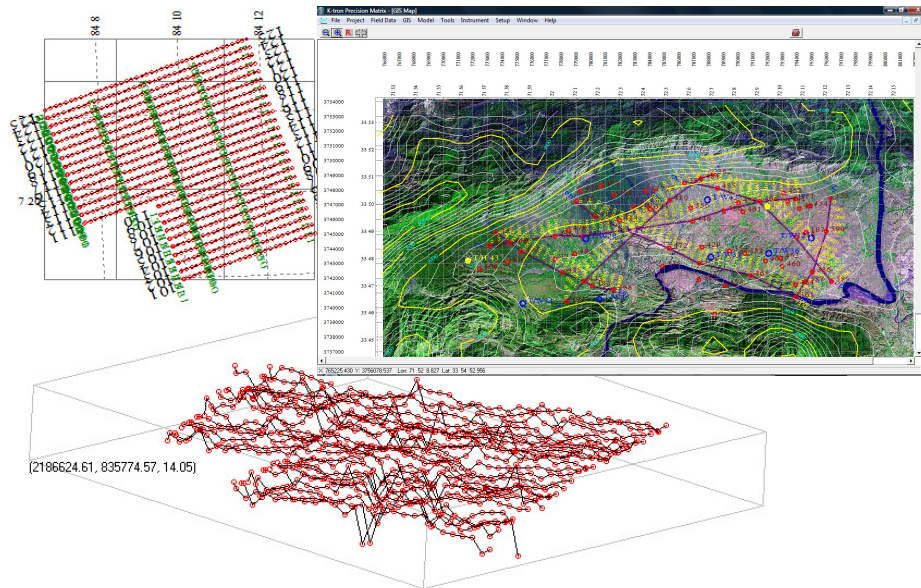


GP-404: Geodetic Surveying & GIS Mapping



Who Should Attend

Interpretation, Processing, QC and Operations Geophysicists involved in survey planning, QC and management of geodetic data. Field Surveyors for understanding geodetic projections and datum shifts. Data Acquisition Engineers for resolving recorder & vibrator positioning problems. Field Geologists using GPS.

Overview

The course covers all aspects of geodetic surveying; geoid, ellipsoids, projection systems, datum shifts and vertical datum along with parameters for various projection systems used in Pakistan. Techniques for determination of datum shifts between surveys of different vintages. It also includes interactive survey planning, modeling, QC and management of navigation data to avoid errors in the model and field coordinates. Usage and limitations of Digital Elevations Models (DEM). Spatial interpolation techniques for elevation/topographic mapping. Real-time Kinematic GPS field procedures and post processing. GIS based base map generation along with geo-referenced satellite imagery. New tools for Geological Profile Mapping.

Course Contents

- Ellipsoids & Geodetic Projection Systems
- Geodetic Datums, Datum Shifts and their computations
- Digital Elevation Models and Elevation Interpolations
- RTK-GPS/DGPS, Conventional Theodolite Traverse & Real-Time GPS Mapping
- GIS Navigation and Vector Data Mapping & 3D View
- GIS Satellite Image Mapping and Geo-referencing
- Integration of Vector & Raster (Satellite Imagery) Layers
- Navigation Data Interpolation, Offset Shifts & other Geometric Tools
- Interactive Designing & Modeling: 2D Seismic Lines
- Interactively Modeling: 3D Seismic Survey Shot & Receiver Grids
- Quality Control: Inversion & Comparison of Field Navigation Data
- Navigation Data Formatting: DBO, SPS, SEG-P1, UKOOA