



HARNESS THE POWER
OF KNOWLEDGE

Well Completion: Principles, Design, and Execution

TRAIN



Course Overview:

Well completion is a critical step in oil and gas production, ensuring the efficient flow of hydrocarbons from the reservoir to the surface

This comprehensive 5-day professional training course will provide a thorough understanding of well completion principles, design considerations, operational procedures, and performance optimization strategies to maximize well productivity and extend reservoir life

Course Objectives:

By the end of this course, participants will be able to:

1

Grasp the fundamental principles of well completion and its impact on wellbore stability, fluid flow, and hydrocarbon recovery

2

Identify the key components of a well completion system, including casing, tubing, packers, and wellbore completions

3

Understand the design considerations for well completion systems based on reservoir characteristics, wellbore geometry, and production goals

4

Apply completion principles to select appropriate completion methods, such as open-hole completions, cased-hole completions, and gravel packing

5

Analyze completion operational procedures, including casing running, cementing, and wellbore stimulation techniques

6

Discuss completion optimization strategies, such as perforation design, production optimization, and reservoir management

Course Agenda:

Day 1: Introduction to Well Completion

- Delve into the historical context of well completion and its evolution in oil and gas production
- Explore the regulatory framework and safety standards governing well completion operations
- Discuss the environmental considerations associated with well completion activities and mitigation strategies
- Analyze the applications of well completion in various wellbore configurations, reservoir types, and production scenarios

Day 2: Well Completion Components and Design

- Understand the fundamental principles of well completion components and their functions, including casing, tubing, packers, and wellbore completions
- Identify the different types of casing and tubing materials, their properties, and their selection criteria
- Discuss the design considerations for casing and tubing strings, including joint design, material selection, and load analysis
- Explore advanced well completion components, such as liner systems, expandable tubulars, and intelligent completions

Day 3: Well Completion Operations and Procedures

- Delve into the operational procedures for casing running, cementing, and wellbore stimulation techniques
- Analyze cementing principles, cement slurry design, and cementing operations
- Discuss wellbore stimulation techniques, such as acidizing, fracturing, and matrix stimulation
- Explore advanced well completion operations, such as coiled tubing interventions and horizontal well

completions

Day 4: Completion Optimization and Reservoir Management

- Understand the principles of completion optimization and its impact on well performance and reservoir productivity
- Discuss techniques for optimizing perforation design, production optimization, and reservoir management
- Analyze the use of completion simulators and modeling tools for completion optimization
- Explore advanced completion optimization strategies, such as intelligent completions, real-time monitoring, and data-driven decision-making

Day 5: Completion Case Studies and Best Practices

- Analyze case studies of successful well completions, highlighting design considerations, operational challenges, and optimization strategies
- Discuss best practices for well completion design, execution, and maintenance to ensure well performance, safety, and environmental compliance
- Explore emerging technologies and advancements in well completion, such as smart completions, fiber-optic sensing, and autonomous completion systems

Who Should Attend:

- Petroleum engineers, reservoir engineers, and completions engineers responsible for well completion design, implementation, and optimization
- Production engineers and field supervisors overseeing well completion operations, wellbore stimulation, and production optimization
- Well completion equipment manufacturers and service company personnel engaged in well completion design, installation, and maintenance

Course Benefits:

- Develop a comprehensive understanding of well completion principles, design considerations, and optimization strategies
- Gain hands-on experience in well completion design, operation, and optimization through case studies and real-world scenarios
- Enhance your ability to design, implement, and optimize well completion systems for maximum well performance and reservoir life extension
- Stay updated on the latest advancements in well completion technologies and optimization methodologies
- Network with other professionals from diverse backgrounds within the oil and gas industry