



MINING & MINERALS EXPLORATION TECHNOLOGY (Shallow Subsurface Geophysics)

DURATION

5 days

CONTACT HOURS

30

LEVEL

Intermediate

FEE PER DELEGATE

R15,000

Near surface geophysical methods, from survey design through acquisition to an interpretation that admits its ambiguity.

Shallow geophysics images the first few hundred metres, which is where most exploration drilling is aimed and where most engineering ground investigation happens. This module covers the methods, magnetics, electrical, electromagnetic, seismic refraction and ground penetrating radar, in terms of the physical property each responds to. Survey design and acquisition are covered practically, and interpretation is taught with non uniqueness front and centre, because a model that fits the data is not the only one that does.

Available as classroom, live online, in house.

Who it is for

Exploration geologists and geophysical technicians, geotechnical and environmental staff commissioning surveys, and project geologists interpreting contractor reports.

What you will be able to do

- Match a geophysical method to the physical property contrast expected.
- Design a survey with appropriate line spacing and station interval.
- Supervise acquisition and recognise poor data in the field.
- Apply basic processing and understand what each step does.
- Interpret a result while acknowledging non uniqueness.

The outline

DAY 1

Physical properties

Magnetic susceptibility, density, resistivity and velocity · What creates a detectable contrast · Depth of investigation and resolution

DAY 2

Potential field and electrical

Ground magnetics and gravity · Resistivity and induced polarisation · Self potential

DAY 3

Electromagnetic and seismic

Frequency and time domain electromagnetics · Seismic refraction · Ground penetrating radar

DAY 4

Acquisition

Survey design and coverage · Noise, culture and terrain · Field quality control

DAY 5

Processing and interpretation

Corrections, filtering and gridding · Modelling and inversion in outline · Non uniqueness, and constraining with geology

What you leave with

- A survey design for a stated target.
- A processed and interpreted dataset.
- A review of a contractor report with the right questions asked.

Published dates

DATES	WHERE	FEE
23 to 27 November 2026	Durban, South Africa	R15,000
30 November 2026 to 4 December 2026	Nicosia, Cyprus	US\$1,500
7 to 11 December 2026	Accra, Ghana	US\$1,500
14 to 18 December 2026	Kampala, Uganda	US\$1,500

Fees are per delegate and cover all course materials. Fees are arranged by the delegate. Reg

Register or ask a question

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