



ENGINEERING AND TECHNICAL TRAINING

Pumps, Compressors and Turbines Engineering Practice

3 day course

Classroom, online or in-house

Course overview

A three day engineering treatment of the rotating equipment that moves everything through a plant. Delegates work through pump and compressor selection against process duty, and learn to read performance curves against system curves rather than in isolation, which is where most selection errors originate. Cavitation, net positive suction head and compressor surge are covered as the specific failure mechanisms they are, alongside steam and gas turbine fundamentals for mechanical drive and power generation. Coupling, alignment and installation practice receive real attention, because premature failure is more often installed than designed. The course closes on troubleshooting performance problems on machines already in service, for engineers across mining, oil and gas and power generation.

What you will learn

- Select pump and compressor types appropriate to specific process duties
- Interpret pump and compressor performance curves and system curves
- Apply alignment and installation best practice to reduce premature failure
- Diagnose common performance problems such as cavitation and surge
- Evaluate turbine types and their application in mechanical drive and power generation
- Specify sealing systems and bearing arrangements for the duty
- Assess lubrication and cooling requirements that decide machine life

Who should attend

- Mechanical engineers
- Rotating equipment engineers
- Maintenance engineers
- Project engineers
- Plant reliability engineers

Course outline

- 01 Pump types, selection and performance curves
- 02 System curves, cavitation and net positive suction head
- 03 Compressor types, selection and surge control
- 04 Steam and gas turbine fundamentals
- 05 Sealing systems and bearing arrangements
- 06 Lubrication and cooling requirements
- 07 Coupling, alignment and installation practice
- 08 Troubleshooting rotating equipment performance problems

Upcoming dates

Dates	Venue	Format	Fee per delegate
18 to 20 November 2026	Cape Town, South Africa	Classroom	R14,950
14 to 16 December 2026	Online	Online	R6,500
13 to 15 January 2027	Windhoek, Namibia	Classroom	R14,950
25 to 27 January 2027	Gaborone, Botswana	Classroom	R14,950



Fees and how to register

This 3 day course is **R6,500** per delegate online, **R14,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 995** 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@afri-science.co.za, or WhatsApp us on **+27 63 479 1136**.

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