Capabilities & Workflows

General Training Guide

May 2018

Esri Training Courses

Overview

Because ArcGIS users have diverse educational backgrounds and workplace responsibilities, the courses below provide distinct entry points into the ArcGIS platform while also supporting a progressive approach to learning key workflows. Each course teaches knowledge and skills that will enable the staff member to move forward with ArcGIS per the capability needing to be addressed.

Instructor-led courses are typically 2-3 days in length, with a few exceptions. They may be conducted at an Esri training facility, through a virtual online classroom or held privately at a customer site. Private classes may also be followed up by a day of coaching to address the organization's specific learning requirements.
*See note regarding reschedules and cancellations at the bottom of this page.

To prepare for attending an Instructor-led online event, please view this video: Preparing to Attend Esri Instructor-led Training & for instruction on how to work with digital course materials: Using Esri's Digital Materials

Options for **self-paced e-Learning** through web courses and training seminars are also listed in this document. All Esri customers with a qualifying product that is current on maintenance have unlimited access to these courses.

Web courses include:

- Hands-on practice with ArcGIS (local access to ArcGIS software is often required)
- Demonstrations and interactive activities
- Conceptual material
- Course exams to assess learning
- Certificate of Completion

Training seminars are pre-recorded presentations that include software demonstrations on various solutions. Seminars are offered live on a regular basis. You can go to: Update My Esri Subscriptions to receive email notification on upcoming events.

Massive Open Online Courses (MOOCs) are free online classes that offer a convenient, effective, and fun way to keep up with the fast-paced developments in the ArcGIS platform. Classes are open day and night and require only a couple of hours of study per week. A certificate is available upon completion.

As this is not a complete list of all learning options available, please refer to our full course catalog: www.esri.com/coursecatalog

***Note: Esri cancellation policy for instructor-led courses**: Please provide written notification to Esri's Customer Service department at service@esri.com of any student transfer, cancellation, or substitution requests 4-5 business days (holidays excluded) before the scheduled start date of the class. Please see Esri Terms & Conditions for more information.

CONTENTS

Foundation **5**
Learn GIS Concepts 5
Learn ArcGIS Desktop Concepts 6
Learn ArcGIS Desktop Concepts – in ArcGIS Pro for GIS Professionals 7
Learn ArcGIS Platform Concepts - Introduction 8
Learn ArcGIS Platform/Industry Concepts - Public Safety 8
Learn ArcGIS Platform/Industry Concepts – for Water Utilities 9
Implement Your GIS – Management Perspective 9
Implement Your GIS – System Architecture Perspective 10
Data Collection & Management **11**
Learn the basics of Data Collection and Management 11
Building Geodatabases 11
Learn the basics of Data Collection and Management 12
Working with CAD Data 12
Convert and Combine Data 12
Collect Data in the Field 13
Create and Edit Data – Data on Desktop 14
Manage Enterprise Geodatabases 15
Create and Edit Data – Parcel Data 16
Manage GIS Project Workflows 17
Manage Data Quality 18
Maintain Data Integrity 19
Mapping & Visualization **20**
Learn the Basics 20
Design Maps 20
Find Maps and Layers 21
Tell Stories with Maps 21
Represent and Display Data 22
Perform Geodesign 23
Standardize Map Production 24
Spatial Analytics **26**
Learn the Basics of Spatial Analytics 26
Locate and Query 28
Perform Proximity Analysis 28
Find the Best Locations 29
Find the Best Paths 30
Detect and Quantify 31
Automate Workflows 31

Create and Analyze Surfaces 32
Model Water Resources 33
Perform Hazard Analysis 34
3D GIS 36
Learn the Basics of 3D GIS 36
Create 3D Models 36
Create and Visualize Data in 3D 37
Perform 3D Visibility Analysis 37
Imagery and Remote Sensing 38
Learn the Basics of Imagery and Remote Sensing 38
Manage Imagery 39
Process and Analyze Imagery 40
Collaboration and Sharing 41
Learn the Basics of Collaboration and Sharing 41
Share Maps, Layers and Scenes 43
Share Imagery 43
Configure and Manage for Collaboration and Sharing 44
Administer Web Security 45
Real-Time GIS 46
Monitor Operations 46
Developer 47
Learn the Basics available for Developers 47
Script and Automate 47
Build Desktop GIS Apps 48
Build Web GIS Apps 49
Certification 51
Learn about Certification Exams 51
Prepare for ArcGIS Desktop Certification Exams 51
Prepare for ArcGIS Developer Certification Exams 51
Prepare for ArcGIS Enterprise Certification Exams 51
Esri Massive Open Online Courses (MOOCs) for 2018 52
Do It Yourself GeoApps 52
Cartography 52
The Location Advantage 52
Earth Imagery at Work 52
Going Places with Spatial Analysis 52

LEARN GIS CONCEPTS

INTRODUCTION TO GIS USING ARCGIS

Instructor-led: 2 days

Learn fundamental concepts that underlie GIS technology and geographic data. In this course, you will gain experience working with GIS maps to visualize and explore real-world features; analyze data to answer questions and create new information; and share maps, data, and other resources so they can be easily accessed throughout your organization. This course is taught using ArcGIS Online.

This course is designed for: New Users

Learn how to:

- Identify appropriate data to support a mapping project.
- Create a map, add data to it, and symbolize map features to support the map's purpose.
- Share data, maps, and other content to an organizational portal.
- Perform spatial analysis to obtain information about map features within an area of interest

IF USING ARCMAP – THESE E-LEARNING ALTERNATIVES ARE AN OPTION TO LEARNING THE BASICS

E-Learning for GIS Concepts (Please take in this order)

- ☐ Getting Started with GIS - If you are curious about what the acronym "GIS" stands for and what a GIS is, this course provides the answers. You will be introduced to the basic components of a GIS and fundamental concepts (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.3 – 10.5 & ArcGIS Online*
- ☐ Referencing Data to Real-World Locations Using ArcGIS - This course introduces fundamental concepts of coordinate systems and explains why understanding these concepts is essential to creating accurate GIS maps and reliable analysis (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.1 – 10.5*
- ☐ Finding Geographic Data in ArcGIS - This course teaches how to get started defining your data needs and evaluating whether a given dataset matches those needs (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.3 – 10.5 & ArcGIS Online (.2 credits consumed)*
- ☐ Solving Spatial Problems Using ArcGIS - This course introduces a standard five-step approach to problem-solving using a GIS (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.1 – 10.5 (Basic, Standard or Advanced)*

For more in-depth knowledge, additional e-Learning is available:

- ☐ Basics of Map Projections - This course explores major categories of map projections and their properties (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.0 – 10.5 (Basic, Standard or Advanced)*

If taking ArcGIS 2: Essential Workflows after Introduction to GIS Using ArcGIS, it is recommended that you also take this web course in advance:

- ☐ Working with Coordinate Systems in ArcGIS - This course provides an in-depth look at coordinate systems and common challenges that arise when working with data stored in different coordinate systems (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.0 – 10.5 (Basic, Standard or Advanced)*

LEARN ARCGIS DESKTOP CONCEPTS

To further basic foundational knowledge in desktop, this class is the prerequisite for most all other advanced training and should be taken by any individual learning Desktop GIS:

ARCGIS 2: ESSENTIAL WORKFLOWS

Instructor-led: 3 days

In this course, you will acquire fundamental skills needed to author, share, and use geographic information and maps across the ArcGIS platform. You will learn how to efficiently find, explore, manage, and analyze geographic data and create informative maps that showcase your work. The course covers a variety of techniques to effectively share GIS maps and resources with decision makers, stakeholders, and the public.

This course is designed for: GIS professionals and others who have an introductory-level knowledge of GIS concepts and limited ArcGIS experience.

Learn how to:

- Use ArcGIS software and content to create high-quality maps that combine data from different sources.
- Organize, create, and edit geographic data so that it is accurate and up to date.
- Manage, symbolize, and label map layers to support visualization and data exploration.
- Design an attractive page layout for maps that will be printed.
- Apply a standard workflow to analyze GIS data and solve spatial problems.
- Share maps and analysis results so they are accessible on multiple platforms.

-or-

ARCGIS PRO: ESSENTIAL WORKFLOWS

Instructor-led: 3-days

In this course, you will explore ArcGIS Pro capabilities as you become comfortable working with this new desktop application. The course emphasizes common GIS workflows and best practices to map, manage, analyze, and share GIS data and resources. You will acquire the essential skills you need to be productive with ArcGIS Pro.

