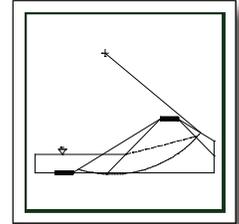


Galena Slope Stability Analysis – Online



Slope Analysis software is used for performing stability analyses of backfills, road embankments, pond embankments, landslides, or natural slopes. These slopes occur on reclaimed lands and active mine sites. The software models the factor of safety of these features using the Simplified Bishop, Spencer, and Sarma methods of analysis. The course includes a review of slope stability principles before using the software. The course is intended only for engineers or geology professionals with a slope stability background.



This course is administered online in the Training Virtual Campus and is available during scheduled times throughout the year. Please follow the TIPS scheduling and registration procedures to enroll. Contact your TIPS Training Contact or the TIPS Training Program Lead with questions.

Duration: Six-week Period

Course Code: VEGA

TOPICS COVERED

Soil Mechanics Theory

- ▼ Basic Principles of Soil and Rock Testing
- ▼ Soil Failure Mechanisms
- ▼ Soil Properties
- ▼ The Role of Water

The Stability Analysis

- ▼ Determining Appropriate Strength Parameters
- ▼ The Bishop Circular Analysis
- ▼ Use of Stability Charts
 - ◇ *Estimating Factors of Safety*
 - ◇ *Determining Critical Failure Surfaces*
- ▼ Spencer Method
- ▼ Sarma Method

Soils Laboratory Methods Video

Use of the Software

- ▼ Fundamentals of the Program
- ▼ Data Entry
 - ◇ *Embankment Geometry*
 - ◇ *Delineation of Soil Types*
 - ◇ *Use of Phreatic Surface or Pore Pressure Ratio*
 - ◇ *Strength Parameters*
 - ◇ *Tension Crack Data*
 - ◇ *Seismic Coefficients for Dynamic Loads*
 - ◇ *Fluid Unit Weight for Impoundments*
- ▼ Selection of Analytical Method
 - ◇ *Modified Bishop Method for Circular Failure*
 - ◇ *Spencer Method for Circular and Non-Circular Failure*
 - ◇ *Sarma Method for Non-Circular Failure*
- ▼ Running the Stability Analysis
 - ◇ *Selecting Method of Search for Minimum Factor of Safety (Critical Failure Surface)*

- ▼ Interpreting Results
 - ◇ *Evaluating Shallow vs Deep*
 - ◇ *Failure Surfaces*
- ▼ Efficient/Effective Use of the Model—When enough is enough
 - ◇ *Guarding Against Manipulation of the Model to Get Acceptable Factors of Safety*
 - ◇ *Use of Realistic Input Parameters*

Output

- ▼ Reports
- ▼ Base Maps
- ▼ Contour Maps
- ▼ Perspectives and Block Diagrams
- ▼ Cross-sections and Fence Diagrams

The Workflow Manager™

Some Applications

- ▼ Structure
- ▼ Cut and Fill Volumes
- ▼ Reserve Calculations
- ▼ Slope Analysis

WHO SHOULD ATTEND: Regulatory or AML scientists with degrees in geology, civil or mining engineering, engineering geology, geological engineering, soil science or experience in geotechnical construction or slope stability remediation. Nominees should be responsible for inspecting or designing corrections for slope failures, or reviewing factor of safety calculations for permit applications.

COURSE PRE-REQUISITES: None. **Class size limited to 12–17 students.**