



MINING & MINERALS EXPLORATION TECHNOLOGY (Mineralogy and Petrology)

DURATION

5 days

CONTACT HOURS

30

LEVEL

Intermediate

FEE PER DELEGATE

US\$1,500

Minerals and rocks examined properly: crystal chemistry, optical identification, and what a thin section tells you.

Where the physical geology module identifies rocks in the hand, this one looks through them. It covers crystal chemistry and the silicate structures, systematic mineralogy of the groups that matter in exploration, and optical mineralogy under the petrographic microscope. Thin section work takes the second half, building to interpretation: texture and mineral assemblage as a record of the conditions a rock formed under, and the alteration that points toward ore.

Available as classroom, live online, in house.

Who it is for

Exploration and mine geologists, laboratory and core shed staff, geometallurgists, and geoscience students.

What you will be able to do

- Relate crystal structure and chemistry to mineral properties.
- Identify rock forming and ore related minerals systematically.
- Use a petrographic microscope and the standard optical properties.
- Describe a thin section in correct terms.
- Interpret texture and assemblage as a record of conditions.

The outline

DAY 1

Crystal chemistry

Bonding, structure and the silicate classes · Solid solution and polymorphism · Physical properties from structure

DAY 2

Systematic mineralogy

Silicates, oxides, sulphides and carbonates · Accessory and indicator minerals · Ore minerals and their associations

DAY 3

Optical mineralogy

Plane and crossed polarised light · Relief, birefringence, extinction and pleochroism · Using the microscope properly

DAY 4

Thin sections

Preparation and its artefacts · Systematic description · Modal estimation

DAY 5

Interpretation

Texture as a record of history · Assemblages and conditions of formation · Alteration mineralogy and vectors to ore

What you leave with

- Completed thin section descriptions.
- An optical identification scheme you can work from.
- An alteration assemblage interpretation.

Published dates

DATES	WHERE	FEE
23 to 27 November 2026	Port Louis, Mauritius	US\$1,500
30 November 2026 to 4 December 2026	Nairobi, Kenya	US\$1,500
7 to 11 December 2026	Windhoek, Namibia	R15,000
14 to 18 December 2026	Dubai, United Arab Emirates	US\$1,500

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

Register or ask a question

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