



POWER AND ELECTRICAL TRAINING

Electrical Power System Analysis and Design

5 day course

Classroom, online or in-house

Course overview

This course covers the studies that underpin the design and operation of an electrical network. Delegates work through load flow analysis, short circuit study, motor starting and voltage dip assessment, harmonic analysis, and arc flash study, and learn to set up each study correctly, interpret the output and act on it. Emphasis is placed on the modelling assumptions that determine whether a study result is meaningful, because most study errors originate in the data rather than the software. Delegates finish able to specify a study, review a consultant's output critically and translate results into design or operational decisions.

What you will learn

- Set up and interpret a load flow study
- Perform short circuit calculations and apply the results to equipment rating
- Assess motor starting and voltage dip on a network
- Carry out harmonic analysis and evaluate mitigation
- Interpret an arc flash study and its assumptions
- Identify modelling assumptions that invalidate a study
- Review a consultant's study output critically

Who should attend

- Electrical design and system engineers
- Consulting engineers
- Utility planning engineers
- Industrial electrical engineers
- Technical staff commissioning or reviewing network studies

Course outline

- 01 Network modelling and the data that determines study validity
- 02 Load flow analysis and interpretation
- 03 Short circuit study and equipment rating
- 04 Motor starting and voltage dip assessment
- 05 Harmonic analysis and mitigation
- 06 Arc flash study and its assumptions
- 07 Translating study results into design decisions
- 08 Reviewing a consultant's output critically

Upcoming dates

Dates	Venue	Format	Fee per delegate
8 to 12 September 2026	Victoria, Seychelles	Classroom	R11,995
16 to 20 September 2026	Maputo, Mozambique	Classroom	R11,995
4 to 8 October 2026	Dar es Salaam, Tanzania	Classroom	R11,995
8 to 12 October 2026	Port Louis, Mauritius	Classroom	R11,995



Fees and how to register

Online **from R6,500** per delegate, classroom **from R11,995** per delegate, 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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