This course is designed for: Individuals with introductory-level knowledge of GIS concepts and limited ArcGIS experience

Learn how to:

- Combine data from different sources to create accurate, informative maps.
- Organize, create, and edit geographic data to keep it accurate and up to date.
- Symbolize map features to support 2D and 3D visualization.
- Design an attractive page layout for maps that will be printed.
- Analyze GIS data to solve spatial problems and create new information.
- Share maps, analysis results, and geoprocessing models so they are easily accessible to colleagues, decision makers, or the public.

LEARN ARCGIS DESKTOP CONCEPTS – IN ARCGIS PRO FOR GIS PROFESSIONALS

If you are familiar with ArcMap and need to learn how basic desktop activities are accomplished using ArcGIS Pro, this is the foundation class for you.

MIGRATING FROM ARCMAP TO ARCGIS PRO

Instructor-led: 2 days

This course introduces the essential ArcGIS Pro terminology you need to understand and prepares you to be productive right away. You will learn how to efficiently complete a variety of tasks related to mapping, editing, analyzing, and sharing data, maps, and other geospatial resources.

This course is designed for: Experienced ArcGIS Desktop Professionals

Learn how to:

- Create an ArcGIS Pro project and import map documents and 3D scenes.
- Create and modify map symbology and layouts.
- Import a geoprocessing model and identify potential migration issues.
- Share geospatial resources to an ArcGIS Online organizational site or on-premises ArcGIS portal.

E-Learning for ArcGIS Desktop Concepts – ArcGIS Pro

- ☐ Getting Started with ArcGIS Pro - This course introduces the ribbon-style interface, project-based organization, and key capabilities of ArcGIS Pro (Web Course) – *To complete exercises, you will need ArcGIS Pro 1.4, 2.0 or 2.1 & ArcGIS Online Organizational Account with User Role. Some optional exercise steps may require the 3D Analyst, the Geostatistical Analyst, or the Spatial Analyst extension.*
- ☐ Going Pro: ArcGIS Pro Essentials for ArcMap Users - You will learn essential ArcGIS Pro terminology and get familiar with the ribbon-based user interface. The presenters highlight key differences in mapping, editing, and geoprocessing workflows and demonstrate new and streamlined capabilities that will help you complete your GIS work more quickly and easily than ever before (Training Seminar) – *This seminar was developed ArcGIS Pro 1.4 Or ArcGIS Pro 2.0 (Basic, Standard, or Advanced)*
- ☐ Automating Workflows Using ArcGIS Pro Tasks - Create and share ArcGIS Pro tasks to save time, reduce errors, and ensure consistent results. Learn how to produce a standardized, step-by-step workflow that ArcGIS Pro users of all experience levels can efficiently complete (Web Course) – *To complete exercises, you will need ArcGIS Pro 1.3, 1.4 or ArcGIS Pro 2.0 (Basic, Standard or Advanced)*

LEARN ARCGIS PLATFORM CONCEPTS - INTRODUCTION

PUTTING ARCGIS TO USE ACROSS YOUR ORGANIZATION

Instructor-led: 3 days

Get a comprehensive introduction to ArcGIS platform components and capabilities. In this course, you explore ArcGIS apps used for mapping and visualization, data collection and management, spatial analytics, and collaboration and sharing. Discover how the ArcGIS platform helps organizations address common business challenges and apply location-based insights to streamline operations and improve decision making.

This course is designed for: New GIS Professionals needing to learn more about how the entire ArcGIS platform can work across the organization should attend this course. Other managers interested in leading GIS adoption throughout their agency/organization.

Learn how to:

- Map and analyze business data using ArcGIS apps and tools
- Create and share data, web maps, and web apps using ArcGIS portal
- Streamline field data collection workflows
- Configure web apps and dashboards to monitor field operations in real time

LEARN ARCGIS PLATFORM/INDUSTRY CONCEPTS - PUBLIC SAFETY

USING ARCGIS FOR PUBLIC SAFETY WORKFLOWS

Instructor-led: 2 days

This course introduces ArcGIS software and a geographic approach that complements and enhances typical public safety workflows. You will work with tools to map and visualize public safety data, identify patterns, create actionable information, and produce dynamic maps to effectively disseminate that information. This course uses realistic public safety scenarios.

This course is designed for: Emergency management, law enforcement, fire and rescue, and emergency call taking and dispatch professionals who have minimal experience with GIS and ArcGIS for Desktop (ArcMap) software

Learn how to:

- Organize data and prepare it to be mapped.
- Accurately display data stored in tables and spreadsheets as features on a map.
- Create queries to quickly visualize trends and patterns that may be present in your data.
- Edit GIS data to ensure responders, decision makers, and stakeholders have access to up-to-date data.
- Apply spatial analysis techniques to derive new information from your data.
- Create a map to visualize and share public safety information.

LEARN ARCGIS PLATFORM/INDUSTRY CONCEPTS – FOR WATER UTILITIES

USING ARCGIS FOR WATER UTILITY WORKFLOWS

Instructor-led: 2 days

Learn how to take advantage of the complete ArcGIS platform to support water utility operations. The course covers recommended workflows and focused solutions that will help your organization efficiently manage water utility assets, streamline field data collection, and deliver better customer service. This course assumes familiarity with water utility terminology.

This course is designed for: GIS analysts, specialists, technicians, and others who work for water, wastewater, or storm water utilities.

Learn how to:

- Find ArcGIS water utility solutions that support common workflows and business needs.
- Create and edit features to maintain the accuracy of your network data.
- Analyze network flow to identify breaks, leaks, and other network disruptions.
- Create and publish a web map to support efficient hydrant inspections.
- Configure a dashboard view for field managers to monitor inspections in real time.
- Share data, maps, and apps to disseminate information within your organization and to the public.

IMPLEMENT YOUR GIS – MANAGEMENT PERSPECTIVE

EXPLORING ENTERPRISE GIS: A WORKSHOP FOR LEADERS

Instructor-led: ½ day

Get the key information you need to understand how your organization can deploy an enterprise GIS on the ArcGIS platform to full advantage. The instructor will discuss common business patterns that drive GIS adoption and the ArcGIS platform capabilities that yield strategic insights and better decision making. Examples of how organizations achieve value through enterprise utilization of ArcGIS tools, content, and workflows are presented.

This course is designed for: C-level executives (CIOs, CGOs, and CTOs), IT and GIS managers, system architects, and decision makers in business, government, education, and nonprofit organizations will learn about how GIS can apply in your business.

Learn how to:

- Identify common GIS patterns of use that apply to your organization.
- Identify specific ways your organization could benefit from insights produced by spatial analysis.
- Evaluate the use cases for deploying ArcGIS components independently and integrated into enterprise infrastructure.
- Identify potential opportunities to use ArcGIS capabilities in new ways to advance your strategy.

IMPLEMENT YOUR GIS – SYSTEM ARCHITECTURE PERSPECTIVE

System architecture design is a discipline that requires a clear understanding of business needs, user workflow requirements (business processes), GIS software technology patterns, software performance, data architecture patterns, network communications, GIS solution architecture, information security, and hardware platform performance. An Enterprise GIS design must consider business needs and the technical architecture required to meet user performance expectations. This course is recommended for anyone responsible for implementing GIS at their organization. There is an accompanying wiki site that is also highly recommended: System Design Strategies Wiki

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SYSTEM ARCHITECTURE DESIGN STRATEGIES

Instructor-led: 3 days

Learn GIS system architecture design strategies and infrastructure architecture patterns that support successful enterprise operations. This course presents best practices and comprehensive guidelines to plan and select the system solution that best meets your organization's needs. Performance validation and system capacity-planning techniques for enterprise GIS deployments are covered. Note: The course focuses on ArcGIS 10.5 software components and technology. Most course concepts also apply to ArcGIS 10.3 and 10.4.

This course is designed for:

Senior architecture consultants and solution architects who need to increase their knowledge of enterprise GIS system design; GIS managers, project managers, and software developers who need to understand system architecture and hardware capacity-planning criteria; IT system administrators and analysts who need to understand, identify, and troubleshoot performance problems with existing GIS operations

Learn how to:

- Define user workflow requirements and the software deployment patterns that support those requirements.
- Recognize system design factors that impact GIS software performance and scalability.
- Incorporate security best practices throughout system design and deployment.
- Identify a target IT platform and network solution that satisfies your peak system performance needs.

