



PROCESS AND CHEMICAL ENGINEERING

HAZOP and LOPA in Process Plants

5 day course

Classroom, online or in-house

Course overview

A hazard and operability study is the main systematic defence against a major accident, and its quality depends almost entirely on how the session is run. This course covers running one properly. Delegates work through node selection, guide words and deviations, and the discipline of recording a cause, a consequence and a safeguard that are actually distinct from one another. Layer of protection analysis follows, taking the qualitative findings and testing whether the protection actually reduces risk to the tolerable level, including initiating event frequency, independent protection layers and the derivation of a required safety integrity level. The course covers facilitation, since the commonest failure is a session that agrees too quickly.

What you will learn

- Select nodes and apply guide words to generate meaningful deviations
- Record causes, consequences and safeguards that are genuinely distinct
- Facilitate a study team without letting it agree too quickly
- Apply layer of protection analysis to a qualitative finding
- Estimate initiating event frequency and credit independent protection layers
- Derive a required safety integrity level and understand what it commits you to
- Track actions to closure and revalidate a study

Who should attend

- Process safety engineers and specialists
- Process and operations engineers
- Instrumentation and control engineers
- HSE professionals in high hazard industries
- Study leaders and facilitators

Course outline

- 01 Why systematic hazard study, and what it replaces
- 02 Node selection and study preparation
- 03 Guide words, deviations and meaningful causes
- 04 Consequences and existing safeguards
- 05 Facilitating a team that wants to agree quickly
- 06 Layer of protection analysis and tolerable risk
- 07 Initiating events and independent protection layers
- 08 Safety integrity levels and what they commit you to
- 09 Action tracking, closure and revalidation

Upcoming dates

Dates	Venue	Format	Fee per delegate
21 to 25 September 2026	Online	Online	R8,500
26 to 30 October 2026	Maputo, Mozambique	Classroom	USD 1,325
16 to 20 November 2026	Pretoria, South Africa	Classroom	R19,950
1 to 5 February 2027	Harare, Zimbabwe	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**.

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