XCELERATE TRAINING INSTITUTE
your learning & development partner

MECHANICAL ENGINEERING

Electrical Submersible Pumps (ESP) Design, Installation, Operations, and Maintenance Training Course

DURATION	LANGUAGE	FORMAT
5 days	English	Classroom / Online

Upcoming dates

Dates	Venue	Format	Fee
12 – 16 Apr 2027	Live online	Online (live)	€1,200
18 – 22 Oct 2027	Live online	Online (live)	€1,200
15 – 19 Nov 2027	Geneva	Classroom	€4,800

Register or ask a question

Online: x8ti.com/course/electrical-submersible-pumps-esp-design-installation…
+491631686678 · info@x8ti.com

Electrical Submersible Pumps (ESP) Design, Installation, Operations, and Maintenance Training Course

Introduction

Introduction
Electrical Submersible Pumps (ESP) are an effective and trustworthy method for lifting moderate to high volumes of liquids from well-bores and are used in most global oil production operations.
This training program is a complete package of topics that cover all aspects of ESP such as system configurations, harsh environment management, installation, monitoring, and troubleshooting.
Furthermore, this course will acquaint participants with the ESP system and its functions with detailed descriptions of its components and design features. Recent innovations in ESP technology will also be posted and discussed so that the delegates are informed of the current developments in the ESP industry.
What makes this “Electrical Submersible Pumps (ESP) Design, Installation, Operations, and Maintenance Course” applicable to you? This course will provide you with an interactive atmosphere to ask your questions and discuss specific issues which could result in relevant solutions.
This Xcelerate Training Institute course will provide you with a familiarity with the ESP system and its optimum application.
Learning Objectives
• Learn about ESP Pump Technology
• Discover the different types of ESP systems and where they are used
• Recognize the elements and equipment used in ESP Systems
• Understand ESP Selection and Performance Calculations
• Ascertain the Advantages and Limitations of various ESP Drive Systems
• Study the Power Supply Requirements of ESP Installations
• Study how to install, maintain, and troubleshoot ESP systems
• Stay up to date with the innovations in ESP pump technology
• Select proper ESPs for specific purposes
Training Methodology
• Lectures
• Seminars & Presentations
• Group Discussions
• Assignments
• Case Studies & Functional Exercises
Benefits for Your Organization
• Gain from upskilling your employees on the understanding of mechanical information
• Understand the different roles played within the Electrical Submersible Pumps (ESP) Design, Installation, Operations, and Maintenance guidelines
• Enable better specification of new and replacement of old elements of an ESP system
• Learn and apply standards in equipment identification, equipment design features analysis, equipment performance calculations
• Implement safe operation & monitoring of equipment and equipment maintenance
• Delegates will be able to apply the gained knowledge through this course
• Maintain better organizational safety records
Benefits for You

• Assist your moving across global industries
• Secure a relevant job anywhere in the world with the right knowledge in Electrical Submersible Pumps (ESP) Design, Installation, Operations, and Maintenance
• Get promoted in your current job in the Electrical Submersible Pumps (ESP) Design, Installation, Operations, and Maintenance field
• Master the knowledge and techniques to see the future of an effective Electrical Submersible Pumps (ESP) Design, Installation, Operations, and Maintenance process
• Become an expert in machine operation
• Get an opportunity to work through hands-on exercises in detail to gain the skills needed to facilitate an Electrical Submersible Pumps (ESP) Design, Installation, Operations, and Maintenance study
• Gain the skills to plan, manage, facilitate, and scribe for an Electrical Submersible Pumps (ESP) Design, Installation, Operations, and Maintenance project

Target Audience

• Electrical Engineers, Technicians, and Inspectors
• Project, Design, and Maintenance Professionals
• Energy Management Consultants
• Control Engineers & Technicians
• Automation & Process Engineers
• Plant Managers Process Control Engineers
• System Engineers and Integrator s
• Testing Engineers and Technicians
• Field Operators and Technicians
• Well Surveillance Engineers
• Petroleum, Chemical, and Mechanical Engineers
• Maintenance Engineer and Personnel

Course Outline

Essentials of Electric Submersible Pumps (ESPs)

• A Brief History of ESPs
• Introduction to ESPs and ESP Systems
• Design Requirements for Typical Mainstream ESPs
• ESP Pump Designs
• ESP Motor Designs
• Cabling Requirements
• Motor Control
• Miscellaneous Accessories
• Alternative ESP Configurations
• Inverted/Bottom Intake
• Dual and Triple ESPs
• Boosters for ESPs

Purpose of ESPs in Difficult or Harsh Environments

• On-Shore and Off-Shore
• Multi-phase Fluids
• Abrasive Contaminants
• High Temperature and Corrosive Substances
• Viscous Fluids, Emulsions, Scaling and Asphaltenes

• Off-Shore
• Modular Requirements
• Platform Cable Connections
• FPSO Turret Swivel and Mooring System
• Subsea Cabling and Electrical Connections
• Subsea Located Equipment

ESP System Selection, Performance Calculations, and Apparatus Sizing

• Establishing basic requirements
• Determining well production capacity
• Determining fluid and free gas configuration and volume
• Calculation of total dynamic head
• Identify optimum pump and motor type and size
• Identify of down-hole cable configuration and sizing
• Classify optimum drive systems, power supplies, and accessories
• Variable speed drive requirements

ESP Monitoring, Control, and Protection, Installation

• Down-hole monitoring and sensors
• Rooted fiber optic cable for down-hole observation
• Earthed and unearthed ESP motors
• ESP circuits | Earthling & lightning propagation
• Electrical protection equipment for ESPs
• SCADA/EMS for remote and local installations
• Safety and shut-down systems

Commissioning, Operation, and Maintenance

• Re-production optimization
• Commissioning requirements and procedures
• Regular operation and monitoring
• Maintenance, supervising, and discovering unusual conditions
• Troubleshooting guidelines
• Case studies and examples of ESP complications and malfunctions
• Servicing equipment
• Well work-over rigs
• Cable reels, supports, and guides
• Shipping cases
• Transport for long shipping cases
• Factory repair and reconditioning

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Registration Form

Electrical Submersible Pumps (ESP) Design, Installation, Operations, and Maintenance Training Course

Preferred dates: ..... Venue or online: .....

Duration: 5 days Language: .....

Please complete and email this form to us, or register online. We confirm your place and send the invoice within one working day.

Delegate information

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Official email: ..... Personal email: .....

Company information

Company name: .....

Address: .....

City / country: ..... VAT / tax number: .....

Person responsible for training & development

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Email: .....

Payment

☐ Please invoice me ☐ Please invoice my company

Signature: ..... Date: .....

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