DATA COLLECTION & MANAGEMENT

The following classes are outlined to learn more about working with geodata formats. Initially, it is important to understand the components of a geodatabase and how the data is organized to make the best decisions for creating, editing and accessing data within the organization. If data is going to be used in a multi-user environment, it may also be necessary to train an administrator of the geodata. See Manage Enterprise Geodatabase.

LEARN THE BASICS OF DATA COLLECTION AND MANAGEMENT BUILDING GEODATABASES

MANAGING GEOSPATIAL DATA IN ARCGIS

Instructor-led: 2 days

This course takes you on an in-depth exploration of the geodatabase, the native data storage format for ArcGIS software. Best practices to create a geodatabase to centrally store and efficiently manage your organization's authoritative geospatial data are covered. You will develop skills needed to configure unique geodatabase features that ensure data integrity and accuracy over time and a thorough understanding of file and enterprise geodatabase capabilities.

This course is designed for:

GIS data managers, analysts, specialists, technicians, database administrators, and others who manage and maintain data stored in a geodatabase and GIS managers who need to understand the capabilities of the geodatabase

Learn how to:

- Create a geodatabase, explore schema options, and evaluate appropriate data models.
- Add data to a geodatabase, edit feature geometry and attributes, and create a mosaic dataset to store and disseminate imagery.
- Define data rules and relationships to simplify data editing and ensure data integrity.
- Configure access to an enterprise geodatabase and create a versioned feature class to allow multiple concurrent editors.

E-Learning in Learning Basic Data Collection and Management

- ☐ Getting Started with the Geodatabase - This course introduces the structure and basic functionality of the geodatabase, the native data storage format for ArcGIS (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.3, 10.4, or 10.5 (Basic, Standard or Advanced) – Note: One exercise requires the use of Standard or Advanced license of ArcGIS – OR you may use ArcGIS Pro 2.0 (Basic, Standard or Advanced)*
- ☐ Migrating to the ArcGIS for Local Government Information Model - This course teaches how to identify ArcGIS for Local Government maps and apps that meet your organization's business needs and migrate your existing data to the LGIM so that you can take advantage of those resources (Web Course) - *To complete exercises, you will need ArcGIS Desktop 10.2 – 10.3 (Advanced), Data Interoperability for Desktop & MS Office 2010 or 2013.*

LEARN THE BASICS OF DATA COLLECTION AND MANAGEMENT WORKING WITH CAD DATA

WORKING WITH CAD DATA IN ARCGIS FOR DESKTOP

Instructor-led: 1 day

Like GIS data, CAD data is commonly used in design, engineering, and planning workflows. In this course, you will learn how to efficiently display CAD data with GIS layers in ArcGIS, use CAD data directly in ArcGIS geoprocessing and analysis operations, and import CAD data into a geodatabase. Techniques and best practices for data conversion to support integrated CAD/GIS workflows are covered.

This course is designed for: GIS specialists, technicians, data managers, and other experienced ArcGIS users who need to work with CAD data in ArcGIS and experienced CAD users who have basic ArcGIS skills

Learn how to:

- Accurately display and symbolize CAD data in ArcMap.
- Convert a CAD feature class to a geodatabase feature class.
- Prepare geodatabase feature classes for export to a complex CAD drawing file that contains attributed CAD entities.
- Automate common CAD workflows

E-Learning for basic data collection and management with CAD Data

- ☐ Simplify CAD-GIS Workflows Using ArcGIS for AutoCAD - With ArcGIS for AutoCAD, AutoCAD users can access maps and data from ArcGIS software for use in computer-aided design (CAD) drawings. This free application makes it simple for AutoCAD users to find, create, and edit content stored in ArcGIS. In this seminar, the presenters show how to easily create data, edit ArcGIS enterprise geodatabases, and leverage ArcGIS web services—without ever leaving the AutoCAD environment (Training Seminar) – *This seminar was developed to support Desktop 10.4; ArcGIS Pro 1.2; ArcGIS Server 10.4 Workgroup; ArcGIS Online and ArcGIS for AutoCAD.*

CONVERT AND COMBINE DATA

E-Learning to help eliminate barriers to data use and distribution (ArcGIS Data Interoperability)

- ☐ Transforming Data Using Extract, Transform, and Load Processes - This course teaches how to view, import, transform, and export data stored in a variety of formats (Web Course) **-** *To complete exercises, you will need ArcGIS Desktop 10.4 -10.5 and ArcGIS Data Interoperability for Desktop.*
- ☐ Controlling Data Translations Using Extract, Transform, and Load Processes - You will learn how to use a variety of translation control parameters, translate multiple datasets, and easily change the coordinate system of your data to match your project needs (Web Course) **-** *To complete exercises, you will need ArcGIS Desktop 10.3 – 10.5 and ArcGIS Data Interoperability for Desktop.*
- ☐ Integrating Data in ArcGIS Pro - In this course, you will learn about some common types of data used for GIS mapping and analysis, and practice adding data to a file geodatabase to support a planned project (Web Course) – *To complete exercises, you will need ArcGIS Pro 1.3 – 2.0; ArcGIS Online Organizational Account with User Role permissions.*

COLLECT DATA IN THE FIELD

FIELD DATA COLLECTION AND MANAGEMENT USING ARCGIS

Instructor-led: 2 days

Learn how ArcGIS supports a complete field data management workflow—from the office to the field, in the field, and back to the office. You will learn best practices to configure and deploy ArcGIS field-productivity apps to meet your data-collection needs. You will have the opportunity to use your own iOS or Android device to complete some course exercises.

This course is designed for: GIS Professionals and GIS Managers needing to understand best practices for deploying field apps.

Learn how to:

- Be productive with ArcGIS Pro 2.0; ArcGIS Online; Collector for ArcGIS (Android/iOS); Navigator for ArcGIS, Operations Dashboard for ArcGIS; Workforce for ArcGIS and Survey123 for ArcGIS.
- Create a web app to collect requests and generate work assignments.
- Efficiently manage field workforce assignments and monitor field data collection in real time.
- Create and configure a web map for map-based data collection and surveys for form-based data collection.
- Create a navigation map that includes custom asset data.

E-Learning offered for collecting data in the field

- ☐ Survey123 for ArcGIS: Get Started with Online Surveys - This seminar walks you through the steps to quickly design intuitive forms on the web using Survey123 for ArcGIS and an ArcGIS Online organizational account (Training Seminar) – April 26, 2018 – *This seminar was developed to support ArcGIS Online and Survey123 for ArcGIS.*
- ☐ Survey123 for ArcGIS: Collect Field Data with Smart Forms - This seminar introduces Survey123 for ArcGIS and shows how to deploy simple and logic-driven form-based surveys (Training Seminar) – December 15, 2016 – *This seminar was developed to support Survey123 for ArcGIS.*
- ☐ Survey123 for ArcGIS: Author a Survey on the Web - Author forms for field data collection with Survey123 for ArcGIS. In this course, you will gain the skills to create, share and analyze surveys on the Web. Learn design best practices and how to deploy your surveys to a mobile device (Web course) – *ArcGIS requirements: To use a form in Survey123, you must have an ArcGIS organizational account or Portal for ArcGIS. To create forms in Survey123, you must have user account with publishing permissions. ArcGIS Online and Portal for ArcGIS 10.3.1 and later are supported. Approximately 1-5 service credits may be consumed for this course.*
- ☐ Modernize Your Field Workflows Using Collector for ArcGIS - In this seminar, the presenters demonstrate how to deploy Collector on smartphones or tablets to streamline data collection and improve data quality. You will see how maps featuring intelligent, data-driven forms are used to collect data in the field with accuracy, even when Wi-Fi or cellular service is unavailable (Training Seminar) – *March 31, 2016 - This seminar was developed to support ArcGIS Online & Collector for ArcGIS 10.4 (Android, iOS, Windows).*
- ☐ Offline Data Collection Using Collector for ArcGIS – Learn to use Collector for ArcGIS to download maps to your smartphone or tablet and make updates to your geographic information systems (GIS) data without an Internet connection (Training Seminar) – April 17, 2014 - *This seminar was developed to support Collector for ArcGIS 10.2 (iOS & Android).*

