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Introduction to the ArcGIS Platform

Course Length: *5 days*
ArcGIS Version: *10.x*
App: *ArcMap, ArcGIS Online*
Portal, Collector, Survey123

Overview

The ArcGIS platform provides a powerful set of applications for spatial analysis, data management, and map production. This training program introduces participants to the desktop and online portions of the platform and teaches them how to create, manage and analyze maps and data using a Geographic Information System. The course also includes a day of field data collection with Collector for ArcGIS and a discussion of coordinates used in GIS. Participants will leave with a good foundation in ArcMap, Collector for ArcGIS, and ArcGIS Online applications, as well as an understanding of GIS data types, terminology, and basic workflows.

Audience

This program is designed for employees of organizations who are just getting in to the ArcGIS platform, who need a strong understanding of GIS, and need to know how to work with ArcGIS Desktop and ArcGIS Online.

Course Plan

- Day 1-2:   **Introduction to ArcGIS Online**
  -Exploring, creating and managing web maps
  -See full outline on the following pages
- Day 3:   **Introduction to GPS and Field Data Collection Tools**
  -Foundations of Global positioning systems
  -Using Collector and Navigator for ArcGIS
  -See full outline on the following pages
- Day 4-5:   **Fundamentals of ArcGIS Desktop**
  -Creating, querying, and analyzing data in ArcMap
  -See full outline on the following pages

Format

In-person instruction with hands-on practice and course materials (course workbook and data) you can keep.

Prerequisites and Recommendations

Students should have a knowledge of Microsoft Windows®. Students will need to bring their own mobile device with them for the GPS and Field Data Collection portion on day 3.

ArcGIS Online: Introduction to the ArcGIS Platform Part I

Overview

Within the wealth of products and services available in the ArcGIS family, Esri has created a cloud platform for sharing, publishing, and consuming GIS content, called ArcGIS Online. But what is it? Who can use it? How do you get it, and where do you start? This course will answer these questions and more, providing participants with a comprehensive overview of the functionality and uses of ArcGIS Online. In addition to the basics, this course will touch on topics relevant to the modern online business world, including data interoperability and best-practices and tips for managing and sharing your online content.

Audience

Those who want to learn how to utilize ArcGIS Online capabilities, create web maps, and manage online content. This course is the starting point for anyone wanting to get productive on the ArcGIS platform.

Topics Covered

Day 1 – The Online Platform and Web Maps

- **What is GIS?** – Understand the components, goals, and reasons so many professionals use GIS. Understand all of the pieces of the platform and how they fit together. (The Esri ArcGIS Platform; What is ArcGIS Online?; ArcGIS Online Functionality)
- **Working with ArcGIS Online** – Logging in to ArcGIS Online and navigating the site, as an individual and as part of an organization. (Your ArcGIS Online Subscription; The ArcGIS Online Web Interface; Using a Web Map)
- **Understanding GIS Data** – How does GIS handle location information? Learn the differences between shapefiles, feature classes, online services, and other common GIS data types. Discussion on using ArcGIS Online to manage data. (GIS Data Basics; GIS Data Types; Uploading to My Content)
- **Creating Web Maps** – Start making a simple web map, add your own data, add new features, and change the way it looks before sharing it with co-workers or the public. (Creating a Web Map; Display Properties; Editing Features; Saving, Sharing, and Printing)

Day 2 – Using Apps and Analyzing Data

- **Online Analysis with Web Maps** – Understanding the wealth of analysis tools available within the web map interface. (Online Analysis Tools; Finding Locations; Analyzing Attributes and Proximity; Data Management and Reference)
- **There's an App for That** – Web maps, web apps, web map templates, and web app templates – what does it all mean and how can you tell them apart? (Esri Apps; Ready-to-Use Apps; Configurable Apps; ArcGIS Marketplace)
- **Sharing Your Map as an App** – Using templates to turn your web maps into interactive web pages designed for non-GIS viewers. (Overview of Configurable Web Apps; Types of Templates; Creating a Web App)

Format

In-person instruction with hands-on practice and course materials you can keep.

Prerequisites and Recommendations

Attendees should have knowledge of Microsoft Windows®.

Field Data Collection: Introduction to the ArcGIS Platform Part II

Overview

Students learn to prepare, collect, and download their own GPS data using Esri's Collector for ArcGIS mobile application. The format of the course is lectures on GPS theory and the operation of the Collector app, and multiple field sessions to collect data. At the end of the course, students will be able to move data from ArcGIS Online to Collector, modify and add features in the field, then sync the data back into ArcGIS Online.

