

## Self-Paced Workshop: Intermediate GIS I

### Course Objectives

This is an intermediate course on theories and application of GIS techniques for spatial analysis. Each student who successfully completes this course will have developed working knowledge and skills necessary to process GIS data and conduct simple spatial analysis. Students will be introduced to the concept of and will have hands-on experience with preparing data (including GPS) for GIS analysis, suitability analysis and damage assessment methodologies. This workshop assumes at least Beginner GIS knowledge. If you are not sure if you qualify, please read the Beginner GIS information to see if you are comfortable with those topics first.

### Self-Paced Workshop

This is a **self-paced** course, therefore the student is responsible for taking full advantage of the materials they will be sent (CD of data and PDF of Workbook). If a Certificate of Completion is desired, the student will be required to submit \*.jpgs of certain exercises in a timely manner to our staff as proof of progress. There is no lecture for this workshop and no meetings; everything is on your own using the materials provided.

### TOPICS COVERED

- **Essentials of Spatial Analysis: Review**
  - Adding xy data
  - Intro to GPS data in ArcGIS
  - Determining GPS Precision and Accuracy
  - Creating Subsurface Limestone formations maps from point data using IDW
  - Working with Fields
  - Simple Image Classification Using Spatial Analyst
  - Simple Heads-Up Digitizing
  - Point and Stream Mode Digitizing
  - Simple Heads Up Digitizing of Area Feature
  - Georeferencing Imagery
  - Generalizing and Cleaning Raster Data
  - Using Triangular Irregular Networks (TIN)
  - Create a DEM using IDW and Spline Interpolation
  - Cross Validation of Interpolated Surfaces
  - Draping an image over a terrain surface
  
- **Epidemiology Application**
  - Dissolve Features
  - Creating Graphs

- Clipping Layers
- Exporting Data
- Buffering Features
- Overlaying Layers
  
- **Suitable Location for a Business**
  - Assessing market areas
  - Merge and Mosaic market area
- **Map Algebra and Raster Analysis**
  - Using Map Algebra to find the best Location for Pine and Fir Reforestation
  - Use a neighborhood function to estimate the effect of Edge Effect on Land Cover Data
  - Using Cell Statistics to Detect Change in the Columbia River Estuary
  - Using Map Algebra to Find a Potential Reservoir

<i>What Is Unique About Self-Paced Workshops?</i>	
<b>Instructor-Led Workshop</b>	<b>Self-Paced Workshop</b>
On 9am-4pm schedule	On your schedule
On-site (USF St. Petersburg)	At your location of choice
Instructor available in class	Assistance available via email/phone
Certificate of Completion at end of course	Certificate of Completion at end of course upon submission of *.jpgs
Use lab computers with software and data pre-installed	Install data on your computer and 180-day trial version of ArcGIS (with extensions)

### **Contact Us**

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