- Navigator for ArcGIS: An Introduction - Learn how to use Navigator maps offline, work seamlessly with other ArcGIS field apps, and integrate with custom stop lists (Training Seminar) – October 18, 2016 - *This seminar was developed to support ArcGIS Online & Navigator for ArcGIS.*
- Navigator for ArcGIS: Creating Custom Navigation Maps - Navigator for ArcGIS uses your organization's authoritative GIS data. Learn how to route on your own roads, search your own assets, and view your own maps with turn-by-turn voice-guided directions (Training Seminar) – January 3, 2017 – *Designed to support ArcGIS Online, Navigator for ArcGIS, ArcGIS Pro.*
- Introduction to Workforce for ArcGIS - In this seminar, the presenters show how to get started using Workforce to improve field-office coordination and expedite field data collection workflows (Training Seminar) – August 25, 2016 – *This seminar was developed to support 10.4 – ArcGIS Online & Workforce for ArcGIS.*

CREATE AND EDIT DATA – DATA ON DESKTOP

EDITING DATA WITH ARCGIS FOR DESKTOP

Instructor-led: 2 days

To produce GIS maps and analysis results that support informed decision making, accurate data is essential. This course teaches methods for accurately creating and maintaining data stored in a geodatabase. You will learn a recommended workflow for data automation and practice with tools and techniques that help ensure data integrity during editing.

This course is designed for: GIS technicians, specialists, and other experienced ArcGIS users who need to create and maintain their organization's geographic data

Learn how to:

- Apply a standard editing workflow to manage updates to your GIS database.
- Efficiently create and edit feature geometry and attributes.
- Solve common data alignment issues.
- Maintain spatial relationships among features using topology.

-or-

CREATING AND EDITING DATA WITH ARCGIS PRO

Instructor-led: 2 days

This course teaches best practices to create accurate geographic data and maintain it over time. You will get ample hands-on practice with a variety of ArcGIS Pro tools that streamline the editing process and decrease the potential for errors when updating your GIS database.

This course is designed for: GIS technicians, specialists, and other experienced ArcGIS Pro users who need to create and maintain their organization's geographic data

Learn how to:

- Apply a standard editing workflow to manage updates to your geographic data.
- Configure ArcGIS Pro application and project settings to support efficient editing.
- Create, modify, and delete 2D and 3D features and attributes.
- Solve common data alignment issues and maintain spatial relationships among features when editing.

E-Learning for editing data

- ArcGIS Pro Editing Essentials – The presenters cover essential concepts to effectively manage your geospatial data using ArcGIS Pro in this seminar. They highlight new capabilities in ArcGIS Pro that will streamline your editing workflows (Training Seminar) – December 14, 2017 – *This seminar was developed to support the following: ArcGIS Pro 2.0 or ArcGIS Pro 2.1 (Basic, Standard or Advanced)*
- Editing Basics in ArcGIS Pro - Data must be kept up to date. You can use ArcGIS Pro to edit your data based on changes in the real world. This course shows you practical editing tools and workflows to keep your data accurate and current. (Web Course) – To complete the exercises, you will need ArcGIS Pro 2.1(Basic, Standard, or Advanced) and ArcGIS Online Organizational Account (User role or equivalent).

MANAGE ENTERPRISE GEODATABASES

Data Management is a key aspect of the ArcGIS Platform. With the following courses, you can learn to establish an enterprise-caliber, multiuser environment and provide seamless, organization-wide editing and use of geospatial data.

DEPLOYING AND MAINTAINING A MULTIUSER GEODATABASE

Instructor-led: 2 days

This course prepares you to successfully create a multiuser geodatabase to store and manage your organization's geographic data. You will learn about the multiuser geodatabase architecture, configuration options, and techniques to efficiently load data, assign user permissions, and maintain database performance over time. Course concepts apply to both enterprise and workgroup geodatabases. During course exercises, you may work with the RDBMS product that is relevant for your organization (Oracle, Microsoft SQL Server, or PostgreSQL).

This course is designed for: Spatial database administrators and GIS data managers who need to create, configure, and manage a multiuser geodatabase. Students should have experience managing a relational database management system.

Learn how to:

- Configure the multiuser geodatabase for your relational database management system.
- Create and connect to a multiuser geodatabase.
- Efficiently load and update data in a multiuser geodatabase.
- Configure storage settings to support your organization's data management workflows.
- Set up user roles and permissions to provide secure data access.
- Apply best practices to optimize geodatabase performance.

IMPLEMENTING VERSIONED WORKFLOWS IN A MULTIUSER GEODATABASE

Instructor-led: 3 days

A successful multiuser editing environment requires a sound versioning workflow that minimizes disruption to editors, ensures the integrity of GIS data, and integrates well with existing business workflows—all while maintaining optimal database performance. This course explores a variety of versioned editing workflows and examines how versioning decisions impact data accuracy and database performance.

This course is designed for: GIS database managers or administrators who need to set up and manage a multiuser editing environment.

Learn how to:

- Deploy a versioning workflow that meets your organization's needs.
- Efficiently load data into a versioned feature class.
- Manage multiple geodatabase versions.
- Monitor and maintain database performance in a versioned editing environment.

If you are planning on using any of the three types of geodatabase replication, check out/check in, one way, or two-way, this course will help you to design the process.

DISTRIBUTING DATA USING GEODATABASE REPLICATION

Instructor-led: 2 days

This course teaches how to plan for and implement geodatabase replication to support multiuser editing workflows and data sharing initiatives. You will learn best practices for protecting the integrity of your production database while meeting the needs of desktop, mobile, and online users.

This course is designed for: Database administrators, GIS data managers, and others who need to incorporate geodatabase replication into their organization's business and versioned editing workflows.

Learn how to:

- Determine the number and type of replicas needed to support your organization's GIS workflows and applications.
- Plan an efficient synchronization strategy for replicated data.
- Manage schema changes between replicas.
- Use a geodata service in a web application to create a replica and synchronize edits

E-Learning for Manage Enterprise Geodatabases

- ☐ Archiving Data in a Multiuser Geodatabase - This course teaches basic geodatabase archiving concepts that apply to data stored in a versioned multiuser geodatabase (Web Course) – *To complete the exercises, you will need ArcGIS for Desktop 10.1 – 10.5 as well as Microsoft SQL Server Express, which is licensed with ArcGIS for Desktop Standard and Advanced and is an optional part of the installation process.*

E-Learning for working with Metadata

- ☐ Creating and Editing Metadata in ArcGIS - This course discusses the different styles of metadata used in ArcGIS and the steps to create, update, and maintain metadata that meets individual project needs and organizational standards (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.4, 10.5 or 10.6 (Basic, Standard or Advanced)*

CREATE AND EDIT DATA – PARCEL DATA

EDITING AND MAINTAINING PARCELS USING ARCGIS

Instructor-led: 2 days

Learn techniques and best practices to efficiently store, edit, and ensure the accuracy of land-records data. Using the ArcGIS parcel fabric and Local Government Information Model, you will apply recommended workflows to perform and automate many common parcel-editing tasks.

This course is designed for: GIS technicians, parcel/data editors, tax mapping professionals, and others who maintain or manage land-records data will benefit from this course.

Learn how to:

- Enable automated editing workflows.
- Join new parcels to an existing parcel fabric, split and merge parcels, adjust boundary lines, create an easement and a new subdivision.
- Migrate data to the parcel fabric.
- Create a subdivision from CAD data.

MANAGE GIS PROJECT WORKFLOWS

To better manage GIS tasks and resources (ArcGIS Workflow Manager)

UNDERSTANDING ARCGIS WORKFLOW MANAGER

Instructor-led: 3 days

This course introduces you to the ArcGIS Workflow Manager extension and the importance of job management in your organization. You will learn how to use the tools included with ArcGIS Workflow Manager and how to configure the system to meet your business requirements.

This course is designed for: Managers and others who want to develop and enforce standard, repeatable GIS workflows within their organization using ArcGIS Workflow Manager.

Learn how to:

- Describe the architecture of ArcGIS Workflow Manager and available configuration options.
- Describe and set up the database and system tables.
- Query, create, assign, and locate jobs.
- Edit properties and attributes of jobs.
- Execute workflows and track job status and feature modification history.
- Understand how ArcGIS Workflow Manager integrates with other parts of the ArcGIS system.
- Understand and set up the ArcGIS Workflow Manager Security model.
- Model your business processes into ArcGIS Workflow Manager Workflows.
- Publish ArcGIS Workflow Manager Services and deploy web viewers.

