Geology for the Gold Mining Industry

Focus on: **The Manager** ☐   **The Specialist** ☑   **Spotlight Programme** ☐   **Hands-on Skills** ☑

This 5-day specialized training course is designed for gold mining geologists involved in orebody definition, grade control, and reconciliation within active mining operations.

The program focuses on strengthening geological data skills, practical modelling techniques, and operational controls essential for maximizing ore recovery and minimizing dilution in gold mining environments.

Course Objectives		This Course is Ideal For:	
1	The essentials of geological data capture, mapping, and interpretation techniques to support mine decision-making.	✓	Mining geologists
2	Geological interpretation and statistical methods used to define gold ore zones and continuity.	✓	Metallurgists
3	Grade control planning, short-range estimation techniques, and the maintenance of block models in dynamic mine settings.	✓	Mining engineers
4	Resource classification and estimation workflows for short- and medium-range mine planning.		
5	Best practices for comparing model forecasts against mill output and refining geological and operational controls.		

Course Content

Day	Theme	Coverage
1	Geological Data Foundations & Mapping	• Geology data management • Geological structure mapping • Geological sampling and logging
2	Orebody Characterization and Geo-Statistics	• Fundamentals of Orebody Characterization • Introduction to Geostatistics and Spatial Data Analysis • Resource Estimation, Classification & Model Validation • Application of Geostatistics in Operational Mine Optimisation
3	Grade Control Strategy and Block Modelling	• Principles and Objectives of Grade Control in Underground Gold Mining • Block Modelling Fundamentals • Integrating Grade Control with Stope Design and Production Planning • Operational Strategies, Tools and Continuous Improvement
4	Resource Estimation and Evaluation	• Principles of Mineral Resource Estimation • Estimation Techniques and Model Construction

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		• Resource Classification, Reporting Standards & Compliance • Economic Evaluation, Sensitivity Analysis & Reconciliation
5	Production Reconciliation and Continuous Improvement	• Foundations of Production Reconciliation • Reconciliation Processes Across the Mining Value Chain • Identifying Variances, Root Causes and Operational Bottlenecks • Continuous Improvement Strategies and Best Practice Implementation • Course assessment, summary and close

Course Assessment	Certification
Participants will be assessed on:	Upon successful completion of the course, participants will receive a **Certificate of Successful Completion**, along with a **Transcript of Marks** showing the performance by grade in each element of assessment and overall.
Participation in sessions	
Completion of exercises & case studies	
Performance in assessments	

Course Instructor

The instructor for this course is a Chartered Geologist; he holds an MSc in Mining Geology from Camborne School of Mines and is a Fellow of the Geological Society. He has over 19 years' experience in the mining and minerals industry, having worked in all aspects of minerals projects including exploration, production, resource estimation and mine planning.

He has successfully managed project evaluations resulting in the start-up of new mining operations, and produced resource estimates for world class deposits as well as small technically complex mineral projects, covering a broad range of commodities including precious metals, base metals and industrial minerals.