



# Geospatial Technology Workshops

The Washington College GIS Program, part of the Center for Environment and Society, is offering a series of eight Geospatial Technology (GT) workshops. These workshops are designed to provide self-paced virtual instruction for working professionals who want to develop or expand their knowledge of ArcGIS Desktop, ENVI EX, or Trimble GPS. For a full description of each workshop please see the back of this page.

<b>GT 101</b>	Geographic Information Systems (GIS) Basics
<b>GT 102</b>	Introduction to ArcGIS Spatial and Information Analysis Tools
<b>GT 201</b>	Managing Spatial Data in ArcGIS
<b>GT 202</b>	Data Management in ArcGIS
<b>GT 301</b>	ArcGIS Spatial Analysis
<b>GT 302</b>	ArcGIS 3D Analysis
<b>GT 401</b>	Remote Sensing with ENVI EX
<b>GT 402</b>	Trimble GPS Processing

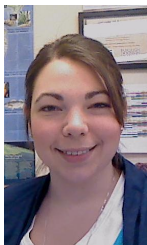
All workshops are available to anyone with an interest in Geospatial Technology at a cost of **\$800** per workshop. Sign up for two or more workshops and receive an additional 10% discount. Special discounts are available for group enrollment from a single employer or trade

Instructor led workshops are available for groups of 8 or more. Just ask for more information.

## GIS Professional (GISP)

### Certification

All of our Professional Development Workshops count towards the student activity hours needed to receive the GIS Professional (GISP) certification offered by the GIS Certification Institute (GISCI).  
<http://www.gisci.org/>



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## How it works

Each course is offered via self-paced online instruction, where the student can complete the workshop at a time that is convenient. The content of the workshop is hosted on a virtual learning environment which is accessible with an Internet connection. The material includes recorded video lectures, lecture power points and notes, various hands-on lab exercises, lab assignments, glossaries, quizzes, a final comprehensive project and other resources. Each workshop is scheduled to take 6-8 weeks and approximately 24 hours to complete. The student must satisfactorily complete the comprehensive final project to complete the workshop.

There is also the opportunity for instructor assistance via the use of an interactive web meeting program. This free web-based program allows the instructor to view your computer

## What you need

You will need to have access to a computer capable of running the ArcGIS Desktop 9.3 software. Currently all workshops are geared towards ArcGIS Desktop 9.3, but workshops for version 10 will be released later this year. Windows computers need a fast processor and more than 1GB of RAM. Macintosh computers must be capable of running a minimum of Windows XP in a dual boot mode. You will also need an internet connection faster than dial-up. Washington College will supply a one year student license of ArcGIS, including Spatial Analyst and 3D Analyst upon request. All data needed to support the workshops will also be provided.

A pre-workshop meeting will be held to ensure that you understand how the workshop runs and that you have the required software and data to successfully complete the workshop. Our mission is to ensure your success as a student.



# Geospatial Technology Workshops

## GT 101: Geographic Information Systems (GIS) Basics

This workshop covers the basics of GIS for the novice by exploring Google Earth and ArcGIS Desktop. You will learn the ArcMap and ArcCatalog interfaces as well as how to classify a map and make a professional map layout.

Topics covered: [What is GIS?](#), [Introduction to ArcMap](#), [Map Layouts](#), [Data Frame Properties](#), [Introduction to ArcCatalog](#), [Geodatabases](#), [Symbology](#), [Final Comprehensive Project](#)

## GT 102: Introduction to ArcGIS Spatial and Information Analysis Tools

Geoprocessing tools, projections, & other spatial query tools will be examined along with information fundamentals such as querying, joining, and relating, to allow you to create and modify tabular data.

Topics covered: [Introduction to ArcToolbox](#), [Geoprocessing](#), [Select by Location](#), [Projections](#), [Digitizing Basics](#), [Information Fundamentals](#), [Select by Attributes](#), [Joining & Relating](#), [Final Comprehensive Project](#)

## GT 201: Managing Spatial Data in ArcGIS

After learning more about geodatabases, this workshop will cover more complex spatial processing tools such as digitizing, georeferencing, spatial adjustment, and raster data manipulation.

Topics covered: [Advanced Geodatabases](#), [Digitizing I– Points, lines, and Polygons](#), [Digitizing II– Land Use & Land Cover](#), [Georeferencing](#), [Spatial Adjustment](#), [Density Mapping](#), [Working with Rasters](#), [Final Comprehensive Project](#)

## GT 202: Data Management in ArcGIS

In addition to discovering the fundamentals of geocoding, students will learn advanced data manipulation skills, including an notation and labeling, hyperlinking, and other advanced attribute tricks.

Topics covered: [Geocoding](#), [Hyperlinking](#), [Labeling & Annotation](#), [Customizing ArcGIS](#), [Advanced Classification](#), [Advanced Attributes & SQL Queries](#), [Final Comprehensive Project](#)

## GT 301: ArcGIS Spatial Analysis

The ArcGIS Spatial Analyst extension is the focus of this workshop. Students will learn the basics on how to deal with DEM's and create slopes and contours. More advanced analysis on density mapping, site suitability analysis and least cost path modeling are also taught.

Topics covered: [Introduction to Spatial Analyst](#), [Site Suitability Analysis](#), [Least Cost Path Analysis](#), [Final Comprehensive Project](#)

## GT 302: ArcGIS 3D Analysis

Using the ArcGIS 3D Analyst extension, the student will learn how to create 3D community visualizations, construct terrain modeling, and build a 3D model of a building. All of this will culminate in learning how to produce animated movies of the 3D environment.

Topics covered: [Introduction to 3D Analyst](#), [Google SketchUp](#), [Establishing your 3D World](#), [Terrain Modeling](#), [Creating 3D Animation](#), [Final Comprehensive Project](#)

## GT 401: Remote Sensing with ENVI EX

The field of remote sensing is introduced, focusing on basic multispectral analysis and step-by-step image analysis exercises. Exercises include image classification, rule based feature extraction, and image difference change detection.

Topics covered: [Introduction to Remote Sensing](#), [Principles of Remote Sensing](#), [Introduction to ENVI EX](#), [Image Classification](#), [Rule Based and Supervised Classification Based Feature Extraction](#), [Image Difference Change Detection](#), [Final Comprehensive Project](#)

## GT 402: Trimble GPS and Processing

This workshop focuses on obtaining useful & accurate data with Trimble GeoXt/XH GPS units, Pathfinder Office, and Terrasync. Skills covered include the basics of accurate GPS data collection, the application of real-time & post processed differential correction techniques, & creation of custom data dictionaries.

Topics covered: [GPS Introduction](#), [Garmin GPS](#), [Principles of Precision GPS](#), [Trimble GeoXT/GeoXH Basics](#), [TerraSync Data Collection](#), [Pathfinder Office Processing](#), [Pathfinder Office Data Dictionary](#), [TerraSync Navigation](#), [Final Comprehensive Project](#)

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