



## POWER AND ELECTRICAL TRAINING

# Gas Turbine Technology and Operation

5 day course

Classroom, online or in-house

## Course overview

Gas turbines start quickly, run hot and lose output in ways that are entirely predictable from their thermodynamics and their operating environment. This course covers understanding and operating them. Delegates work through the cycle and its components, compressor, combustor and turbine section behaviour, and the control and protection systems governing start up, loading and trip. Performance is a major theme: ambient conditions, compressor fouling and hot section deterioration all move output and heat rate, and each is managed differently. The course covers operating limits, hot section life consumption and the counting of equivalent operating hours that drives maintenance intervals.

## What you will learn

- Explain the gas turbine cycle and the function of each component
- Describe compressor, combustor and turbine section behaviour
- Operate start up, loading and shutdown within limits
- Explain the protection functions and what each trips on
- Quantify the effect of ambient conditions on output and heat rate
- Manage compressor fouling and washing
- Track hot section life and equivalent operating hours

## Who should attend

- Power plant operators and shift engineers
- Mechanical and performance engineers in generation
- Maintenance engineers on gas turbines
- Oil and gas staff operating turbine driven equipment
- Graduate engineers entering generation

## Course outline

- 01 The gas turbine cycle
- 02 Compressor section behaviour
- 03 Combustor and emissions
- 04 Turbine section and hot gas path
- 05 Control, protection and trip functions
- 06 Start up, loading and shutdown
- 07 Ambient conditions, fouling and performance
- 08 Hot section life and equivalent operating hours

## Upcoming dates

| Dates                              | Venue                      | Format    | Fee per delegate |
|------------------------------------|----------------------------|-----------|------------------|
| 26 to 30 October 2026              | Nairobi, Kenya             | Classroom | USD 1,325        |
| 28 December 2026 to 1 January 2027 | Online                     | Online    | R8,500           |
| 15 to 19 March 2027                | Gaborone, Botswana         | Classroom | R19,950          |
| 22 to 26 March 2027                | Johannesburg, South Africa | Classroom | R19,950          |



## 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](http://www.afrisciencegroup.com), email [info@afriscience.co.za](mailto:info@afriscience.co.za), or WhatsApp us on **+27 63 479 1136**.

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