

**DRILLING, WELLS AND RESERVOIR ENGINEERING**

Perforating Systems and Gun Selection

5 day course

Classroom, online or in-house

Course overview

A perforating job connects a well to its reservoir in a fraction of a second, and a poor choice of charge, phasing or underbalance can leave a skin that no later stimulation fully removes. Delegates study shaped charge physics, the trade off between penetration and entrance hole size, and how test data under API RP 19B translate to downhole performance at stress. Gun systems are compared: through tubing, casing guns, tubing conveyed and wireline conveyed, with shot density and phasing chosen for natural flow, fracturing or sand control. Static and dynamic underbalance, perforation cleanup and crushed zone damage follow. Explosive safety, firing heads, depth correlation and gun shock loads on tubing and packers are covered in detail. Delegates leave able to select a perforating system and plan a safe job.

What you will learn

- Explain how shaped charges create perforation tunnels
- Interpret API RP 19B test data and correct for downhole conditions
- Select gun size, shot density and phasing for the completion objective
- Compare wireline conveyed and tubing conveyed perforating
- Design static or dynamic underbalance to clean perforations
- Apply explosive handling, storage and radio silence controls
- Correlate depth accurately before firing
- Assess gun shock loads on tubing, packers and equipment

Who should attend

- Completion and perforating engineers
- Wireline and TCP service engineers
- Production engineers optimising well inflow
- Explosives supervisors and wellsite safety staff
- Drilling and completion supervisors

Course outline

- 01** Perforating objectives and shaped charge physics
- 02** Charge performance testing and downhole correction
- 03** Gun systems and conveyance methods
- 04** Shot density, phasing and orientation
- 05** Underbalance and perforation cleanup
- 06** Perforating for fracturing and sand control
- 07** Explosive safety and firing systems
- 08** Depth control and gun shock

Upcoming dates



Dates	Venue	Format	Fee per delegate
12 to 16 October 2026	Cape Town, South Africa	Classroom	R19,950
23 to 27 November 2026	Lagos, Nigeria	Classroom	USD 1,325
18 to 22 January 2027	Online	Online	R8,500
1 to 5 February 2027	Nairobi, Kenya	Classroom	USD 1,325

Fees and how to register

This 5 day course is **R8,500** per delegate online, **R19,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 1,325** in the classroom elsewhere in Africa. In-house training is quotation on request. Book 2 or more delegates on this course and save 10%.

To register or request an in-house proposal, visit www.afrisciencegroup.com, email info@afriScience.co.za, or WhatsApp us on **+27 63 479 1136**.

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