations of integrated production modelling for those who are recently started working in the production in the production domain and need to become familiar with production tools/analysis, who attended the course already some time ago and require a refresher, unrelated discipline trying to understand the production context.

Course Fee

As per proposal

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course.

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations: -

- USA International Association for Continuing Education and Training (IACET)

  Haward Technology is an Authorized Training Provider by the International Association 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 1-2013 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 1-2013 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 Association 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.

Training Methodology

This Trainee-centered course includes the following training methodologies:-

- Talking presentation Slides (ppt with audio)
- Simulation & Animation
- Exercises
- Videos
- Case Studies
- Gamification (learning through games)
- Quizzes, Pre-test & Post-test

Every section/module of the course ends up with a Quiz which must be passed by the trainee in order to move to the next section/module. A Post-test at the end of the course must be passed in order to get the online accredited certificate.

Course Contents

- Field Analysis through Integrated Modeling and Simulation
- Introduction
- Geological Background
- Brief Field History and Location
- Regional Geology
- Geological Setting
- Lower Slochteren Reservoir
- Software
- Microsoft Excel 2007
- 3.2 PIE version 2014.10
- 3.3 MBAL from IPM version 10.0
- 3.4 PROSPER from IPM version 10.0
- 3.5 GAP from IPM version 10.0
- 3.6 OFM
- 3.7 PI ProcessBook
- Production Analysis
- Decline Curve Analysis

- Production Split
- Water Production Split
- Sensitivity & Uncertainty
- Well Test Analysis
- IPM Workflow
- Model Input Data
- Technical Input Data
- Reservoir Model Development – MBAL
- Workflow
- Assumptions and Considerations
- Material Balance Equation and Important Parameters
- Relative Permeability Curves
- Pressure History Matching
- Well Model Development – PROSPER
- Workflow
- Assumptions and Considerations
- Modeling of Surface Facilities – GAPModeling of Surface Facilities – GAP
- Workflow
- Assumptions and Considerations
- Model Results
- Workflow
- Assumptions and Considerations
- Optimization
- Model Results
- Forecasting Results
- Small Oilfield Integrated Production Management Model
- Integrated Oil Production Management Model
- Decision Making Process Based on Integrated Model
- Integrated Production Systems Optimization: A mature Niger Delta Field Case Study
- Optimization of Field X with Integrated Well/Reservoir Management

- Material Balance Analysis (MBAL)
- Choke Optimization Using Nodal Analysis for Well X-04
- Choke Optimization Using Nodal Analysis for X-05
- Debottlenecking of Surface Network
- Information on Supported Operating Systems and Hardware Requirements for IPM And DOF Product Suites
- What Operating Systems and Hardware are IPM and DOF Suite Applications Supported on
- IPM Suite (including MOVE)
- HARDLOCK – Network License Manager
- DOF Suite
- Information on IPM and DOF Software Architecture
- Should a Client Purchase or Upgrade to 64-bit Applications?
- Benefits of 64-bit Applications
- Licensing
- Conversion from 32-bit to 64-bit
- Purchasing New or Additional Licenses
- IPM 12.5, IVM 9.5 and IFM 6.5
- HARDLOCK 11.5
- IPM 12.5
- RESOLVE
- MBAL
- PVTp
- REVEAL
- MOVE
- Visual Workflow Engine
- IVM 9.5
- IFM 6.5
- Operating System Support
- Pulling It All Together
- Why Integrated Services?

- Case Study
- IPM
- IPM and DOF Enhancements
- GAP
- IPM 10 Development for GAP
- Prosper
- IPM 10 Development for Prosper
- Resolve
- IPM 10 Development for RESOLVE
- Generic OpenServer
- Reveal
- IPM 10 Development for REVEAL
- Compositional PVT
- Polymer Degradation
- Thermal Transmissibility
- Well Solver Options
- Solver Options
- 12(+2) Parameter Generalized AICD Model
- SAGD Coupling to Surface
- Water Chemistry Engine
- Interface and Visualization
- Nexus Model Import
- MBAL
- IPM 10 Development for MBAL
- DOF
- DOF (IFM 4.1 and IVM 7) Developments
- Calculations
- Calculations –Visual Workflows
- Data Management -Drivers
- Graphic Screens -Controls

- Architecture -Objectives
- IFM 4.1 Architecture
- IFM 4.1 Architecture -Summary
- IFM 4.1 with IVM 7
- Other IT Considerations
- Time-zone/Culture Changes
- DOF Enhancements -Summary
- IFM & IVM Data Exchange
- Calculations -Classification
- IVM 7.0 Direction
- Graphic Screens -Templates
- Graphic Screens –Templates
- Fundamentals –Data Model
- Engineering Workflows