



PETROLEUM GEOSCIENCE AND PETROPHYSICS

Structural Geology of Traps and Reservoirs

5 day course

Classroom, online or in-house

Course overview

Whether a fault seals or leaks can decide whether a structure holds a column of a few metres or several hundred. Structural geology answers that question and many others about where hydrocarbons can be held and how they will move once a field is on production. Delegates work through stress, strain and rock failure, then through the structural families met in petroleum basins: extensional fault systems, inversion structures, fold and thrust belts, strike slip zones and salt tectonics. Fault seal analysis using shale gouge ratio and juxtaposition diagrams follows, along with fracture characterisation and its effect on permeability. Section balancing and restoration are used to test whether an interpretation is geometrically possible. Delegates leave able to classify trap geometry, assess fault seal capacity and recognise how faults and fractures will compartmentalise a reservoir.

What you will learn

- Explain stress, strain and failure criteria in sedimentary rocks
- Classify structural traps by tectonic setting
- Interpret extensional, compressional, strike slip and salt related structures
- Construct juxtaposition diagrams and calculate shale gouge ratio
- Assess fault seal capacity and likely column heights
- Characterise natural fractures and predict their influence on flow
- Restore and balance cross sections to validate interpretations

Who should attend

- Structural and exploration geologists
- Seismic interpreters
- Development geologists assessing compartmentalisation
- Reservoir engineers dealing with faulted fields
- Geomodellers building fault frameworks

Course outline

- 01 Stress, strain and rock failure
- 02 Extensional systems and rift structures
- 03 Compressional folds and thrusts
- 04 Strike slip and inversion
- 05 Salt tectonics
- 06 Fault seal analysis
- 07 Natural fractures in reservoirs
- 08 Section balancing and restoration
- 09 Compartmentalisation and production impact

Upcoming dates

Dates	Venue	Format	Fee per delegate
1 to 5 February 2027	Online	Online	R8,500
15 to 19 February 2027	Nairobi, Kenya	Classroom	USD 1,325
15 to 19 March 2027	Windhoek, Namibia	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@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