



POWER AND ELECTRICAL TRAINING

Electrical Faults: Causes, Analysis, Detection and Remedies

5 day course

Classroom, online or in-house

Course overview

This course works through electrical faults from cause to remedy. Delegates cover the physical mechanisms behind insulation failure, the fault types and their electrical signatures, symmetrical components and their use in analysis, fault location methods for cable and overhead systems, and the diagnostic testing used to find a developing fault before it becomes an outage. Case material is drawn from real failures, and delegates practise reading fault records to determine what happened. The course closes on remedy and prevention: repair standards, insulation condition management and the maintenance decisions that determine how often a network faults.

What you will learn

- Explain the physical mechanisms behind insulation and equipment failure
- Identify fault types from their electrical signature
- Apply symmetrical components to unbalanced fault analysis
- Use fault location methods on cable and overhead systems
- Select diagnostic tests that reveal a developing fault
- Read a fault record and determine the sequence of events
- Choose remedies and maintenance actions that reduce fault frequency

Who should attend

- Electrical engineers and technicians
- Network operations and maintenance staff
- Protection engineers
- Cable and overhead line specialists
- Technical supervisors investigating outages

Course outline

- 01 Why electrical equipment fails: the physical mechanisms
- 02 Fault types and their electrical signatures
- 03 Symmetrical components and unbalanced fault analysis
- 04 Cable fault location methods
- 05 Overhead line fault location
- 06 Diagnostic testing for developing faults
- 07 Reading fault records and reconstructing the sequence
- 08 Repair standards, insulation management and prevention

Upcoming dates

Dates	Venue	Format	Fee per delegate
19 to 23 October 2026	Nairobi, Kenya	Classroom	USD 1,325
16 to 20 November 2026	Lusaka, Zambia	Classroom	USD 1,325
30 November to 4 December 2026	Online	Online	R8,500
8 to 12 March 2027	Durban, 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, email info@afiscience.co.za, or WhatsApp us on **+27 63 479 1136**.

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