E-Learning for managing GIS project workflows

- ☐ Simplify Data Management with ArcGIS Workflow Manager - ArcGIS Workflow Manager provides a framework to organize, centralize, and standardize project workflows. In this seminar, an Esri expert discusses functionality available in ArcGIS Pro. You'll learn how to create and execute a job as well as integrate ArcGIS Workflow Manager with other Esri apps (Training Seminar) – February 22, 2017 - *This seminar demonstrates ArcGIS Pro1.4, ArcGIS Enterprise 10.5, ArcGIS Workflow Manager for Desktop and Server.*

MANAGE DATA QUALITY

Automate, simplify, and improve data quality control management (ArcGIS Data Reviewer)

QUALITY CONTROL USING ARCGIS DATA REVIEWER FOR DESKTOP

Instructor-led: 2 days

ArcGIS Data Reviewer for Desktop is the quality-management extension for ArcGIS. This course teaches how to use ArcGIS Data Reviewer for Desktop to manage and automate the quality control review process. After exploring fundamental components of quality control, you will practice techniques to discover and document data quality requirements. You will gain hands-on experience configuring and running automated data checks, then performing a systematic visual review. Techniques to maintain a historical record of your quality-control review and methods for reporting your results are also covered.

This course is designed for: GIS technicians, spatial data managers, and project managers who need to oversee or perform data-quality checks using ArcGIS Data Reviewer for Desktop; and anyone using Esri Production Mapping, Esri Defense Mapping, or a stand-alone license of ArcGIS Data Reviewer for Desktop.

Learn how to:

- Document quality requirements.
- Automate data validation.
- Perform a systematic visual review.
- Centrally document and manage data issues.
- Report and share your quality-control results.
- Track the entire error lifecycle.

E-Learning for more on managing data quality

- ☐ **Assessing Data Quality using ArcGIS Data Reviewer** - Learn about how to reduce risk and increase confidence in decision making by ensuring data quality is transparent across your organization and to your customers (Training Seminar) – April 15, 2015 - *This seminar was developed supporting ArcGIS Desktop 10.3; ArcGIS Server 10.3 Workgroup; ArcGIS Data Reviewer for Desktop and Server.*
- ☐ **Data QC with ArcGIS: Automating Validation** - Learn about the three phases of the quality control life cycle and techniques to validate data consistently and efficiently (Web Course) - *To complete exercises, you will need ArcGIS Desktop V10.1 – V10.5 and Data Reviewer for Desktop.*
- ☐ **Data QC with ArcGIS: Visual Review** - In this course, you will learn visual review techniques to supplement automated data checks (Web Course) – *To complete exercise, you will need ArcGIS Desktop 10.3, 10.4 or 10.5 & Data Reviewer for Desktop.*
- ☐ **Evaluating Positional Accuracy Using ArcGIS Data Reviewer for Desktop** - This seminar introduces the ArcGIS Data Reviewer Positional Accuracy Assessment Tool (PAAT). You will learn how to perform an accuracy assessment and interpret the results (Training Seminar) – *November 19, 2015 - This seminar was developed to support ArcGIS for Desktop 10.3 and Data Reviewer for Desktop.*

MAINTAIN DATA INTEGRITY

Instructor-led Course(s) that will help you in understanding more around how to maintain data integrity

WORKING WITH GEOMETRIC NETWORKS FOR UTILITIES

Instructor-led: 1 day

This course teaches how to accurately model a utility network so that your organization can more efficiently manage network assets, quickly respond to network outages, and deliver better customer service. You will learn fundamental concepts of a geometric network and the workflow to create one. Working with realistic electric, gas, and water/wastewater data, you will create and edit geometric networks and perform common analysis tasks.

This course is designed for: Spatial data managers and GIS technicians who work in the electric, gas, or water/wastewater industries and anyone who needs to model and manage utilities data using geometric networks.

Learn how to:

- Model utilities features using a geometric network stored in a geodatabase.
- Create network rules, assign network weights, and validate network connectivity.
- Analyze flow along a geometric network.
- Update network features and create new rules as needed.

E-Learning for Utility Network

- ☐ Get to Know the ArcGIS Utility Network Management - ArcGIS Utility Network Management, a new extension for ArcGIS Enterprise, provides a rich model and powerful tools that electric, gas, and water utilities organizations are going to love. This seminar introduces key product capabilities related to data modeling, visualization, editing, and analysis (Training Seminar) – March 29, 2018 - *Designed to support ArcGIS Pro 2.1 and ArcGIS Enterprise 10.6 (Advanced).*

E-Learning for Maintaining Data Integrity

- ☐ Getting Started with Geodatabase Topology - This course teaches how to use topology to model and preserve the real-world spatial relationships inherent to your data, and, in so doing, help ensure the reliability of the information produced by your GIS database (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.0 - 10.5.*
- ☐ Working with Geodatabase Domains and Subtypes in ArcGIS - In this course, you will learn how you can use domains and subtypes to maximize editing efficiency and minimize potential for error (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.4, 10.5 or 10.6 (Basic, Standard or Advanced)*

MAPPING & VISUALIZATION

Maps help you spot spatial patterns in your data so you can make better decisions and see where you need to act. Maps also break down barriers and facilitate collaboration. ArcGIS helps you do all these with interactive, high-quality cartographic maps that you can easily create and share.

LEARN THE BASICS

DESIGNING MAPS WITH ARCGIS

Instructor-led: 2 days

This course teaches how to create maps that are easy to interpret and properly designed for their audience and delivery medium, with an emphasis on applying fundamental cartographic design principles. You will learn how to follow a standard cartographic workflow to efficiently produce high-quality maps for print and online use.

This course is designed for: Cartographers and GIS analysts, specialists, mapping technicians, and others who need to produce maps using ArcGIS software

Learn how to:

- Plan a cartographic project.
- Choose appropriate data to support cartographic needs.
- Create appropriate symbology, map elements, and layout designs for a given map project.
- Create labels and annotation that are easy to read by the map's intended audience.
- Produce attractive maps for print and web delivery.

E-Learning that addresses the basics of Cartography

- ☐ Getting Started with Cartographic Representations - This course teaches basic concepts of cartographic representations and shows how they can be used to optimize map production workflows and solve cartographic challenges (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.0 – 10.5 (Standard or Advanced)*
- ☐ Map Design Fundamentals - This course presents design principles you can apply to create visually appealing maps that are easy to use and understand. (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.4, 10.5 or 10.6 (Basic, Standard or Advanced)*
- ☐ Planning a Cartography Project - This course introduces a standard five-step workflow to plan, design, and efficiently produce high-quality maps that meet the needs of their intended audience (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.2 – 10.5 (Basic, Standard or Advanced)*

DESIGN MAPS

E-Learning for how to Design Maps

- ☐ Advanced Techniques for Cartographic Representations - This course teaches how to account for exceptions within representation rules to optimize cartographic display, improve map readability, and adapt feature symbology to meet specific mapping needs—while maintaining all the benefits of storing and managing feature symbology in the geodatabase (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.4, 10.5 or 10.6 (Advanced)*

- ☐ **Creating Map Products** - This course teaches cartographic techniques you can apply to create well-designed maps for online or print use. You will learn data preparation tips and symbology considerations for a web map, and how to configure map elements to create a cartographically correct layout for a printed map (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.2 – 10.5 (Basic, Standard or Advanced)*
- ☐ **Working with Annotation in ArcGIS** - This course covers the different types of annotation that are available and teaches techniques to create and update annotation to enhance your maps and make them more usable (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.0 – 10.5 (Basic – however Standard & Advanced for some exercises).*
- ☐ **Labeling Features Using ArcGIS Pro** - This course teaches how to increase the usability of your maps by adjusting Maplex Label Engine settings (Web Course) – *To complete exercises, you will need ArcGIS Pro 1.3 – 2.0 and ArcGIS Online Organizational Account with User Permissions.*

FIND MAPS AND LAYERS

E-Learning resources for finding maps and layers

- ☐ **Maps and More: Discover the Living Atlas of the World** - This seminar presents the wide variety of Living Atlas content and capabilities. You will learn how to use Living Atlas content to add context, gain insight, and enhance your ArcGIS maps and apps (Training Seminar) – *Developed to support ArcGIS Online.*
- ☐ **Get Started with ArcGIS Open Data** - In this seminar, the presenters show you how to enable the Open Data capabilities in your ArcGIS Online organization, create and configure an Open Data site, share data, and make the data easy to discover and explore (Training Seminar) - *Developed to support ArcGIS Online and Open Data 1.8.*

TELL STORIES WITH MAPS

CREATING STORY MAPS WITH ARCGIS

Instructor-led: 1 day

If your map could tell a story, what would it say? Thanks to their engaging user experience, story maps have achieved mass appeal as a vehicle to inform the public, engage stakeholders, and inspire an audience.

