

# GEOVIA Minex Course Catalog Indonesia



**3DEXPERIENCE**®

# Minex for Geologists

Available Classroom and on-demand

Duration 5 Days

Level Fundamental

Audience The GEOVIA Minex for Geologists five-day course is designed to provide users with a good understanding of geology concepts using Minex; and is essential for geologists to perform every day and more advanced tasks with the use of the software.

Objectives Upon completion of this course, you will be able to accomplish the following:

- Understand the data types, concepts and file structure of Minex
- Create new user data for points, lines and surfaces
- Understand seam modelling concepts
- Set up a new borehole database
- Load sample data into borehole database ( lithology, geophysical, and quality)
- Display boreholes database in profile, plan, and section
- Load seam layer intervals
- Correlate and Interpret seam data
- Understand Bore Seam Modeling concepts
- Understand seam modelling concepts
- Set up a new borehole database
- Load sample data into borehole database ( lithology, geophysical, and quality)
- Display boreholes database in profile, plan, and section
- Load seam layer intervals
- Correlate and Interpret seam data
- Understand Bore Seam Modeling concepts

Prerequisites Before taking this course, you require the following:

- Knowledge of Windows® 2000, XP, Vista® or Windows 7 Operating System
- Knowledge of file management
- Basic understanding of text editors and Microsoft® Excel®
- Knowledge of file management
- Knowledge of ASCII format files and Microsoft® Excel®
- Basic understanding of mining practices

The Minex menu structure and graphical user interface (GUI) are similar to most Windows-based packages and therefore a basic knowledge of the Windows operating system and environment is necessary.

Course Structure Flow

Starting with Minex

- Familiarization with the Minex interface
- Using the Minex explorer

Organizing your data

- Recommended project folder configuration
- Using the project manager
- Minex data and file types

Seams Interpretation and Correlation

- Creating a plan map
- Plotting boreholes in plan mount
- Creating a cross section

- Plotting boreholes in cross section
- Plotting Topography and Weathering using grid cross section
- Controlling data using the mount control panel
- How to Add/Edit/Rename/Delete seampicks

## Creating Seam Model

- Seam modeling concept in Minex
- Reporting collar against topographic surfaces
- Update collar within topographic surfaces
- Concept of splitting/merging method
- Concept of father and son method
- Concept of interpolation
- Exporting seam intervals
- Compute seam floor and thickness grids
- Concept of Washout on grids

## Seam model validation

- Plotting seams in cross section

## Creating Quality Model

- Selecting seam / sample compositing parameters
- Statistics of quality attributes
- Compute coal quality grids

## Resources Calculation

- Insitu Resources Reporting
- Creating Polygon Resources

## Fault 3D Overview

- Concept of 3D and 2D fault
- Interpretating faults using gridded surfaces
- Preparing Fault data on Minex format
- Creating fault line and identify throw, dip, and azimuth

