

# SEM Course Syllabus

## Module 1 (1 hr): *The Mineral Exploration Business Environment*

- The Mineral Exploration Business Cycle
- The Global Context for Mineral Exploration
- Exploration Expenditure Patterns
- Discovery Cost Trends
- The Exploration Value Proposition

## Module 2 (1 hr): *Key Concepts in Mineral Exploration Management*

- Understanding Exploration Search Space
- Commercial Risk Management
- Base Rate & False Positives
- Opportunity Value – EMV
- Long Term Option Value
- The Significance of Technological Advances
- The Option Concept in Mineral Exploration
- Skill v Luck

## Module 3 (1.5 hr): *What Matters at the Strategic Scale*

- Important Terminology – Search Space, CRM, Strategy, Strategic Choice
- Key Exploration Success Ingredients
- The Systems Concept
- Time is a Strategic Factor
- The Importance of Portfolio Quality
- Partnering to Improve Portfolio Quality
- Buy vs Explore
- Comparing Greenfield & Brownfield Exploration
- Exploration Search Space Definition

## Module 4 (0.5 hr): *Developing an Effective Strategy*

- The Value Proposition
- Strategic Context
- Documenting & Communicating the Exploration Strategy
- Obtaining Management Approval

## Module 5 (0.5 hr): *Principles & Concepts Unique to Juniors*

- Challenges
- Principles
- Impact of Market Cycles
- Raising Capital Challenges
- Doing Deals with Majors
- Investor Management and Communication
- Lasso Curve & When to Partner
- Production Challenges

## Module 6 (1 hr): *Portfolio Management*

- Portfolio Management and the Systems Approach
- Best Practice Budget Allocation & DPP
- Early Economic Analysis
- Barriers to Project Advancement
- Project Review and Ranking
- Portfolio Scale Review, Measurement and Valuation

### **Module 7 (1 hr): Optimising Project Scale Exploration**

- Prospecting vs Systematic Exploration
- Effective versus successful Exploration
- Optimising sample spacing
- The 3D Jigsaw – Building the contextual geological framework
- Stratigraphic Drilling
- Project-Scale Search Space Analysis
- Unexplorable projects
- Recognising which anomalies are valid targets
- Evaluating results
- Managing exploration success

### **Module 8 (0.5 hr): Commercial Risk Management (CRM)**

- CRM Overview and Scope
- New Region Risk Analysis
- Stakeholder Management
- CRM Role in Project Planning

### **Module 9 (1.5 hr): Negotiating / Documenting Exploration Deals**

- Concepts and Terminology
- Sharing Deals
- Data Deals
- Negotiating the Deal
- Deal Pitfalls

### **CRM Workshops (1.0 hr):**

- Sharing Arrangements
- Assessing New Opportunities

### **Module 10 (1 hr): Mineral Exploration Targeting – Part I**

- Introduction & Overview
- Targeting Science
- The Business Interface
- Deposit Size-Frequency Distributions & Zipf's Law
- Targeting Under Cover

### **Module 11 (3 hr): Mineral Exploration Targeting – Part II**

- Applying the Mineral Systems Concept
- Mineral Systems Framework 1
- Mineral Systems Framework 2
- The Importance of Deposit Clustering
- Building and Applying Target Models
- Interaction with Data
- Target Ranking
- Regional and Global Scale Target Ranking

### **Module 12 (1.5 hr): Managing the Exploration Group – Culture & People**

- Performance and Key Success Factors
- Creativity, Innovation, Pattern Recognition and Expertise
- Decision-Making under Uncertainty – Understanding the Heuristics
- Managing the Effects of Heuristics and Biases
- Building & Retaining a High-Quality Team