Hunting for Oil: Exploration & Upstream Overview
Serious Game Simulation Workshop

5 days
Overview

LEVEL
Skilled

PURPOSE
The success of an oil company depends on appropriate strategy, effective data interpretation and collaborative teamwork: this course has been designed to stimulate the participants’ desire for learning, and to capture their attention with an adequate blend of challenges, competition and collaboration, making the learning experience both enjoyable and educational, whatever their professional origin and background.

LEARNING OBJECTIVES
Upon completion of the course, participants will be able to:
- acquire a global vision of the upstream petroleum industry,
- evaluate reservoir characteristics and potential using adequate geophysical and geological information,
- understand how uncertainties inherent to data influence the capability to interpret them,
- draw field development plans by balancing development costs versus production rates, in order to maximize NPV.

WAYS AND MEANS
The HFO course is based on a serious game and a simulation workshop.
Trainees are ideally grouped in teams of 3. Each team acts as a virtual oil company that competes with the others: explore for economically viable volumes of hydrocarbons in a new area.
The course is supported by the DALLAS™ software package, a dynamic training tool based on an innovative learning platform.

LEARNING ASSESSMENT
Knowledge assessment with multiple choice questions and open explanatory questions.

PREREQUISITES
Degree in G&G or experience in the E&P industry.

Agenda

INTRODUCTION - EXPLORATION GEOLOGY
Introduction: specific roles and objectives of exploration, development & production in the petroleum industry.
Lecture: geological context of hydrocarbon prospecting; reservoir characterization tools & techniques in E&P.
Workshop: introduction to geoscientific exploration methods. Data-room/Call for tenders.

EXPLORATION GEOPHYSICS
Lecture: seismic reflection (fundamentals, data acquisition, processing & interpretation).
Workshop: seismic interpretation, survey planning, commitment and permitting.
HYDROCARBON TRAPS - OPERATIONS GEOLOGY
Lecture: hydrocarbon genesis, migration, entrapment and timing; play assessment (concept and preservation).
Workshop: wellsite geology (mud logging, wireline logging) and well monitoring; well data interpretation.

WELL COMPLETION - RESERVOIR ENGINEERING - PRODUCTION MONITORING
Lecture: well design and completion; enhanced recovery.
Workshop: field appraisal strategy and development planning.

RESERVE EVALUATION - INTRODUCTION TO RESERVOIR MODELING
Lecture: understand the reservoir (sedimentological and structural modeling).
Workshop: accumulation evaluation (mapping and volumetric calculation - OOIP); production monitoring.
Conclusion: presentation of teams’ results; feedback discussion; wrap-up session.
The teams define and implement their strategy in order to deploy the best scenario and to win, through mutual complementary interaction. Both cash flow and production are taken into account for the final evaluation.
A series of hands-on activities and exercises (maps, seismic sections, logs, fluid contacts, volumetrics, etc.) is proposed through sequential workshops to highlight key phases and illustrate lectures.