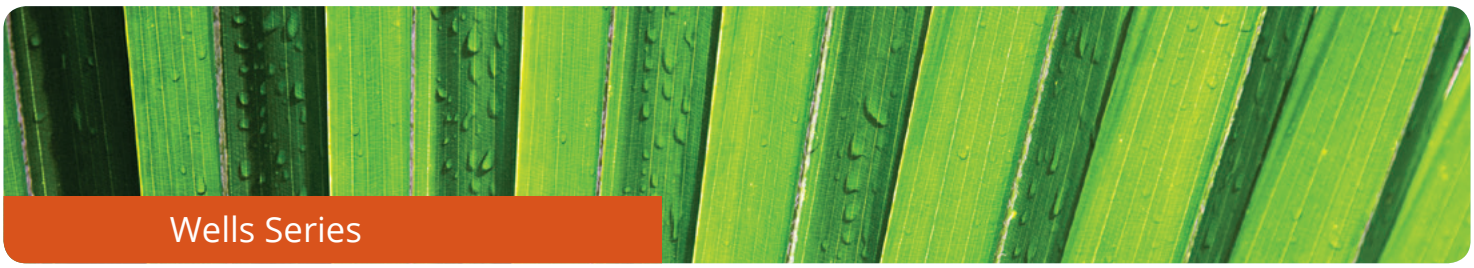


Wells Series

Artificial Lift

Designed for:
The course is designed for completion engineers, production technologists, well service personnel, equipment vendors and drilling engineers.

Duration
(days)
1 2 3

Learning Level:
Skills
Knowledge
Awareness

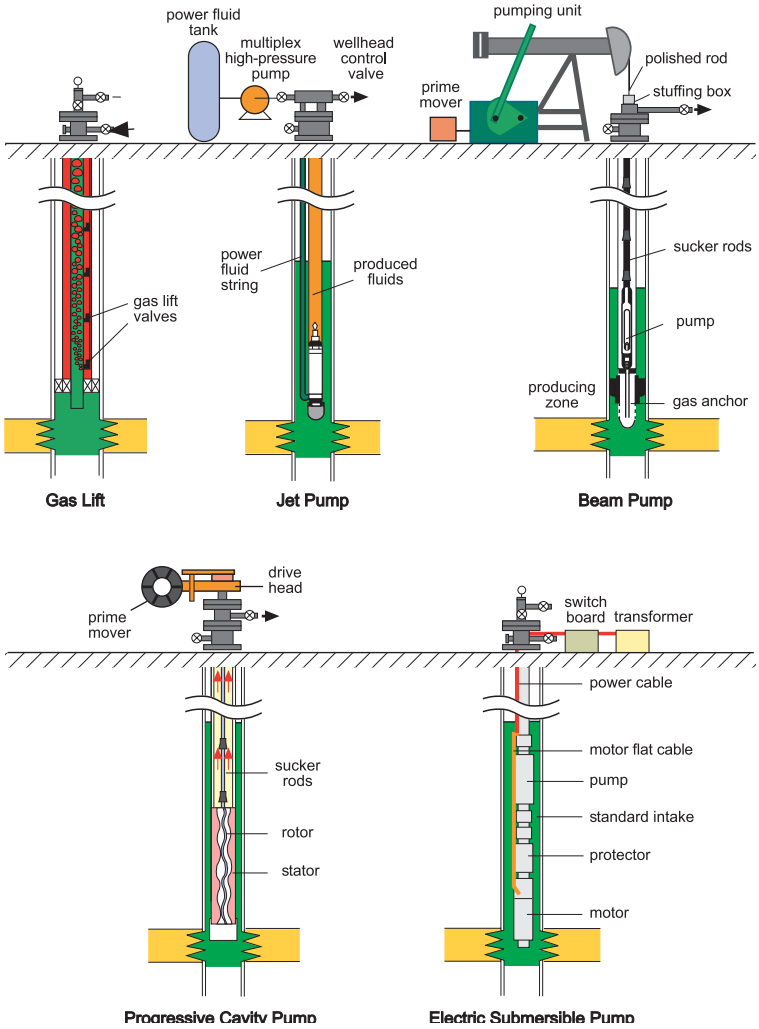
The aim of this course is to introduce participants to both the physics of artificial lift technologies and the practicalities of the equipment.

