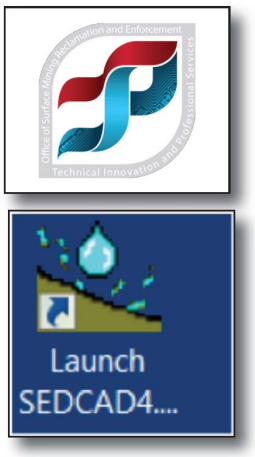

SEDCAD Applications and Extensions for Mine Permitting and Reclamation

This course covers a broad review of the basic hydrologic concepts and assumptions, defines the input parameters for watershed modeling and design of sediment control structures utilizing SEDCAD for mine permitting and reclamation. The participants will learn how to use SEDCAD to model peak flow, runoff volume, design erosion and sediment control structures and to evaluate permit applications. In addition, the course will cover utilizing SEDCAD to evaluate peak flow in preparation of Cumulative Hydrologic Impact Assessments. An introduction to the Revised Universal Soil Loss Equation will also be covered. Students will work example problems applying this software to model watersheds, analyze peak flow and design sediment basins, channels, culverts, silt fence and other drainage control structures.

Duration: 3 days
Course Code: HSA

TOPICS COVERED

At the end of this course, students will be able to:

- Design and evaluate sediment and drainage control structures
- Predict the effectiveness of sediment basins
- Apply RUSLE to calculate sediment load
- Calculate peak flow and runoff volume; develop peak flow hydrograph and sedimentgraph
- Perform watershed modeling including structure networking and Muskingum routing
- Evaluate hydrology and sedimentology input parameters
- Generate and review final report

WHO SHOULD ATTEND: regulatory or AML scientists with degrees in hydrology, civil or mining engineering, or soil scientists who design or review designs of diversions, sediment control structures, and impoundments, with six months to one year of experience with SMCRA.

COURSE PRE-REQUISITES: Students should have some knowledge of surface water hydrologic principles and computer experience. Completion of the NTTP courses “Applied Engineering Principles” and Surface and Groundwater Hydrology would be helpful. **Class size is limited to 12–17 students, depending on location.**