

## Advanced Electrical Submersible Pumps (ESP)

*Barcelona (Spain)*

*9 - 13 December 2024*

UK Traininig

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# Advanced Electrical Submersible Pumps (ESP)

Code: OG28 From: 9 - 13 December 2024 City: Barcelona (Spain) Fees: 5100 Pound

## Introduction

This course offers an advanced understanding of Electric Submersible Pump ESP systems, with a focus on their operation, design, troubleshooting, and optimization. Participants will develop the skills to maximize pump performance, minimize downtime, and extend the lifespan of ESPs, especially in complex and high-production wells.

## Course Objectives

By the end of this course, participants will:

- Acquire advanced knowledge of ESP operation and system components.
- Learn techniques for troubleshooting and resolving common ESP issues.
- Understand optimization strategies to improve ESP performance and lifespan.
- Enhance design capabilities for complex well applications.
- Analyze real-world case studies to reinforce their learning.

## Course Outlines

### Day 1: Advanced Principles of ESP Operation

- Overview of ESP components and their functions.
- Detailed explanation of ESP system operations.
- Factors affecting ESP efficiency in complex reservoirs.
- Key performance indicators for ESP systems.
- Case studies highlighting operational challenges.

### Day 2: ESP Design for Complex Applications

- Advanced design principles for ESP systems.
- Designing ESPs for high-production and complex wells.
- Considering fluid properties in the design process.
- Hands-on design exercises.
- Review of successful ESP design case studies.

### Day 3: ESP Installation Best Practices

- Key considerations for ESP installation.



- Techniques to ensure proper system alignment.
- Managing ESP installations in deep and offshore wells.
- Common installation mistakes and how to avoid them.
- Real-world installation scenarios and lessons learned.

#### Day 4: Troubleshooting and Problem Resolution

- Common ESP failures and their root causes.
- Diagnosing electrical and mechanical issues in ESP systems.
- Tools and techniques for effective troubleshooting.
- Strategies to prevent recurring ESP problems.
- Interactive troubleshooting exercises.

#### Day 5: Optimizing ESP Performance

- Monitoring ESP systems to ensure optimal performance.
- Techniques to reduce downtime and maximize operational efficiency.
- Strategies to extend the lifespan of ESP pumps.
- Case studies on successful ESP optimizations.
- Final review and participant feedback session.



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