



POWER AND ELECTRICAL TRAINING

Power System Control and Stability

5 day course

Classroom, online or in-house

Course overview

A power system is stable until it is not, and the transition takes seconds. This course covers the behaviour behind that. Delegates work through frequency and voltage control and the hierarchy from primary response through to tertiary dispatch, rotor angle stability and the mechanisms of transient and small signal instability, and voltage stability and collapse. Excitation systems, governors and power system stabilisers are covered as the controls that decide the outcome. Substantial attention goes to declining system inertia as conventional plant is displaced, which is changing the stability picture across the region, and the course closes on studies, defence plans and the analysis of actual system events.

What you will learn

- Explain frequency and voltage control across the response hierarchy
- Distinguish transient, small signal and voltage stability
- Describe excitation systems, governors and power system stabilisers
- Assess the effect of declining inertia on frequency response
- Specify and interpret stability studies
- Design defence plans including load shedding and islanding
- Analyse a system event and identify what determined the outcome

Who should attend

- System operations and control engineers
- Utility planning engineers
- Protection and control engineers
- Power system analysts and consultants
- Regulators and grid code authorities

Course outline

- 01 Frequency control and the response hierarchy
- 02 Voltage control and reactive power
- 03 Rotor angle stability: transient and small signal
- 04 Voltage stability and collapse
- 05 Excitation, governors and power system stabilisers
- 06 Inertia decline and its consequences
- 07 Stability studies and their assumptions
- 08 Defence plans, load shedding and islanding
- 09 Event analysis

Upcoming dates

Dates	Venue	Format	Fee per delegate
23 to 27 November 2026	Online	Online	R8,500
21 to 25 December 2026	Windhoek, Namibia	Classroom	R19,950
28 December 2026 to 1 January 2027	Kampala, Uganda	Classroom	USD 1,325
11 to 15 January 2027	Lagos, Nigeria	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**.

AfriScience Group | +27 61 536 6531 | info@afriscience.co.za | Pretoria, Gauteng, South Africa