GEOVIA Surpac™ Resource Estimation and Geostatistics (5 days)

The GEOVIA Surpac Resource Estimation and Geostatistics Course is designed for resource geologists who want to become familiar with resource estimation and classification techniques. The course covers drillhole database management, compositing, geostatistical analysis, variography, block modeling, and estimation methods (nearest neighbor, inverse distance, kriging, and indicator kriging). This course will also explore different methods of categorizing and reporting resources.

COURSE PREREQUISITES

- Good understanding of basic Surpac concepts and functionality including:
    - Data display and management
    - String files
    - DTM surfaces
    - Solids modeling
- Comfortable working with the Surpac Database and Block Model components

EXPECTED OUTCOMES

Upon completion of this course, users will:

- Understand importance of geology and domaining
- Appreciate volume-variance effect
- Advanced data validation and analysis techniques
- Comprehension of variography
- Understanding of different methods of estimation, including inverse distance and the various applications of kriging
- Model validation and practical resource classification techniques

If a desired expected outcome is not listed above please contact GEOVIA Training for a detailed list of course deliverables and to discuss tailored training

COURSE STRUCTURE FLOW

Concepts	Topics
Overview geostatistics	Assumptions and constraints
	Volume-variance effect
	Block size
	Ore-waste misclassification
	Data quality and integration
Geology and Domaining	Geology to domain – the process
	Verifying domains
Data validation and analysis techniques	Statistical tools to check data quality
	Assumptions and composting
	Basic statistics
	Statistics for skewed data sets and top cuts
Variography	Variogram calculations
	Selecting a variogram type
	Modelling
	Nesting variogram models
	Interpreting variograms
	Application of variograms
Methods of estimation	Nearest neighbor estimation
	Inverse distance estimation
	Ordinary Kriging estimation
	Indicator kriging estimation
	Kriging variance
	Selecting an estimation technique
Model validation and practical resource classification techniques	Resource classification
	Data quality and geological control
Open session	Open discussion and Q&A session
Exam	Exam

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