Completion Engineer: Well Completion Design & Workover Operations

DRPT150

TRAINIT ACADEMY

COURSE TITLE

Completion Engineer: Well Completion Design & Workover Operations

COURSE DATE/ VENUE

4th – 8th Aug 2025

London, UK

COURSE REFERENCE

DRPT150

COURSE DURATION

05 Days

DISCIPLINE

Drilling, Reservoir & Petroleum Training

COURSE INTRODUCTION

The **"Completion Engineer: Well Completion Design & Workover Operations"** course is designed to equip petroleum professionals with the essential technical skills, operational understanding, and design principles necessary for successful well completions and workover interventions.

A well completion is the critical link between a productive reservoir and surface production facilities. It directly affects the long-term deliverability, integrity, and profitability of the well. Similarly, workover operations provide the means to restore or enhance well performance throughout the life of the asset. Mastery of both disciplines is fundamental to ensuring efficient and cost-effective oil and gas production.

COURSE OBJECTIVE

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

- **A thorough understanding of completion engineering fundamentals.**
- **Practical knowledge of designing lower and upper completions.**
- **Exposure to modern technologies like intelligent completions and multistage fracturing.**
- **Workover planning, execution strategies, and risk management.**

 Real-world case studies, best practices, and lessons learned from global operations.

COURSE AUDIENCE

 Completion Engineers — responsible for planning, designing, and executing well completions.
 Production Engineers — seeking to deepen their understanding of how completion design impacts production performance.
 Well Intervention and Workover Specialists — involved in maintaining, repairing, or enhancing well performance through interventions.
 Drilling Engineers — transitioning into completion-focused roles or expanding their well lifecycle knowledge.

COURSE CONTENT

Day 1: Introduction to Well Completion Engineering

- **Overview of Drilling, Completion, and Production Life Cycles**
- **Role and Responsibilities of a Completion Engineer**
- **Types of Well Completions (Open Hole, Cased Hole, Multilateral, Horizontal)**
- **Key Design Objectives: Productivity, Integrity, Economics**
- **Completion Components: Packers, Tubing, Nipples, Safety Valves**
- **Sand Control: Introduction to Screens, Gravel Packing**
- **Basic Well Integrity Concepts**

Day 2: Completion Design Principles

- **Wellbore Cleanout and Preparation**
- **Lower Completion Design (Reservoir Interface)**
  - **Perforation Techniques (Underbalanced, Overbalanced)**
  - **Sand Control Strategies**
  - **Inflow Control Devices (ICDs) and Autonomous ICDs (AICDs)**
- **Upper Completion Design (Tubing String, Packers, Accessories)**

- Completion Fluids: Types, Selection, and Management
- Materials Selection (Corrosion, Erosion, Sour Service Considerations)

Day 3: Advanced Completion Technologies

- Intelligent (Smart) Well Completions
- Multistage Fracturing Completions
- Expandable Tubular Completions
- Fiber Optics and Downhole Monitoring
- Deepwater and HPHT (High Pressure High Temperature) Well Completions
- Subsea Completions Overview
- Dealing with Flow Assurance Issues (Hydrates, Wax, Scale)

Day 4: Workover Operations and Well Intervention

- Introduction to Workover Operations
  - Categories: Light, Medium, Heavy
- Workover Planning Process
- Common Workover Operations: Tubing Replacement, Re-Perforating, Wellbore Cleanout
- Well Intervention Techniques:
  - Wireline, Coiled Tubing, Snubbing
  - Fishing Operations
- Zonal Isolation Techniques (Squeeze Cementing, Patches, Bridge Plugs)

Day 5: Completion Design Simulation & Field Case Studies

- Integrated Completion and Workover Planning
- Cost Estimation and Economic Evaluation
- Risk Assessment and Mitigation in Completions
- Real-world Field Case Studies (Successes and Failures)
- Group Exercise: Prepare and Present a Completion and Workover Plan

- **Course Wrap-up:**
    - **Key Takeaways**
    - **Open Q&A Session**
    - **Certificate Award Ceremony**

COURSE CERTIFICATE

TRAINIT ACADEMY will award an internationally recognized certificate(s) for each delegate on completion of training.

COURSE FEES

£5,750 per Delegate. This rate includes participant's manual, Hand-Outs, lunch, coffee/tea on arrival, morning & afternoon of each day.

COURSE METHODOLOGY

The training course will be highly participatory and the course leader will present, guide and facilitate learning, using a range of methods including formal presentation, discussions, sector-specific case studies and exercises. Above all, the course leader will make extensive use of real-life case examples in which he has been personally involved. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Case studies & Practical Exercises
- 10% Role Play
- 10% Videos, Software or Simulators (as applicable) & General Discussions