It first gives a basic overview of the artificial lift techniques commonly available today, and then goes into more detail on artificial lift techniques likely to be utilised in a typical offshore production environment. Gas lift, ESP's and jet pumps are covered in particular detail, and the course covers the principles, design, and operational aspects of each.

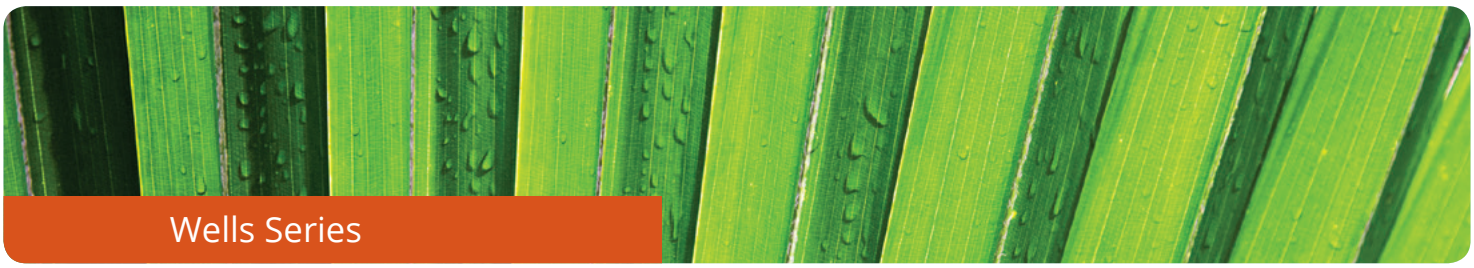
At the clients request, hydraulic submersible pumping and beam pumping can be covered in detail if the local environment demands this.

The course is run with a series of lectures from the trainer followed by exercises which cover the above aspects, including lift performance, gas lift valve design, optimising gas lift distribution, ESP and jet pump design. The attendees are continually challenged to perform evaluations which reinforce the principles and practices of artificial lift.

The trainer is highly qualified in this area and is able to introduce many case study and practical experiences.



Early Development
E&P Overview
Reservoir
Wells
Business & Risk
Open Air
Coaching
Master Class



Wells Series

Artificial Lift continued

Course Content:

- Overview of Artificial Lift Techniques
- Natural Flow
- Inflow Performance
- Tubing Flow Performance
- Well Performance
- Gas Lift
- Principles of Gas Lift
- Gas Lift Valves
- Gas Lift String Design
- Operating Gas Lift Wells
- Surface Facilities For Gas Lift
- Optimising Lift Gas Distribution
- Intermittent Gas Lift
- Electrical Submersible Pumps
- Principles of Electrical Submersible Pumping
- Pumps and Motors
- Cables and Surface Equipment
- Pump and Motor Design and Selection
- Operating ESP Wells
- Hydraulic Jet Pumps
- Principles of Jet Pumping
- Jet Pump Design
- Managing Artificial Lift
- HSP and Beam Pump topics on Request

Course Duration:

Duration is 3 days.

An expanded course, Artificial Lift Systems, is available that includes Artificial Lift Design using the Petex Prosper Software and runs for 4 or 5 days depending on whether Beam Pumping is included.

Courses available from this series:

Drilling Awareness
Introduction to Drilling
Well Productivity Awareness School (WASP)
Completion Design
Completion Practices
Well Management
Tubing Stress Analysis
Artificial Lift
HPHT Drilling
Integrated Well Planning & Drilling Operations
Operations Geology
Maximising Well Productivity in a Low Oil Price World
Stuck Pipe Prevention
Well Integrity Management

Course Tutors

Roger McIlroy BSc, MEng, CEng, MEI
Main Series tutoring: Wells and Reservoir
Industry experience: over 40 years, subsurface leadership, production technology and reservoir engineering
Career background: Maersk, BP, Shell, AGR and TRACS
Personal: Chartered Petroleum Engineer, Member of Energy Institute, Member SPE, Lecturer in Production Technology at Aberdeen University

Jonathan Bellarby BSc (Hons), MSc
Main Series tutoring: Wells, Early Development
Industry experience: over 25 years, well technology
Career background: BP, ICE, AGR and TRACS
Personal: Author, 'Well Completion Design'

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