

GIS Professional Development Course Outline

Course components:

Virtual Campus Courses (Provided by PVNET/ESRI)
Instructors and Support Staff (Provided by PVNET)
Software based tutorials and help files (Provided Online)
Technical documents (Provided by PVNET)
Knowledge base (Online)
Computer with Software (Provided by PVNET)
1GB Flash Drive (This does not leave premises)

Course Methodology:

This course begins with an orientation, and then moves immediately into the self-taught Virtual Campus Training Course. Because this course is designed to be self paced, some students will complete the modules more quickly. There are frequent group meetings and discussions, and project kick off sessions which provide the important on-the-job experiences. There are no classes or lectures. The instructor, staff, and mentors are present primarily to help, guide, and resolve problems encountered while completing the Virtual Campus courses or to answer questions not covered in the course instructions.

Upon completion of the required course, students will be given short projects to apply the skills acquired from each module. Note: modules may be repeated – there is no negative impact and it is not uncommon.

Required Course: Learning ArcGIS Desktop for ArcGIS 9.0-9.1)

Description: Introduction to basic use of ArcGIS software.

Average time to complete: 3-6 weeks @ 10 hours / week, depending on the individual

- Enables projects involving basic data editing and feature inventory.
- Enables creation of new shapefiles and feature classes.
- Modules:
 - o Getting Started with ArcGIS Desktop
 - Learn basic ArcGIS functions such as adding and removing data, accessing feature information, and ArcCatalog
 - o Creating Map Symbolology
 - Learn symbology functions such as single-symbol, category, and classified symbols.
 - o Module 3: Referencing Data to Real locations
 - Learn about coordinate systems, display units and data measurement.
 - o Module 4: Organizing Geographic Data
 - Learn about vector and raster data, geodatabases, and data management tools.
 - o Module 5: Creating and Editing Data
 - Learn about data editing – creating, moving, and deleting features in a feature dataset.
 - o Module 6: Getting Started with GIS Analysis
 - Learn about GIS analysis, attribute tables, and queries
 - o Module 7: Working with Geoprocessing and Modeling Tools
 - Learn about geoprocessing tools, creating, editing, and running models.
 - o Module 8: Designing Maps with ArcGIS
 - Learn about map layouts and templates.

At this point, the student will be given a project to apply the skills acquired from this course.

Basic Projects:

Upon completion of the Learning ArcGIS Desktop Course, you may continue on to basic digitization projects. Starting from a spreadsheet of feature locations or a paper map, you will create and edit a shapefile using basic feature editing tools.

Optional Courses:

Prerequisite: ArcGIS Desktop and 1 finished Basic Project

Course Title: Learning ArcGIS Spatial Analyst (For ArcGIS 9.0-9.1)

Description: Teaches about extensions and the Spatial Analyst Toolkit.

- Enables projects studying distances, densities, and basic terrain applications.
- Enables working with basic analysis rasters.
- Modules:
 - o Module 1: Getting Started with ArcGIS Spatial Analyst
 - Learn about processing environments and the Spatial Analyst toolkit.
 - o Module 2: Analyzing Surfaces
 - Learn about contours, hillshades, and other surface analysis rasters.
 - o Module 3: Working with Map Algebra
 - Learn about math-based analysis queries.
 - o Module 4: Interpolating Raster surfaces
 - Learn about raster creation through interpolation, using the IDW, Spline, and Kriging tools.
 - o Module 5: Mapping Distance and Density
 - Learn about distance and density analyses, including least-cost path analysis, direction, and allocation surfaces.
 - o Module 6: Use Cell, Neighborhood, and Zonal Statistics
 - Learn about comparing and describing statistics in rasters.

Course Title: Learning ArcIMS

Description: Learn to use the ArcIMS tool to create and maintain geographic Web Sites. Does not require any programming knowledge.

- Modules:
 - o Module 1: Introduction to ArcIMS
 - Basic introduction to ArcIMS software, applications, and help system.
 - o Module 2: Creating ArcIMS Maps
 - Introduction to the ArcIMS Author interface, map configuration files, and ArcXML.
 - o Module 3: Building ArcIMS Web Sites
 - Learn to create Image and Feature Services, viewer templates, and ArcIMS Designer.
 - o Module 4: Managing ArcIMS Web Sites
 - Learn about Spatial and Virtual Servers, ArcIMS Service Errors, and security issues.

Once the basic course is completed PVNET offers students courses in Global Positioning System (GPS).