## Creating Fault 3D Model

- Unfaulting boreholes
- Bore seam modeling
- Refaulting boreholes

Minex for Engineers	
Course Code	N/A
Available	Classroom and on-demand
Duration	5 Days
Course Material	Printed Manual
Level	Fundamental
Audience	Minex Users (Engineers)
Description	<p>The GEOVIA Minex for Engineers five-day course is designed to provide users with a good understanding of engineering concepts using Minex; and is essential for engineers to perform every day and more advanced tasks with the use of the software.</p>
Objectives	<p>At the completion of the course, you will have been exposed to the following topics and concepts:</p> <ul style="list-style-type: none"> <li>• Use the basic components of the system for setting up and viewing data</li> <li>• Understand the data types, concepts and file structure of Minex</li> <li>• Create new user data for points, lines and surfaces</li> <li>• Understand the concepts of triangle and grids and generate them</li> <li>• Generate simple volume calculations between surfaces</li> <li>• Create simple plots in plan and section</li> <li>• Rationalize the geological model into a mining model</li> <li>• Build a merged model and calculate strip ratio</li> <li>• Create bench grids and a bench list</li> <li>• Design a pit and compute pit surfaces</li> <li>• Incorporate Ramp design into pit</li> <li>• Utilize the slope mask option for slope variation</li> <li>• Generate the reserves database</li> <li>• Update reserves for modelled quality information</li> <li>• Validate database volumes using the detailed resource reporting option</li> <li>• Manipulate the reserves database using SQL's</li> <li>• Convert insitu reserves into run of mine reserves</li> <li>• Display reserves blocks in 3D</li> <li>• Plot detail pit block in 2D plan</li> <li>• Create dump design and spoil dump surface</li> <li>• Create dump profile surfaces and design rehabilitated surfaces</li> <li>• Set out blast patterns and generate drillers reports</li> </ul>
Prerequisites	<p>Before taking this course, you require the following:</p> <ul style="list-style-type: none"> <li>• Knowledge of Windows® 2000, XP, Vista® or Windows 7 Operating System</li> <li>• Basic understanding of text editors and Microsoft® Excel®</li> <li>• Knowledge of file management</li> <li>• Knowledge of ASCII format files and Microsoft® Excel®</li> <li>• Basic understanding of mining practices</li> </ul>

## Course Structure Flow

- Starting with Minex
  - Familiarization with the Minex interface
  - Using the Minex explorer
- Organizing your data
  - Recommended project folder configuration
  - Using the project manager
  - Minex data and file types
- Working with triangles and grids
  - Creating and displaying surfaces as solids
  - Manipulating grids and triangles
  - Editing grids and triangles using arithmetic
  - Grid and triangle volumetric
  - Reporting grid and triangle statistics
- Displaying string data in 3D
  - Overview of the geometry file
  - Types of data stored in the geometry file
  - Plotting geometry data
  - Querying and modifying string properties
- Creating string data in 3D
  - Creating strings and points
  - Manipulating data with string functions, area functions and geometry tools
- Creating plans in 2D
  - Creating a map mount
  - Plotting grid and triangles using line and shade contours
  - Controlling data using the mount control panel
- Creating sections in 2D
  - Creating a section mount
  - Displaying triangles, grids and seams on a section
  - Creating and retrieving plot archives
- Overview
  - Rationalize the geological model
  - Examine outcrop / subcrop of seams
  - Calculate the merged model
  - Create cross sections through merged seams
  - Identify design constraints
  - Geotechnical parameters (wall angles and berms)
- Create bench grids
  - Identify bench surfaces, bottom seam, bench height
  - Create bench grids
  - Define the bench list
- Pit design
  - Generate benches
  - Generate pit shell
  - Generate strips and blocks
  - Incorporate ramp into design
  - Using mask polygon to vary the slope angle
  - Create pit design with bench elevation
  - Block validation and editing
  - Displaying pit geometry data
- Building reserves
  - Create a reserves database
  - Defining codes and layers
  - Add quality variables
  - Generate Insitu reserves
  - Update quality variables from quality model
  - Report reserves
- Reserves validation
  - Methods for validating reserves
  - Examine layers in the reserves database
- ROM reserve manipulation
  - Waste and merge layers
  - Apply losses and dilutions
  - Edit the database using SQL
  - Display reserve blocks in 3D
- Reporting and validating
  - Report using other methods
  - Use face position surface as dump base
- Creating dump surfaces using earthworks
  - Create waste dump surfaces
  - Create final dump profiles
- Drill and blast
  - Setup blast pattern
  - Generate drillers reports
  - Create blast plan

