

This course can be adapted to virtual classroom mode

Well Completion & Servicing

5 days
Overview

INPF-EN-A

LEVEL

Awareness

PURPOSE

This course provides a comprehensive overview of completion and well intervention operations.

LEARNING OBJECTIVES

Upon completion of the course, participants will be able to:
recognize the connection between reservoir and completion,
distinguish between the main configurations and techniques of completion,
review advantages and issues of various techniques,
communicate efficiently with Oil & Gas service companies and equipment suppliers.

WAYS AND MEANS

Well control on a simulator.
Equipment and cutaway tools display.
Exercises, role-playing sessions, project and case studies.
Summary notes prepared and presented by the participants.

LEARNING ASSESSMENT

Discussion of the summary notes prepared and presented by the participants.

PREREQUISITES

Basic technical knowledge in the Oil & Gas industry.

MORE INFO

Kindly refer to the following complementary courses which might be of interest: "Introduction to Reservoir Engineering", "Drilling Fundamentals", and "Oil & Gas Field Processing".

Agenda

NECESSARY FUNDAMENTALS OF RESERVOIR ENGINEERING FOR COMPLETION **0.75 d**

Introduction: area concerned by completion, main steps.
Geological trap, rock properties.
Fluid behavior.
Reservoir characterization, well testing.
Recovery mechanisms.

NECESSARY FUNDAMENTALS OF DRILLING FOR COMPLETION **0.25 d**

Drilling and casing program, casing cementing.
Wellhead and safety equipment (BOP).

INTRODUCTION TO COMPLETION

0.5 d

Concerned area, main steps (for memory).
Main factors influencing completion design.
Completion configurations: requirement, main configurations.

WELL PRODUCTIVITY & RESERVOIR-WELLBORE INTERFACE (PART 1)

0.75 d

Overall approach of the well flow capacity:
Inflow and outflow performance.
Need for artificial lift.
Drilling (and casing) of the pay zone: specific aspects.
Problems linked to restoring the cement job.
Perforating: principle, main methods.

EQUIPMENT OF NATURALLY FLOWING WELLS

1 d

Functions to be carried out and corresponding pieces of equipment, main configurations of production string(s).
Technology and handling of main pieces of equipment: production wellhead, tubing, packer, downhole devices, subsurface safety valve.
Running in hole procedure.
Present trends: full-bore..., intelligent completion.

RESERVOIR-WELLBORE INTERFACE (PART 2)

0.5 d

Stimulation: acidizing, hydraulic fracturing.
Sand control.
Horizontal drain specificity: interest, reservoir-wellbore interface.

ARTIFICIAL LIFT

0.5 d

Sucker rod pumping and electrical submersible pumping: principle, main components, factor to consider for design, operating problems.
Continuous gas lift: principle, factors to consider for design, unloading, operating problems.
Field of application.

WELL SERVICING & WORKOVER

0.5 d

Main jobs: measurement, maintenance, workover.
Operations on live wells: wireline, coiled tubing, snubbing.
Operations on killed wells: workover.

KNOWLEDGE ASSESSMENT

0.25 d