This course is designed for: This course—for anyone that wants to communicate with maps—teaches the concepts, best practices, and decisions that need to be made when creating and sharing a story map.

Learn how to:

- Choose an appropriate story map app for your purpose and audience.
- Identify the content needed for a story map.
- Add text, images, and other elements to create a story map.
- Apply best practices to share your story maps.

E-Learning resources for story maps

- ☐ **Inform and Engage Your Audience with Esri Story Maps** - This seminar guides you through the steps to create a story map using the right application template for your purpose and audience (Training Seminar) – *Developed using ArcGIS Online.*

REPRESENT AND DISPLAY DATA

E-Learning resources for representing and displaying data

- ☐ **Map Your Data with ArcGIS Maps for Office** - View your Microsoft Excel data on a map, see patterns, make comparisons, and understand the spatial dimensions of your business activity. This course shows how to use ArcGIS Maps for Office to map your Microsoft Excel data, perform spatial analysis, and share it with others (Web Course) – *To complete exercises, you will need an ArcGIS Online Organizational Account (Publisher Role) – Approximate Credit usage is 30 – ArcGIS Maps for Office 4.1 and MS Office 2010, 2013 or 2016.*
- ☐ **Displaying Data in ArcGIS Pro -** This course introduces ArcGIS Pro tools for assigning different types of symbols to features in a layer (Web Course) – *To complete exercises, you will need ArcGIS Pro 1.3, 2.0 or 2.1 and ArcGIS Organizational Account with User Role.*
- ☐ **Managing Map Layers in ArcGIS Pro** - This course introduces basic layer property settings you can manage to provide a simplified, focused user experience (Web Course) – *To complete exercises, you will need ArcGIS Pro 1.4, 2.0 or 2.1 & ArcGIS Online Organizational Account with User Role.*
- ☐ **Drawing Millions of Features in ArcGIS: Advanced Techniques** - Whether you are working in ArcMap or ArcGIS Pro or publishing an ArcGIS for Server map service, you will need effective techniques to efficiently render very large GIS datasets. You will learn the advantages of rendering your datasets in advance and on demand, and when to take each approach (Training Seminar) – February 18, 2016 - *Developed to support ArcGIS Desktop 10.3.1 – 10.4; ArcGIS Pro 1.1.1; ArcGIS Server 10.3.1 Workgroup, or ArcGIS Server 10.4 Workgroup.*
- ☐ **Enterprise 3D Mapping and More: Discover ArcGIS Earth** - Explore any part of the world as well as your own 3D and 2D data using ArcGIS Earth. In this seminar, the presenters demonstrate how to display and work with a variety of data formats in ArcGIS Earth, including KML (Training Seminar) *Developed using ArcGIS Earth 1.1.*
- ☐ **Create Data Visualizations Using Smart Mapping in ArcGIS** - Smart mapping takes the guesswork out of the process of creating attractive and relevant web maps. Presenters show how smart mapping helps maximize your data's potential by providing better default settings that fit its story (Training Seminar) – *Developed using ArcGIS Server 10.3.1 Workgroup & ArcGIS Online.*
- ☐ **Creating and Sharing Animation in ArcGIS Pro** - Use ArcGIS Pro to create animations that tell a story about your data. This course shows you how to animate and produce ready-to-share videos of your work (Web Course) – *To complete exercises, you will need ArcGIS Pro 1.3, 1.4 or 2.0 & ArcGIS Online Organizational Account.*
- ☐ **Creating Vector Tiles in ArcGIS Pro** - With ArcGIS Pro, it is easy to create and share fast vector tiles that can be used to design and create compelling web apps. Learn about vector tile functionality, the map authoring techniques used to create them, and end user software requirements (Web Course) - *To complete exercises, you will need ArcGIS Pro 1.4 & ArcGIS Online Organizational Account w/Publisher Role.*

PERFORM GEODESIGN

Bring all the steps of your planning workflow into one place and manage your planning process more efficiently (GeoPlanner).

E-Learning resources in GeoPlanner

- ☐ **Introduction to Green Infrastructure** - Green infrastructure is a strategically planned and managed network of open spaces, natural lands, wildlife habitats, parks, and other assets. This course will get you started with one of three green infrastructure apps and teach you basic questions to consider when beginning the design process. (Web Course) – *To complete exercises, you will need an ArcGIS Online Organizational Account - User Role.*
- ☐ **Building the Foundation for Green Infrastructure Planning** - This course will get you started with two green infrastructure apps. You will learn how to select and prioritize local habitat cores per your project goals (Web Course) – *To complete exercises, you will need an ArcGIS Online Organizational Account - Publisher Role.*
- ☐ **GeoPlanner for ArcGIS: Exploring the Green Infrastructure in Your Study Area** - This course will get you started using GeoPlanner to consider green infrastructure in your design. You will learn how to use tools to enrich your green infrastructure assets for well-informed planning (Web Course) *–It is recommended that you complete Introduction to Green Infrastructure and Building the Foundation for Green Infrastructure Planning, or have equivalent knowledge before you begin this course. To complete exercises, you will need an ArcGIS Online Organizational Account - Publisher Role (you will consume approx 3.5 credits); and GeoPlanner for ArcGIS.*
- ☐ **GeoPlanner for ArcGIS: Designing with Real-Time Feedback** - This course will get you started using tools to create a comprehensive data-driven plan to meet your design goals (Web Course) - *It is recommended that you complete GeoPlanner for ArcGIS: Exploring the Green Infrastructure in Your Study Area - To complete exercises, you will need an ArcGIS Online Organizational Account - Publisher Role and GeoPlanner for ArcGIS.*
- ☐ **GeoPlanner for ArcGIS: Evaluating Plans -** This course will get you started with using GeoPlanner for ArcGIS to compare scenarios against key performance indicators. You will learn how to use GeoPlanner for ArcGIS to share your design with ArcGIS Online stakeholders, and other decision makers. (Web Course) – *It is recommended that you complete GeoPlanner for ArcGIS: Designing with Real-Time Feedback and GeoPlanner for ArcGIS: Exploring the Green Infrastructure in Your Study Area. – To complete exercises, you need ArcGIS Online Organizational Account – Publisher Role and GeoPlanner for ArcGIS*

STANDARDIZE MAP PRODUCTION

Improve the quality and value of your geospatial output through standardization, repeatability, and configuration of your production processes. (Esri Production Mapping)

INTRODUCTION TO ESRI PRODUCTION MAPPING

Instructor-led: 5 days

In this course, you will acquire the necessary skills to use and configure Esri Production Mapping. The course covers how to enhance productivity by standardizing feature collection, editing, and data management. You will learn how to use ArcGIS Data Reviewer for Desktop to find, track, and correct spatial and attribute errors in GIS data.

This course is designed for: GIS specialists, technicians, spatial data managers, project managers, and others who need to manage and publish accurate data and cartographic products using standardized and repeatable workflows can all benefit from this course.

Learn how to:

- Extend and configure geodatabase validation with the product library.
- Efficiently load data using the Data Loader.
- Perform automated and visual data validation checks using ArcGIS Data Reviewer for Desktop.
- Configure and use templates to create standard cartographic products.
- Store, access, manage and configure the product library for cartographic production.
- Streamline workflows using ArcGIS Workflow Manager.

DATA EDITING WITH ESRI PRODUCTION MAPPING

Instructor-led: 2 days

Learn how to increase your data-production efficiency and maintain high quality standards using Esri Production Mapping, an extension to ArcGIS for Desktop. Working with data in a geodatabase, you will learn how to use Esri Production Mapping's editing tools to extract new features and maintain existing features to a specification. This course explains the use of Esri Production Mapping to edit features and gets you familiar with the configuration tasks needed for implementation.

