CORE CONCEPT

Mineral Exploration Geology and Targeting Course: Geochemistry, Geophysics and Drill Targets

26 – 30 April 2027
London - Central London four-star

Mineral Exploration Geology and Targeting Course: Geochemistry, Geophysics and Drill Targets

Ref: 2124_30754 **Date:** 26 – 30 April 2027 **Location:** London - Central London four-star **Fees:** 23000 SAR

Introduction:

Mineral exploration geology and targeting is a 1-week course for exploration licence holders, geological survey units and mining investment analysts, ending with an Exploration Targeting and Phased Drilling Plan for a case licence. Licences lose years and budget when drill holes test weak anomalies, geophysical responses are read without a deposit model, and soil or stream sediment results are ranked by eye rather than by threshold. Nominees already review maps, survey data or exploration budgets at work and practise through case study work on real-style datasets. CoreConcept Training Center delivers this mineral exploration geology and targeting course.

Course Objectives:

- Apply ore deposit models for orogenic gold, VMS, porphyry, epithermal and rare-metal granite systems to define what a licence should be searched for
- Interpret geological maps, structural data and multispectral alteration imagery to outline permissive belts and corridors
- Design stream sediment and soil geochemical surveys and set anomaly thresholds that separate signal from background
- Interpret magnetic, induced polarisation and electromagnetic survey results against the chosen deposit model
- Rank exploration targets with a mineral systems scoring matrix that weighs geology, geochemistry, geophysics and access
- Prepare a phased RC and diamond drilling plan with hole layouts, metres, budgets and stop or go decision points

Target Audience:

- Exploration licence holding units responsible for work programmes, expenditure and renewal evidence
- Geological survey mapping units responsible for regional maps, structural interpretation and prospect files
- Geochemical and geophysical survey units responsible for survey design, contractor oversight and data interpretation
- Exploration project management units responsible for target selection and drilling budgets
- Mining investment analysis units responsible for judging early-stage projects and exploration spend

Course Outline:

Day 1: Exploration Stages, Licence Context and Targeting Logic

- Exploration Stage Gates From Desk Study to Drill Testing
- Mineral Systems Approach to Source, Pathway and Trap
- Scale Reduction From Belt to Prospect to Drill Target
- Exploration Expenditure Profile and Discovery Probability Logic
- Licence Data Inventory and Current-State Targeting Gap Review

Day 2: Ore Deposit Models for Shield Terranes

- Orogenic Gold Model With Shear Zones and Quartz Veins
- Volcanogenic Massive Sulphide Model and Felsic Volcanic Footwall Alteration
- Porphyry Copper-Gold Model and Alteration Zoning Shells
- Epithermal Vein, Breccia and Stockwork Model Recognition Criteria
- Rare-Metal Granite and Pegmatite Model for Tantalum and Lithium

Day 3: Geological Mapping, Remote Sensing and Geochemical Surveys

- Structural Mapping of Faults, Folds and Dilational Jogs
- Multispectral Band Ratios for Iron Oxide and Clay Alteration
- Stream Sediment Survey Density and Catchment Anomaly Ranking
- Soil Grid Design, Sample Horizon and Pathfinder Element Suites
- Anomaly Threshold Setting With Probability Plots and Percentiles

Day 4: Geophysical Surveys, Data Integration and Target Ranking

- Airborne Magnetic and Radiometric Data for Structural Interpretation
- Induced Polarisation Chargeability and Resistivity Sections for Disseminated Sulphides
- Ground and Downhole Electromagnetic Surveys for Conductive Massive Sulphides
- GIS Layer Stacking and Prospectivity Mapping Workflow
- Target Scoring Matrix With Confidence and False-Positive Review

Day 5: Case Study on a Licence Targeting and Drilling Plan

- Case Licence Data Pack With Maps, Geochemistry and Geophysics
- Case Deposit Model Selection and Anomaly Threshold Review
- Case Target Ranking and Drill Hole Collar Placement
- Phased RC and Diamond Drilling Metres and Budget Build
- Exploration Targeting and Phased Drilling Plan Completion and Defence

Skills You Will Gain:

- Ore Deposit Model Application
- Alteration Mapping From Imagery
- Geochemical Survey Design
- Anomaly Threshold Analysis
- Magnetic and IP Interpretation
- Prospectivity Mapping
- Exploration Target Ranking
- Drilling Budget Planning

Why Attend This Course:

- Present an Exploration Targeting and Phased Drilling Plan for a case licence to the exploration manager and the licence holder's investment committee
- Decide which anomalies deserve drilling, which need infill surveys and which should be dropped, using a scored and documented ranking
- Avoid drilling budgets spent on cultural noise, barren conductors or poorly positioned holes that miss the modelled target
- Share the target scoring matrix, threshold worksheet and drilling budget template with geologists and analysts across the unit

Conclusion:

Back at work, the participant gives the exploration manager and the licence holder an Exploration Targeting and Phased Drilling Plan that names the deposit model, the ranked targets, the survey gaps still to close and the RC and diamond metres for each phase. Management uses it to approve the first drilling phase and to set the results that justify a second phase. After the first phase is drilled, the unit should compare intersections with the predicted targets, rescore the matrix and revise the next budget.

Frequently Asked Questions FAQ:

What should participants know before a mineral exploration geology and targeting course?

Participants should be able to read geological maps and basic survey plots and know common rock and mineral names. No geophysical processing skills are required. Bringing anonymised maps, assay tables or survey images from a licence helps them apply the targeting exercises.

How does mineral exploration geology and targeting differ from courses on sampling QA/QC or resource estimation?

This course decides where to drill and how to phase the drilling. Sampling quality control courses check the reliability of assays once drilling has started, and resource estimation courses model grade and tonnage after enough holes exist.

Why does mineral exploration geology and targeting start from an ore deposit model?

A deposit model tells the team which alteration, element suite and geophysical response to expect. Without one, anomalies are ranked by size alone and drilling often tests barren features such as graphitic conductors or surface contamination.

What does a participant take back from the mineral exploration geology and targeting course?

Participants return with an Exploration Targeting and Phased Drilling Plan for a case licence, plus a target scoring matrix, an anomaly threshold worksheet and a drilling budget template they can apply to their own ground.