Minex Pit Optimizer	
Course Code	N/A
Available	Classroom and on-demand
Duration	3 Days
Course Material	Printed Manual
Level	Fundamental
Audience	Minex Users (Engineers)
Description	<p>The GEOVIA Minex Pit Optimizer three-day course is designed to provide users with a good understanding of pit optimization concepts and how to manage and report the outputs. Attendees will also develop their skills in refining the cost and revenue models to best suit individual mine operations. This course is recommended for engineers evaluating new or existing mining operations.</p>
Objectives	<p>At the completion of the course, you will have been exposed to the following topics and concepts:</p> <ul style="list-style-type: none"> <li>• Use the basic components of the system for setting up and viewing data</li> <li>• Understand the data types, concepts and file structure of Minex</li> <li>• Create new user data for points, lines and surfaces</li> <li>• Understand the concepts of triangle and grids and generate them</li> <li>• Generate simple volume calculations between surfaces</li> <li>• Create simple plots in plan and section</li> <li>• Understand the concept of pit optimization</li> <li>• Rationalize the geological model into a mining model</li> <li>• Set up a fixed of variable cost model for mining / processing costs by area / depth</li> <li>• Establish revenue and sale price on a quality variable (e.g. calorific value)</li> <li>• Control optimum pit slopes by seam or zone</li> <li>• Control haulage cost by area and depth</li> <li>• Introduction to SQL for creating cost and price model</li> <li>• Display and present optimizer results</li> <li>• Report waste and coal quantities for the optimum pit shells</li> <li>• Understand the benefits of margin ranking versus pit optimization</li> </ul>
Prerequisites	<p>Before taking this course, you require the following:</p> <ul style="list-style-type: none"> <li>• Knowledge of Windows® 2000, XP, Vista® or Windows 7 Operating System</li> <li>• Basic understanding of text editors and Microsoft® Excel®</li> <li>• Knowledge of file management</li> <li>• Knowledge of ASCII format files and Microsoft® Excel®</li> <li>• Basic understanding of mining practices</li> </ul> <p>The Minex menu structure and graphical user interface (GUI) are similar to most Windows-based packages and therefore a basic knowledge of the Windows operating system and environment is necessary.</p>

## Course Structure Flow

- Starting with Minex
  - Familiarization with the Minex interface
  - Using the Minex explorer
- Organizing your data
  - Recommended project folder configuration
  - Using the project manager
  - Minex data and file types
- Working with triangles and grids
  - Minex data and file types
  - What are triangles and grids?
  - Creating and displaying surfaces as solids
  - Manipulating grids and triangles
  - Editing grids and triangles using arithmetic
  - Grid and triangle volumetrics
  - Creating and plotting contours
- Creating string data in 3D
  - Reporting grid and triangle statistics
  - Creating strings and points
  - Manipulating data with string functions
- Creating sections in 2D
  - Creating a section mount
  - Methods for creating a section plan
  - Displaying triangles, grids and seams on a section
  - Creating and retrieving plot archives
- Overview
  - Pit optimization theory
- Geological model validation
  - Methods for checking the geology model for validity before optimizing
- Create the merged model
  - Rationalize the geological model into a mining model
  - Create merged model
- Identify optimization parameters
  - Identifying mining and physical constraints
  - Establish revenue and sale price on a quality variable (e.g. calorific value)
  - Setup fixed cost model for mining / processing
  - Setup variable cost model for mining / processing
- Pit optimization
  - Optimizer menu introduction
  - Run pit optimizer
- Reporting results
  - Create report template
  - Report pit optimizer result
- Introduction to SQL
  - Set mining costs for layer thickness, depth, location
  - Set sale value for multi-product mines (e.g. domestic, export)
- Advanced pit optimization
  - Using the MNX file
  - Control optimum pit slopes by zone
  - Control haulage cost by area and depth
  - Creating price and cost model using SQL Macro
- Analyzing results
  - Using simple methods to choose your ultimate pit
  - Display and present optimizer results
  - Report waste and coal quantities for the optimum pit shells
- Validating results
  - Analyzing log file
  - Check strip ratio vs basic costs
  - Base limiting grids

## Minex Open Pit & Dump Scheduling

Course Code N/A

Available Classroom and on-demand

Duration 2 Days

Course Material Printed Manual

Level Intermediate, Advanced

Audience Minex Users (Engineers)

**Description**  
The GEOVIA Minex™ Pit and Dump course is a three day course designed for existing users of Minex who are already familiar with pit design and reserving process in Minex. The course provides users with a good understanding of engineering scheduling concepts and suits long term or short term planners.