This course is designed for: GIS technicians, spatial data managers, and project managers who are responsible for updating and maintaining data to a standard using Esri Production Mapping

Learn how to:

- Use the tools in Esri Production Mapping to extend ArcGIS for Desktop editing workflows.
- Configure and utilize the Product Library to enhance geodatabase validation.
- Batch-load data into a production database.
- Streamline ArcGIS for Desktop workflows using Task Assistant Manager.

CARTOGRAPHY WITH ESRI PRODUCTION MAPPING

Instructor-led: 2 days

Esri Production Mapping, an extension to ArcGIS for Desktop, provides cartographic tools for managing map products; creating high-quality, high-volume map products; and generating reference grids based on product specifications.

This course is designed for: GIS technicians, spatial data managers, and project managers who need to create cartographic products using Esri Production Mapping

Learn how to:

- Manage cartographic production with the Product Library.
- Symbolize data using Views and the Visual Specifications tool.
- Edit cartographic features using representations.
- Create and manage layouts and elements such as dynamic tables.
- Print, publish, and export cartographic products.

SPATIAL ANALYTICS

Spatial analysis is how we understand our world—mapping where things are, how they relate, what it all means, and what actions to take. From computational analysis of geographic patterns to finding optimum routes, site selection, and advanced predictive modeling, spatial analysis is at the very heart of geographic information system (GIS) technology.

LEARN THE BASICS OF SPATIAL ANALYTICS

ARCGIS 3: PERFORMING ANALYSIS

Instructor-led: 2 days

This course teaches a standard workflow you can apply to any GIS analysis. Every analysis begins with a question and has criteria that must be considered. You will learn how the analysis question and criteria drive decisions about what data and tools will generate reliable information. Working with a variety of data and ArcGIS tools, you will perform different types of analyses to efficiently solve spatial problems. This course is taught using ArcGIS for Desktop Advanced and some course exercises use tools provided in the ArcGIS Spatial Analyst extension.

This course is designed for: GIS analysts, specialists, and others who manage or conduct GIS analysis projects.

Learn how to:

- Choose appropriate data, methods, and tools to plan, execute, and document a given analysis project.
- Automate analysis tasks using geoprocessing models.
- Create a weighted suitability model to select the optimal location for a new site.
- Apply spatial statistics to examine distribution patterns and identify hot spots.
- Model temporal data to analyze and visualize change over time.
- Share analysis workflows and results so they are accessible and repeatable.

-or-

SPATIAL ANALYSIS WITH ARCGIS PRO

Instructor-led: 3 days

Learn essential concepts and a standard workflow you can apply to any spatial analysis project. You will work with a variety of ArcGIS tools to explore, analyze, and produce reliable information from data. Course exercises use an Advanced license of ArcGIS Pro and ArcGIS 3D Analyst, ArcGIS Spatial Analyst, and ArcGIS Geostatistical Analyst.

This course is designed for: GIS analysts and GIS Technical Leads, and others who manage or conduct GIS analysis projects.

Learn how to:

- Prepare data and choose appropriate tools and settings for analysis
- Examine features and distribution patterns within an area of interest and identify optimal locations using 2D and 3D analysis tools
- Quantify spatial patterns using spatial statistics and analyze change over time to identify emerging hot spots.
- Use interpolation and regression analysis to explain why patterns occur and predict how patterns will change.

Use the Science of Where poster for Spatial Analytics: The Language of Spatial Analytics

GET STARTED WITH INSIGHTS FOR ARCGIS

Instructor-led, 1 day

Discover Drag-and-Drop Data Discovery and Analytics

This course prepares you to work with Insights for ArcGIS to dynamically visualize and analyze data from multiple sources on maps, charts, tables, and more. You will learn how to define a workflow to investigate a spatial problem, iteratively apply analysis and spatial statistics tools, and share your insights across the enterprise. – Esri will provide access to ArcGIS Enterprise (10.5 Standard or Advanced) and Insights for ArcGIS to be used during class.

This course is designed for: Analyst, Technical Lead or GIS Managers – looking to analyze data from many viewpoints.

Learn how to:

- Connect data to sources and prepare for analysis
- Visualize, interact and analyze multiple data sets.
- Share analysis results and workflow models.

Access the e-Book from Esri Website: **5 tips to Jumpstart your Spatial Analytics**

ARCGIS ANALYSIS WORKFLOWS FOR PUBLIC SAFETY

Instructor-led: 2 days

Explore realistic scenarios as you learn a standard analysis workflow that will provide deeper insight into how location impacts public safety incidents, trends, and operations. Working primarily with ArcGIS Pro, you will explore tools and techniques to visualize and quantify public safety data, then share your analysis results using easy-to-understand maps and apps. This course is ideal for crime analysts and other public safety professionals in law enforcement, homeland security, emergency management, and related fields.

This course is designed for: GIS Analyst and GIS Technical Leads

Learn how to:

- Evaluate and prepare data from a variety of sources to support an analysis project.
- Apply spatial statistics tools to identify patterns, hot spots, and clusters.
- Apply analytical techniques to predict behavior and impact of public safety phenomena.
- Share analysis results with decision makers and stakeholders.

E-Learning courses for more information about deriving answers from your data using advanced spatial analysis (ArcGIS Spatial Analyst)

- ☐ **Gain Geographic Insight with ArcGIS Online Analysis Tools** - This seminar introduces the new spatial analysis capabilities included with ArcGIS Online (Training Seminar) – *This was developed to support ArcGIS Online.*
- ☐ **Spatial Analysis with ArcGIS Online** - The presenters provide you with an overview of the spatial analysis capabilities of ArcGIS Online. You also learn about the benefits of using these analysis tools, and how to choose the right approach to solve spatial problems (Training Seminar) – *This was developed to support ArcGIS Online.*
- ☐ **Preparing to Perform Analysis Using ArcGIS Pro** - This course gets you started using ArcGIS geoprocessing tools that support spatial analysis projects (Web Course) – *To complete exercises, you will need ArcGIS Pro 1.3, 1.4 or 2.0 and an ArcGIS Online Organizational account – user role or equivalent.*
- ☐ **Introduction to ArcGIS Maps for Power BI** -Learn to use maps to make your Power BI reports and dashboards even better. The presenter will show you how to visualize tabular data on a map and use advanced tools to make better decisions (Training Seminar) – *Basic understanding of creating and working with Power BI reports is recommended.*

LOCATE AND QUERY

E-Learning to help locate and query data

- ☐ Querying Data Using ArcGIS Pro - This course introduces the building blocks of a query expression and shows how to assemble those blocks to quickly select features that meet one or more attribute criteria (Web Course) - *To complete the exercises, you will need ArcGIS Pro 1.3, 1.4 or 2.0 and an ArcGIS Online Organizational account – user role or equivalent.*
- ☐ Address Geocoding with ArcGIS - This course teaches the workflow to efficiently create geographic features from tabular address data (Web Course) - *To complete the exercises, you will need ArcGIS 10.3, 10.4, 10.5 or 10.6 (Basic, Standard or Advanced)*

PERFORM PROXIMITY ANALYSIS

E-Learning for more about proximity analysis

- ☐ Distance Analysis Using ArcGIS - This course teaches how to use ArcGIS Spatial Analyst tools to create raster surfaces that identify the shortest, straight-line distance between locations as well as cost-effective paths that reflect specific criteria important to your project success (Web Course) - *To complete the exercises you will need ArcGIS Desktop 10.0 – 10.5 and ArcGIS Spatial Analyst.*
- ☐ Distance Analysis Using ArcGIS Pro - This course teaches how to create raster surfaces that identify the shortest, straight-line distance between locations as well as cost-effective paths that take into account specific project criteria and constraints. (Web Course) - *To complete the exercises, you will need ArcGIS Pro 1.3 – 2.0; ArcGIS Spatial Analyst & ArcGIS Online Organizational account – User Role or equivalent.*
- ☐ Finding the Closest Facilities Using ArcGIS Pro - Discover the fastest way to get from here to there with ArcGIS Network Analyst. In this course, you'll learn how to find the most efficient routes between incidents and facilities (Web Course) – *To complete the exercises, you will need ArcGIS Pro 1.3 – 2.0; ArcGIS Network Analyst & ArcGIS Online Organizational account – User Role or equivalent.*
- ☐ Generating Service Areas Using ArcGIS Pro - Learn how to create data that supports informed decisions on resource allocation and facility siting. This course focuses on how to use ArcGIS Network Analyst and existing network data to easily create service areas—areas within a certain distance or travel time of a facility (Web Course) – *To complete the exercises, you will need ArcGIS Pro 1.3, 1.4 or 2.0 & ArcGIS Network Analyst.*