Audience

This course is for those who are already comfortable with ArcGIS Online and want to learn more about GPS and how to collect data using Collector for ArcGIS.

Topics Covered

Day 1

- Understanding Location – Basics of mapping and how coordinates function. Also an introduction to geographic and projected coordinate systems. (How do We Specify a Location?; Why are There Multiple Coordinate Systems for Mapping?)
- GPS Basics – Learn about how GPS works and what kinds of devices can use and interpret its data. (The Global Positioning System; Data Collection Devices)
- Collector for ArcGIS – A basic overview of the Collector app and how to collect data in the field. (What is Collector?; Working with Collector)
- Collecting Field Data – More in-depth look at the data collection process, including in-app tools and how to work with your data offline. Also, an overview of the kinds of data Collector can use. (Data Requirements; Map Tools; Collecting Data; Working Offline)
- Tips and Tricks – Some best-practices for designing a map intended for use in Collector, and some final reminders for collecting quality data in the field. (Map Design; Collecting Data)

Prerequisites and Recommendations

Students should have knowledge of Microsoft Windows® and be familiar with the basic use of ArcGIS Online, including the topics covered in the **ArcGIS Online: Introduction to the ArcGIS Platform Part I** class. Students need to bring their own mobile device to class and already be familiar with its operating system and basic operation.

ArcGIS Desktop: Introduction to the ArcGIS Platform Part III

Overview

GIS gives you an easy way to get access to the tremendous amounts of data available. At first glance, ArcGIS lets you see this data on a map. But underneath, the software has powerful tools for analyzing the data. With ArcGIS, you can quickly print a bubble map showing crime rates, evaluate parcel values across a city, plan a location to open a new branch of your business, or explore a site for potential environmental issues. This course helps you understand the types of data that ArcGIS supports, and how to manipulate the data. For example, you will learn how to connect to an Excel spreadsheet that has GPS location data in it. You will also learn how to create new data and modify existing datasets. This class is the first step in learning to incorporate this valuable application into your daily workflows.

Audience

Those who want to create maps and explore data in ArcGIS. This course gives new users of the ArcGIS Platform the skills needed to create maps, perform basic analysis, and do basic editing of GIS data in ArcGIS Desktop.

Topics Covered

Day 1

- **Introduction to GIS** – Understand the components, goals, and reasons so many professionals use GIS. (What is GIS?; Working in ArcMap)
- **ArcMap Basics** – Interact with the data in the map and understand ArcGIS terms. (Essential Tools)
- **Using Symbology to Analyze the Data** – Change the appearance of the map to communicate the right information effectively. (Symbolizing Vector Data; Symbolizing Raster Data; Image Analysis Window)
- **Designing Your Map for Presentation** – Design *.pdf and printed maps. (Data View and Layout View; Designing the Page; Adding Elements to Explain the Data; Exporting and Printing)
- **Managing GIS Data** – Understand the data behind the map, including the different types of data that can be used in a map, learn about how to find GIS data online, and how to document your data to make it useful to future users. (Finding Data; Accessing and Managing Data; GIS Data; Documenting Your Data)

- **Optimizing the Display of Your Data** – Emphasize patterns or trends in the data, filter schools by type, add text to the map, and save and re-use data display settings. (Layer Organization; Layer Properties; Layer Files)
- **Asking Questions of Your Data** – Ask questions of your data, such as, "Where are the hospitals with the most trauma patients?" and get answers like, "The average number of trauma patients in this area is…" (Selecting Features; Interactive Selection; Select by Attributes; Select by Location; Using the Selection)
- **Tables and Analysis** – View data tables in ArcMap. Start with an Excel spreadsheet of coordinates and end with a map of recent earthquake points. Learn how to buffer hurricane paths or clip out just the police stations from a specific county. (Working with Tables; Plotting Coordinates; Address Geocoding; Basic Geoprocessing)
- **From Desktop to Online** – How to share your ArcGIS maps onto the web and manage your content online. (Publishing Feature Services)
- **Editing** – Create your own GIS data and make changes to existing data. Also setting attribute rules for your datasets to ensure accuracy and maintain consistency. (Editing Workflow; Feature Construction Tools; Construction Methods; Tips and Tricks; Domains and Subtypes)

Format

In-person instruction with hands-on practice and course materials you can keep.

Prerequisites and Recommendations

Students should have knowledge of Microsoft Windows®. Students should have a working knowledge of ArcGIS Online (content covered in Introduction to the ArcGIS Platform Part I).