**Objectives**

At the completion of the course, you will have been exposed to the following topics and concepts:

- Understand the concepts and objectives of scheduling
- Set up an equipment file and calendar
- Create a detailed equipment schedule
- Create end of period face surfaces
- Run target schedules
- Report and display schedules
- Material classification in pit and dump reserve
- Create dump schedule database and configure scenario
- Interactively schedule a dump
- Replay an open pit schedule and complete a dump schedule
- Replay an existing dump schedule
- Define equipment properties for dump scheduling, including rimpull and retard data
- Create haul roads and assign speed limits and availability to haul roads
- Calculate and report truck cycle times
- Generate a detailed report showing the volumes and tonnage of waste that was moved from pit to dump over a period of time

**Prerequisites**

Before taking this course, you require the following:

- Knowledge of Windows® 2000, XP, Vista® or Windows 7 Operating System
- Knowledge of file management
- Basic understanding of text editors and Microsoft® Excel®
- Basic understanding of mining practices
- Completion of Minex Foundation or an introductory Minex course; or basic experience and competency in the use of Minex
- Completion of Minex Pit Design and Reserves course or Minex for Engineers

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## Course Structure Flow

- Detailed scheduling
  - Creating movement files and sequence file with sequence generator
  - Short term scheduling set up
- Overview Dump Scheduling
  - Understanding dump scheduling workflow
  - Overview dump design process
  - Create reserve database and generate reserve for dumps
- Material Classing
  - Assign waste material classification in Pit Reserve
  - Set the class material for Dump
- Dump Schedule Scenario
  - Create a dump schedule database and dump equipment database
  - Create and configure dump scenario
  - Assign infinite dump for overflow material
  - Define routes between pits and dumps
  - Create dump sequence
  - Ranking the dump priority
- Open Pit Dump Schedule
  - Interactive dump schedule
  - Replay an open pit schedule and complete a dump schedule
- Generation of Haul Roads
  - Concept of haul roads, haul road segments, and haul routes
  - Create haul roads segment strings
  - Define haul road speed limits
  - Create haul roads and haul routes
  - Generate ramp distance
- Cycle time calculation
  - Configure loaders parameter
  - Configure trucks parameter
  - Calculate truck cycle times
- Reporting and schedule result output
  - Detailed dump schedule report
  - Generate truck cycle time report and haulage selection report
  - Exporting dump face positions
  - Create pit and dump schedule playback

Minex Advanced Borehole Database & SQL	
Course Code	N/A
Available	Classroom and on-demand
Duration	3 Days
Course Material	Printed Manual
Level	Advanced
Audience	Existing Minex Users (Geologists)
Description	The GEOVIA Minex Advanced Borehole Database three-day course is designed for Geologists who want to become familiar with borehole database tools, seam interpretation and correlation technique, and includes introduction to borehole database manipulation using Structure Query Language (SQL).
Objectives	<p>At the completion of the course, you will have been exposed to the following topics and concepts:</p> <ul style="list-style-type: none"> <li>• Setup borehole database</li> <li>• Import; validate; and borehole data</li> <li>• Borehole data manipulation</li> <li>• Correlate and interpret seam intervals</li> <li>• Update borehole database using basic SQL</li> <li>• Perform borehole data manipulation using borehole SQL and seampick.SQL</li> </ul>
Prerequisites	<p>Before taking this course, you require the following:</p> <ul style="list-style-type: none"> <li>• Knowledge of Windows® 2000, XP, Vista® or Windows 7 Operating System</li> <li>• Knowledge of file management</li> <li>• Basic understanding of text editors and Microsoft® Excel®</li> <li>• Basic understanding of mining practices</li> <li>• Completion of Minex for Geologists or equivalent experience and competency in the use of Minex</li> </ul> <p>The Minex menu structure and graphical user interface (GUI) are similar to most Windows-based packages and therefore a basic knowledge of the Windows operating system and environment is necessary.</p>

## Course Structure Flow

### Borehole database overview

- Introduction to Minex borehole database
- Overview of borehole data type and variable
- Borehole database setup requirement
- Prepare surface and borehole data in Minex format
- Setup new borehole database

