

STRATEGIC LEADERSHIP IN MINERAL EXPLORATION AND GEOLOGICAL SURVEY



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TRAINING CENTER



Introduction

Strategic Leadership in Mineral Exploration and Geological Survey Training Course prepares geoscientists and mining leaders to direct exploration programs with technical rigour and commercial discipline. Participants learn how to set exploration strategy, prioritise targets, and manage the risk that comes with high-uncertainty investment. The program combines geological interpretation with portfolio management, regulatory compliance, and safety leadership. As a result, learners gain the ability to run exploration that is technically sound and financially defensible. Furthermore, the course strengthens data governance, stakeholder engagement, and team leadership in field operations.

Strategic Leadership in Mineral Exploration and Geological Survey Course Objectives

- Set exploration strategy aligned with corporate objectives and commodity outlook.
- Apply geological mapping, structural analysis, and stratigraphic interpretation methods.
- Interpret geophysical and geochemical survey data for target generation.
- Use the JORC Code and NI 43-101 standards for resource classification and reporting.
- Manage exploration portfolios with prospectivity mapping and ranking matrices.
- Apply exploration risk management using risk registers and staged investment gates.
- Design drilling programs with sampling protocols and QA/QC procedures.
- Evaluate economic viability with cut-off grade and preliminary economic assessment concepts.
- Comply with mining law, land access, and environmental permitting requirements.
- Lead field teams with strong health, safety, and community engagement practice.

Course Methodology

- Interactive sessions built on real exploration and survey case studies.

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- Workshops on prospectivity mapping, target ranking, and portfolio review.
- Group work on risk registers, permitting plans, and drilling program design.
- Hands-on practice with QA/QC protocols and resource reporting standards.
- Simulation of exploration gate reviews and field incident response.
- Facilitator feedback and peer review on exploration strategy proposals.

Who Should Take This Course

- Exploration managers and chief geologists.
- Geoscientists and geological survey professionals.
- Mining and resource company technical leaders.
- Resource estimation and reporting specialists.
- Drilling and field operations supervisors.
- Consultants and regulators in mineral resources and surveying.

Strategic Leadership in Mineral Exploration and Geological Survey Course Outlines

Day 1: Exploration Strategy and Geological Context

- The mineral exploration lifecycle from grassroots to feasibility.
- Setting exploration strategy and commodity focus.
- Geological mapping, structural analysis, and stratigraphy.
- Mineral systems and deposit models.
- Territory selection, land access, and tenure management.
- Ethics, transparency, and responsible exploration.
- Case study: a discovery program evaluated.





Day 2: Survey Methods and Target Generation

- Geological survey methods and mapping standards.
- Geophysical methods: magnetics, gravity, and electromagnetic surveys.
- Geochemical sampling and anomaly interpretation.
- Remote sensing and hyperspectral data applications.
- GIS-based prospectivity mapping and spatial analysis.
- Target generation, ranking, and prioritisation matrices.
- Workshop: building a target ranking framework.

Day 3: Portfolio, Risk, and Investment Gating

- Exploration portfolio management and stage-gate frameworks.
- Risk registers for technical, financial, and jurisdictional risk.
- Staged investment and abandonment decision criteria.
- Joint ventures, farm-in agreements, and partner structures.
- Budgeting, cost control, and drilling program economics.
- Reporting to boards and investors on exploration progress.
- Exercise: reviewing an exploration portfolio at a stage gate.

Day 4: Drilling, Sampling, and Resource Reporting

- Drilling program design and drill hole planning.
- Core logging, sampling protocols, and chain of custody.
- QA/QC procedures, standards, blanks, and duplicates.
- Resource estimation concepts, cut-off grade, and grade-tonnage curves.
- The JORC Code and NI 43-101 reporting requirements.

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- Competent person and public reporting obligations.
- Simulation: reviewing QA/QC results and reporting risk.

Day 5: Regulation, Safety, and Field Leadership

- Mining law, licensing, and permitting requirements.
- Environmental impact assessment and rehabilitation obligations.
- Community engagement and social licence to operate.
- Health and safety leadership in field operations.
- Incident investigation and root cause analysis.
- Data governance and geological archive management.
- Capstone: presenting an exploration strategy and field leadership plan.

Conclusion

By successfully completing Strategic Leadership in Mineral Exploration and Geological Survey, participants will gain a practical command of exploration strategy, survey interpretation, and resource reporting. They will acquire skills in target generation, portfolio risk management, drilling program oversight, and regulatory compliance. Gentex Training Center designs the program to help exploration leaders direct programs that are technically credible, safe, and commercially defensible.

FAQs





Q1 What is the "Strategic Leadership in Mineral Exploration and Geological Survey" course about?

It prepares geoscientists and mining leaders to direct exploration programs strategically. The course spans exploration strategy, geological and survey interpretation, target generation, portfolio and risk management, drilling and resource reporting, and regulatory and safety compliance in the field.

Q2 What are the key benefits of the "Strategic Leadership in Mineral Exploration and Geological Survey" course?

You gain a clearer basis for high-uncertainty exploration investment. The course improves target prioritisation, strengthens stage-gate discipline, raises confidence in resource reporting, reduces field safety and regulatory risk, and helps you defend exploration decisions to boards and investors.

Q3 What skills will I gain from the "Strategic Leadership in Mineral Exploration and Geological Survey" course?

You will develop four core skills: exploration strategy and geological interpretation, survey data analysis and target generation, portfolio and exploration risk management, and drilling oversight with resource reporting and regulatory compliance.



Q4 What tools, methods, or standards are covered in the "Strategic Leadership in Mineral Exploration and Geological Survey" course?

The course covers geological mapping and structural analysis, stratigraphic interpretation, mineral systems and deposit models, magnetic, gravity, and electromagnetic geophysics, geochemical sampling and anomaly interpretation, remote sensing and hyperspectral data, GIS-based prospectivity mapping, target ranking matrices, stage-gate portfolio governance, risk registers, QA/QC protocols, the JORC Code, NI 43-101, cut-off grade analysis, and grade-tonnage curves.

Q5 How is the "Strategic Leadership in Mineral Exploration and Geological Survey" course applied in real-world practice?

Participants apply it to real work such as ranking exploration targets across a tenement portfolio, designing a drilling program with sampling protocols, reviewing QA/QC results before reporting a resource, and preparing a permitting and community engagement plan. The same methods support farm-in negotiations and annual exploration reviews.