TECHNICAL EDUCATION ACADEMY

School of Engineering

COURSE PROGRAMME

000071

PROD008 — Introduction to Coiled Tubing Operations

The "Introduction to Coiled Tubing Operations" training program covers essential topics necessary for understanding the principles of coiled tubing (CT) operations and their key components.



Learn from the Best in the Business!

Course overview

Duration: 5 days / 40 hours · Intermediate level

Why take this course

The "Introduction to Coiled Tubing Operations" training program covers essential topics necessary for understanding the principles of coiled tubing (CT) operations and their key components. Coiled tubing is preferred over traditional jointed tubing as it eliminates the need for threaded connections and a workover rig. Since coiled tubing can be inserted into the well during production, this technology reduces costs and can be used in high-pressure wells.

Coiled tubing allows for a range of geological and technical measures (GTM), including wellbore cleaning and perforating, as well as the retrieval and replacement of damaged equipment. Currently, coiled tubing drilling is applied in specialized fields, particularly in conjunction with drilling under reduced hydrostatic pressure in the wellbore.

The advanced course "Introduction to Coiled Tubing Operations" will start with a brief overview of basic coiled tubing equipment and well control systems. The rest of the seminar is dedicated to planning operational processes, safety considerations, and implementing GTMs using coiled tubing, including nitrogen injection to initiate flow, proppant or fill material washing, milling, flow stimulation (acid treatment), well logging, and perforating.

Who it is for and how it helps

The course was developed for engineers and technicians that need to learn the fundaments of coiled tubing operations.

What you will learn

- Plan, design, execute, and manage coiled tubing operations
- Improve operational performance during coiled tubing operations
- Select and provide recommendations on coiled tubing equipment for specific field conditions and applications
- Choose appropriate pressure control equipment for any specific well condition
- Calculate the appropriate size of accumulators for the coiled tubing unit
- Select the most commonly used downhole tools and explain their functions
- Calculate and determine the maximum safe operating limits for the coiled tubing string
- Recognize, prevent, and manage corrosion and oxidation and their effects
- Perform operations with liquid nitrogen safely
- Calculate the necessary volumes of nitrogen for specific applications
- Apply appropriate measures during emergencies and unforeseen circumstances

Curriculum

Modules 01–05

01 Coiled Tubing Equipment and Well Control

- Introduction to Coiled Tubing operations
- Main Coiled Tubing Equipment
- Well Control Equipment
- Coiled Tubing Pipe Manufacturing
- Coiled Tubing String and Pipe Management
- Data Acquisition
- Importance of coiled tubing in completion and workover.

02 Nitrogen – Nitrogen-Aerated Acid – Acid Foam

- Nitrogen (Properties, Basic Design Formula)
- Specifications for Nitrogen Storage and Pumping Equipment
- Two-Phase Fluids and Foams (Properties, Design Diagrams and Tables, Differences Between Foam and Two-Phase Liquids), Foam Lift Effects

03 Coiled tubing equipment

- Main Components: Reel, Injector, Blowout Preventer, and Associated Equipment
- Auxiliary Equipment: Crane, Pumping Equipment, etc
- Downhole Tools: Connectors, Safety Equipment, Circulation Tools, Submersible Motor, Fishing Tools, Hydraulic Packers, etc.
- Safe Equipment Installation Guidelines

04 Characteristics and Performance Properties of Coiled Tubing

- Geometric and Mechanical Properties: Geometry, Metallurgy, Performance, Characteristic Curve
- Operational Properties (Surface and Downhole): Fatigue, Deformation, Tension, and Pressure (Force Analysis, Operational Plan Model)
- Measurement and Recording of Operating Parameters

05 Coiled Tubing Applications

- Nitrogen Lift and Secondary Depression Re-Entry

Curriculum

Modules 05–06 · Module 05 — continued

- Wellbore Cleaning (Removal of Fill Material, Wax, and Hydrate Removal)
- Sand Control
- Matrix treatment: acid, solvent.
- Matrix Treatment of Reservoir: Acid, Solvent
- Other Applications: Formation Testing with Tubing-Conveyed Testing Tools, Operations in Highly Deviated Wells
- Statistics, Economics, Zones for Full-Scale Development Transition

06 Cementing with Nitrogen and Coiled Tubing

- Aerated Cement Slurry: Definition, Usage (Primary Cementing, Squeeze Cementing)
- Cementing Through Coiled Tubing: Cement Plug, Squeeze Cementing (Properties of Cement Slurry for Squeeze Cementing, Job Planning, Key Points)

Joining the programme

Contact the Academy and quote course code 000071 to confirm dates, delivery format, prices and enrolment terms.

Training for your team

Tell us your business goals, the roles and number of participants, and your preferred dates and location. This will help us discuss the right training option.

Preparing for the programme

The published programme does not specify any prerequisites. Contact us before enrolling to confirm how to prepare.

Discuss your training needs

mail@tecedu.org
www.tecedu.academy

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