### Working with Borehole data and surface grid

- Import and validate borehole data
- Display borehole data in 3D and 2D
- Create seam/layer sequence
- Manipulate and export borehole data
- Create topography and weathering surfaces

### Seams Interpretation and Correlation

- Plotting borehole data using Profile; Plan; and Section map
- Add/Edit/Rename/Delete seam intervals

### Introduction to Sql

- Sql Syntax
- Conditional Clauses/Selection Criteria
- Control Structures
- Input / Output and Limitations
- Types of Sql (borehole.Sql and seampick Sql)

### Borehole database advance manipulation

- Update borehole database using basic Sql
- Borehole data manipulation using borehole.Sql
- Seampick manipulation using seampick Sql

Minex AMD (NAF/PAF) Modeling	
Course Code	N/A
Available	Classroom and on-demand
Duration	4 Days
Course Material	Printed Manual
Level	Advanced
Audience	Existing Minex Users (Geologists)
Description	The GEOVIA Minex Coal seam and AMD (NAF/PAF) material modeling course is designed for Geologists who want to combine between coal seam model and multiple NAF/PAF material layer to generate final geology model.
Objectives	<p>At the completion of the course, you will have been exposed to the following topics and concepts:</p> <ul style="list-style-type: none"> <li>• Understand data types, concepts, and file structure of Minex</li> <li>• Import sample data (lithology, geophysical, and quality) into borehole database</li> <li>• Create and combine stratigraphic sequence for coal seam and NAF/PAF material</li> <li>• Import and validate coal seam and NAF/PAF material</li> <li>• Understand Bore Seam Modeling concepts for coal seam and NAF/PAF material</li> <li>• Adjust NAF/PAF material depth</li> <li>• Apply NAF/PAF material in barren holes</li> <li>• Adjust NAF/PAF material layer against coal seam model</li> <li>• Generate final geology model with combination between coal seam and NAF/PAF material layer</li> <li>• Quality compositing for coal seam and NAF/PAF material</li> <li>• Generate quality model for coal seam and NAF/PAF material</li> <li>• Resources Reporting</li> </ul>
Prerequisites	<p>Before taking this course, you require the following:</p> <ul style="list-style-type: none"> <li>• Knowledge of Windows® 2000, XP, Vista® or Windows 7 Operating System</li> <li>• Knowledge of file management</li> <li>• Basic understanding of text editors and Microsoft® Excel®</li> <li>• Knowledge of file management</li> <li>• Knowledge of ASCII format files and Microsoft® Excel®</li> <li>• Basic understanding of mining practices</li> <li>• Completion of Minex for Geologists course or equivalent experience and competency in the use of Minex.</li> </ul> <p>The Minex menu structure and graphical user interface (GUI) are similar to most Windows-based packages and therefore a basic knowledge of the Windows operating system and environment is necessary.</p>

## Course Structure Flow

- Borehole database preparation
  - Overview of borehole data type and variable
  - Borehole database setup requirement
  - Prepare surface and borehole data in Minex format
  - Setup new borehole database
- Working with Borehole data and surface grid
  - Import and validate borehole data
  - Create stratigraphic sequence for coal seam
  - Import coal seam intervals
  - Generate topography and weathering surfaces
  - Bore seam modeling for coal seam
  - Export and re-import coal seam intervals
- Working with NAF/PAF material
  - Insert NAF/PAF material sequence in stratigraphic sequence
  - Import NAF/PAF material intervals
  - Adjust NAF/PAF material depth intervals
  - Bore seam modeling for coal seam and NAF/PAF material intervals
  - Apply NAF/PAF material intervals in barren holes
- Generate coal seam and NAF/PAF model
  - Generate floor and thickness grid
  - Adjust NAF/PAF layer against coal seam model
  - Generate final cut and uncut model for coal seam and NAF/PAF material
- Generate quality model for coal seam and NAF/PAF layer Selecting seam/sample compositing parameters
  - Generate quality grids
- Resources reporting
  - In-situ resources reporting
  - Generate polygon resources
  - Detailed resources reporting

