TECHNICAL EDUCATION ACADEMY

School of Engineering

COURSE PROGRAMME

000113

WELL006 - Primary Cementing Operations

The goal of the course will be to increase the participant's knowledge of well cementing services and to help them understand service specific technical design and operational considerations.



Learn from the Best in the Business!

Course overview

Intermediate level

Why take this course

The goal of the course will be to increase the participant's knowledge of well cementing services and to help them understand service specific technical design and operational considerations.

This training programme covers a variety of topics that include: introduction to cementing; manufacture and classification of oil well cements; cement testing procedures; cement additives; casing hardware; blending equipment; primary cementing equipment; primary cementing operations; squeeze cementing; cement plugs and evaluating/testing the cement job in the petroleum, oil, and gas industry.

Who it is for and how it helps

This is a 5-day training course, designed for drilling, production and completions engineers and supervisors, tool pushers, geologists, laboratory fluid technologists, managers, and operations personnel.

What you will learn

- Master the vocabulary specific to cementing
- Understand and use primary cementing techniques and procedures
- Be able to select cement and necessary additives
- Calculate major parameters in a cementing operation
- Assess the quality of a cementing job

Curriculum

Modules 01–03

01 Introduction to Cementing Operations

- One stage cement jobs
- Two stage jobs
- Liner cementing
- Squeeze cementing
- Cement head and wiper plugs
- Calculations: Volume of cement slurry, number of Sks, mix water, additives, displacement volumes required
- Calculator for all parameters of the cement job
- Pressures during and at end of displacement

02 Cementing Operations Planning and Execution

- Buoyancy effect on casing
- Relevant factors that influence the success of any cement job
- Cement job planning and execution
- Casing hardware
- Cement chemistry (focus on class G cement)
- Compressive strength and permeability
- Strength retrogression
- Thixotropic cement slurries
- The importance of BHCT and BHST
- Mud removal and the effect of mud contamination on compressive strength
- Gas migration

03 Mud Removal and Cement Placement

- Lost circulation
- Cementing horizontal wells
- Cement laboratory equipment
- Rheology and its application in oil well cementing
- Flow modules and mud removal
- Spaces and washes

Curriculum

Modules 03–04 · Module 03 — continued

- Cement placement: turbulent and laminar flow
- Special cement systems:
- Engineered particle size cements
- Salt cementing
- Thixotropic cement systems
- Light weight cements
- Foam cement
- Permafrost cement

04 Cement Quality Evaluation

- Cement quality evaluation logs (cement bond logs)
- Overview of sonic and ultrasonic logs
- Examples of CBL/VDL Log displays and evaluation of cement quality
- CBL VDL: pros and cons
- The bond index
- SCMT: slim cementing mapping tool
- Ultrasonic tools: USIT
- Ultrasonic log USIT over sonic log CBL
- Cement logs summary
- Examples of CBL/VDL log displays and evaluation of cement quality
- Major hazards on a cementing operation
- Risk assessment
- Safety hazards related to a cementing operation

Participation and contacts

Joining the programme

Contact the Academy and quote course code 000113 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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