



MINING & MINERALS EXPLORATION TECHNOLOGY (Igneous & Metamorphic Petrology)

DURATION

5 days

CONTACT HOURS

30

LEVEL

Intermediate

FEE PER DELEGATE

US\$1,500

Magmatic and metamorphic systems, and the deposits that form within them.

This module takes the igneous and metamorphic half of petrology to the depth exploration requires. Magma generation, differentiation and emplacement are covered because they govern where magmatic and magmatic hydrothermal deposits form. Metamorphic facies, pressure temperature paths and reaction textures follow, since so many orebodies have been metamorphosed since they formed and the overprint has to be read backwards before the original system can be understood.

Available as classroom, live online, in house.

Who it is for

Exploration and mine geologists working igneous or metamorphic terrain, resource geologists, and geoscience graduates building specialist depth.

What you will be able to do

- Explain magma generation, differentiation and emplacement.
- Classify igneous rocks and interpret their textures.
- Apply metamorphic facies and grade to a terrain.
- Read a pressure temperature path from reaction textures.
- Relate magmatic and metamorphic processes to deposit styles.

The outline

DAY 1

Magmatic systems

Melt generation and tectonic setting · Differentiation, assimilation and mixing · Emplacement, intrusive form and volcanic equivalents

DAY 2

Igneous rocks

Classification and nomenclature · Textures and cooling history · Geochemical discrimination in outline

DAY 3

Metamorphism

Agents: heat, pressure and fluid · Facies and grade · Index minerals and isograds

DAY 4

Reading the record

Reaction textures and their sequence · Pressure temperature time paths · Retrogression and overprinting

DAY 5

Ore associations

Magmatic sulphide and chromite deposits · Porphyry and magmatic hydrothermal systems · Metamorphic remobilisation of existing ore

What you leave with

- An igneous suite interpretation from real samples.
- A metamorphic grade map for a terrain.
- A deposit model linked to the host system.

Published dates

DATES	WHERE	FEE
23 to 27 November 2026	Lagos, Nigeria	US\$1,500
30 November 2026 to 4 December 2026	Dubai, United Arab Emirates	US\$1,500
7 to 11 December 2026	Kampala, Uganda	US\$1,500
14 to 18 December 2026	Durban, South Africa	R15,000

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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