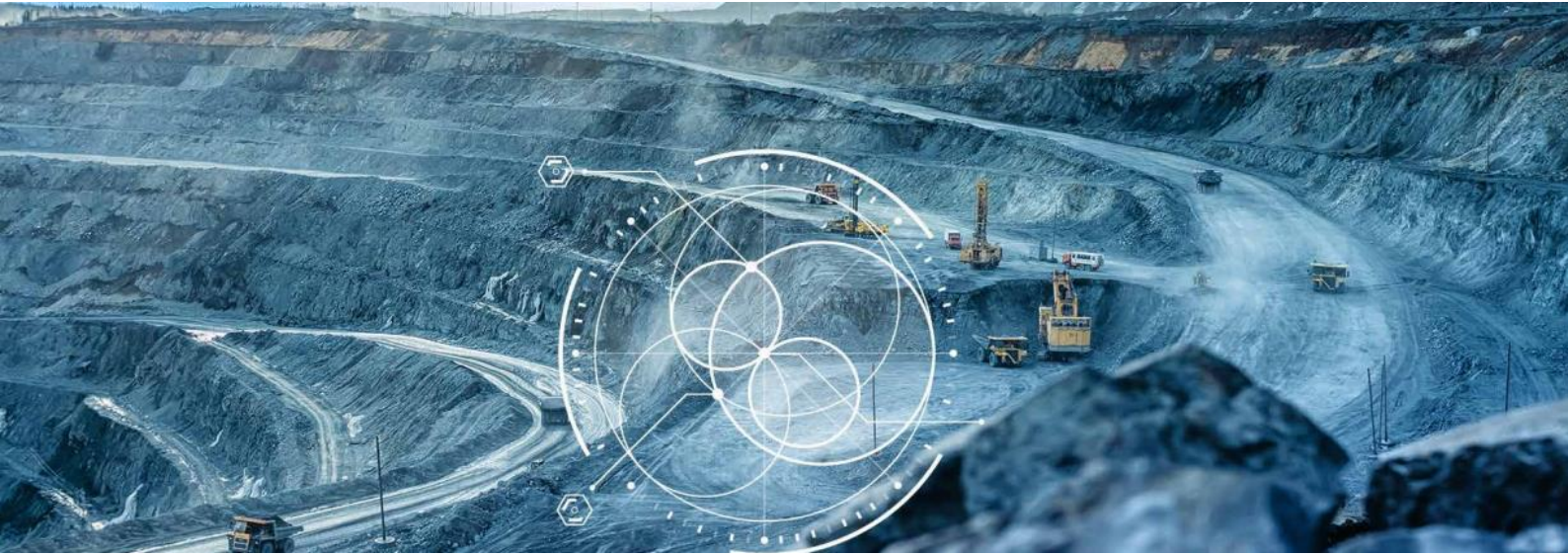3DEXPERIENCE

GEOVIA Surpac™ Advanced Macros (TCL, SCL) (5 days)

The GEOVIA Surpac™ Advanced Macros (Tool Command Language, Surpac Command Language) course is designed for mining engineers who want to develop their Surpac skills further to complete design tasks and automate mining processes by creating macros. Structured in a workshop format, this course focuses on applying TCL and SCL scripts language in Surpac CAD and automatic design tools to complete demanding design and reporting tasks in an efficient way.

COURSE PREREQUISITES

- Demanding design and reporting tasks including:
    - Data display and management
    - String files
    - CAD tools
    - DTM surfaces
    - Block modeling
    - Plotting
- Knowledge of ASCII format and Microsoft®Excel®
- Basic knowledge of the Windows operating system and environment is necessary as the Surpac menu structure and graphical user interface (GUI) is similar to most Windows-based packages
- Completion of SURPAC Foundation Macros
- Completion of Surpac Foundation
- Some knowledge of the following TCL/SCL concepts:
    - TCL syntax, variable and command substitution, and
    - grouping constructs
    - Creating basic user forms
    - Use of basic TCL commands like expr and string
    - Use of if statements to perform branching
    - Use of while and for statements to perform looping

EXPECTED OUTCOMES

Upon completion of this course, users will:

- Use literature and guide of TCL and SCL for future tasks
- Get acquainted with the code editors for creating macros
- Use extensions commands TCL & SCL
- Use GUIDO forms
- Create files reports (formats txt, str, csv, xlsx)
- Use additional package
- Can automate the process using TCL & SCL scripts
- Debugging & Compiling
- TCL Extensions: TWAPI, TCLODBC
- Interacting with databases
- SQL statements

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
Source code editor	Overview of Visual Studio Code as code editor for TCL
	Overview of ConTEXT as code editor for TCL
	Overview of Notepad++ as code editor for TCL
	Overview of online code editor for TCL
TCL in Surpac	Support and capabilities of TCL in the Surpac
	Overview simple syntax
	Variables and Variable Substitution
	Procedure and Function
	Brief repeat control flow commands (if, while & for)
	Evaluate and catch
	Literature for TCL learning
SCL guide	Overview simple syntax
	Variables and Variable Substitution
	Procedure and Function
	Literature for SCL learning
GRAPHICAL USER INTERFACE DESIGN OBJECTS (GUIDO)	User Interface commands
	Advanced Widgets
	Menus and Toolbars
	Utility Functions
	Events and Callbacks
	Switches
SCL Extension Commands	Constants
	Viewport and layer commands
	SWA commands
	General graphics commands
	Object manipulation commands

	Range commands
	Geometric and mathematical commands
	Database Commands
	Drillhole commands
	System and miscellaneous commands
	Scl Graphics drawing commands
	Block model commands
Use additional packages	Call procedure from other .tcl files
	Package "twapi" (example create report in Excel)
	Overview ODBC Data Sources
	Package "tclodbc" (example connect to SQL database)
Recording tasks in a TCL script	Macro record & playback
	Manipulations with GUIDO form using TCL & SCL
	Using the _action Switch
Creating your own menus and toolbars	Brief introduction of Surpac profiles
	Creating menu bars and menu items
	Defining toolbars and buttons
Create side panel	Create side panel
Open session	Session for open discussion and Q&A

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