Modeling and DTM Online Course Outline

The MicroSurvey Modeling course will prepare you to create surfaces, perform some advanced surface operations, solve a variety of volumes problems and design a simple roadway and building pad. Examples from the students can be incorporated into the course curriculum.

Classroom Session 1:

Creating and Troubleshooting Digital Terrain Models:

- Instructor/Student introductions and Goal Setting
- Modeling Overview – including surfaces
- Configuration Settings, common issues and settings to manipulate, elevations below 2
- Extracting data vs. Active Coordinate Editor method to add/remove points to/from a surface
- Use of breaklines
- Surface Generation / Surface name and temporary "." Surface
- Save/Reload Surfaces
- Discussion about differences between Tin/Grid/Tgrid
- How to fix bad surfaces, more data, more breaklines, entity filters during extraction, etc.
- Boundary setup using closed polylines, nested boundaries for building pads, etc.
- Contour defaults and colours - then generation
- Volume calculations, cut/fill and volume/average depth reports (Surface/Area volume methods)

Lab 1:

Volumes Exercises

- Surface creation exercise
- Surface Method Volume Exercise
- Area Method Volumes Exercise
- General discussion of volumes problems from the class

Classroom Session 2:

3D Design Operations

- Advanced Surface Operations
- Drape and Flatten
- MsFlatten to create simple Cross Sections/Profiles
- Islope command
- AutoSite simple Pad design
- AutoRoute road design

Lab 2:

Design Exercises

- Autosite Design Exercise
- AutoRoute Road Design Exercise