FIND THE BEST LOCATIONS

E-Learning for Business Analyst

- ☐ **Introduction to ArcGIS Business Analyst** - ArcGIS Business Analyst helps you answer business questions and find patterns and trends. This course shows you how to work with data in projects and perform simple analysis using maps and reports (Web Course) – *To complete these exercises, you will need ArcGIS Desktop; ArcGIS Online Organizational Account (Publisher role or equivalent), Esri Business Analyst Desktop 10.4 or 10.5 and ArcGIS Business Analyst Web App.*
- ☐ **Creating Data Layers for an ArcGIS Business Analyst Project** - Business Analyst is a powerful tool, but as with all software, the suitability of your data is critical. This course provides the resources to help you best apply your business data (Web Course) – *To complete these exercises, you will need ArcGIS Desktop; ArcGIS Online Organizational Account (Publisher role or equivalent), Esri Business Analyst Desktop 10.4 or 10.5 or ArcGIS Business Analyst Web App. This course can be taken by customers with access to either Business Analyst Desktop or Business Analyst Web App.*
- ☐ **Analyze Markets Using ArcGIS Business Analyst** - ArcGIS Business Analyst helps you learn more about consumers and markets to improve your business, within a region or area. This course shows you how to perform market analysis and segmentation to answer questions and formulate strategies. (Web Course) - *To complete these exercises, access to either ArcGIS Business Analyst Desktop or ArcGIS Business Analyst Web App. For students with ArcGIS Business Analyst Desktop, the Standard data license is required. Approx. 10-20 credits will be consumed.*
- ☐ **Site Analysis Using ArcGIS Business Analyst** - Regardless of industry or business sector, site analysis is essential for fact-based insight and informed decision-making. This course will cover the foundational principles regarding site analysis. (Web Course) - *To complete these exercises, you will need ArcGIS Desktop 10.4 and 10.5 (Basic, Standard, Advanced), Esri Business Analyst Desktop, or Business Analyst Web App, and ArcGIS Online Organizational Account (Publisher role or equivalents)*
- ☐ **Sharing Analysis Results Using ArcGIS Business Analyst** - Make better business decisions and increase competitive advantage. This course will teach you how to share your analysis results with stakeholders and problem solvers. (Web Course) - *To complete these exercises, you will need ArcGIS Desktop 10.4 and 10.5 (Basic, Standard, Advanced), Esri Business Analyst Desktop or Business Analyst Web App, and ArcGIS Online Organizational Account (Publisher role or equivalents)*

E-Learning for more about site selection and market area analysis

- ☐ **Using Raster Data for Site Selection** - This course teaches how to use ArcGIS Spatial Analyst and fuzzy logic tools to perform different types of site selection analysis (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.0 – 10.2 & ArcGIS Spatial Analyst.*
- ☐ **Finding the Optimal Location of Facilities Using ArcGIS Pro** - In this course, you will work with ArcGIS Pro to identify optimal facility locations that meet your organization's criteria, capture demand, and provide the desired level of service. This course requires the ArcGIS Network Analyst extension (Web Course) – *To complete exercises, you will need ArcGIS Pro 1.2 or 1.3; ArcGIS Network Analyst and ArcGIS Online Organizational Account.*
- ☐ **Finding Optimal Locations: Suitability Modeling in ArcGIS Pro** - Suitability modeling is used to identify locations that meet multiple criteria. Applications include siting a new retail store, identifying potential wildlife habitat areas, and determining areas of high fire risk. In this seminar, the presenters walk you through the steps of how to create a suitability model using the Spatial Analysts tools in ArcGIS Pro (Training Seminar) – *Created February 2017 - This seminar was developed to support the following, ArcGIS Desktop 10.5, ArcGIS Pro 1.3; ArcGIS Spatial Analyst.*

FIND THE BEST PATHS

E-Learning available for performing sophisticated routing, closest facility, and service area analysis (ArcGIS Network Analyst)

- ☐ **Getting Started with Linear Referencing** - In this course, you will learn essential concepts of linear referencing and how to create and edit the data required for linear referencing-based mapping and analysis (Web Course) –*To complete the exercises, you will need ArcGIS Desktop V10.0 – V10.5.*
- ☐ **Linear Referencing Using ArcGIS** - This course teaches how to edit, realign, and recalibrate routes and their measures as conditions in the real world change (Web Course) – *To complete the exercises, you will need ArcGIS Desktop 10.0 – 10.5.*
- ☐ **Preparing for Network Analysis** - This course gets you started by explaining basic concepts of network data modeling in ArcGIS and how to use the ArcGIS Network Analyst extension to create a network dataset (Web Course) - *To complete the exercises, you will need ArcGIS Desktop 10.3 – 10.5 and ArcGIS Network Analyst.*
- ☐ **Creating Optimized Routes Using ArcGIS Pro** - Learn how to identify the optimal route based on your criteria. This course shows how to use ArcGIS Network Analyst and a network dataset to create routes that incorporate cost values such as distance or time, a set of stops, and barriers that must be avoided (Web Course) – *To complete the exercises, you will need ArcGIS Pro 1.3 – 2.0 and ArcGIS Network Analyst.*
- ☐ **Creating an Origin-Destination Cost Matrix in ArcGIS Pro** - Obtain a matrix that uses the best routes from multiple origins to multiple destinations with ArcGIS Network Analyst. This course shows how to create a cost matrix based on quickest travel times or shortest distances along a transportation network. (Web Course) – *To complete the exercises, you will need ArcGIS Desktop ArcGIS Pro 1.3 and Network Analyst.*
- ☐ **Optimizing Routes for Efficient Fleet Management** - Learn how to create efficient delivery/pickup routes for a fleet of vehicles with ArcGIS Pro. This course shows you how to solve vehicle routing problems (VRPs). You will create an initial set of routes, then incorporate barriers, breaks, and preferred delivery times. (Web Course) – *To complete exercises ArcGIS 2.0 and ArcGIS Online.*

DETECT AND QUANTIFY

E-Learning for detecting and quantifying for spatial analysis

- [ ] Exploring Spatial Patterns in Your Data Using ArcGIS - You will learn how to use spatial statistics tools and ArcGIS Geostatistical Analyst tools to better understand your data—and ensure the analysis methods and tools you choose will generate reliable results that support decision making (Web Course) - *10.0 – 10.2*
- [ ] Space Time Pattern Mining: A New Frontier in Spatial Analysis - This seminar reviews cluster analysis methods and explores space-time pattern mining techniques used to analyze spatiotemporal data, identify trends, and visualize changes in patterns over time (Training Seminar) – *ArcGIS Pro 1.3 - September 2016*
- [ ] Calculating Density Using ArcGIS - Looking at data on a map does not always tell the whole story. Density surfaces help uncover patterns in your data, revealing concentrations of point or line features. This course teaches you how to create density surfaces to improve your business decisions. (Web Course) – *To complete these exercises, you need the following: ArcGIS Pro 2.0 (Basic) and ArcGIS Spatial Analyst*
- [ ] Using the R-ArcGIS Bridge - Combine the power of ArcGIS and R to solve complex spatial problems with the R—ArcGIS bridge. This course shows you how to load spatial data into an R workspace to perform statistical analysis using the R—ArcGIS bridge (Web Course) – *Requires the following to complete exercises: ArcGIS Pro 1.4 – 2.0 (Basic, Standard, or Advanced), R 3.3.2 and RStudio Desktop*
- [ ] Integrating R Scripts into ArcGIS Geoprocessing Tools - Use the R—ArcGIS bridge to discover the power of R from your ArcGIS toolbox. You will learn how to apply a workflow to create a geoprocessing script tool that leverages the capabilities of R (Web Course) – *Requires the following to complete exercises: ArcGIS Pro 1.4 – 2.0 (Basic, Standard, or Advanced), R 3.3.2 and RStudio Desktop*
- [ ] Going Deeper with Data Analytics Using ArcGIS Pro and R - In this seminar, the presenters cover how to access R's powerful statistical functions from within ArcGIS Pro to perform an analysis unique to R. (Training Seminar) – *This seminar was developed to support the following: ArcGIS Pro 1.4 Or ArcGIS Pro 2.0 (Basic, Standard, Advanced), R 3.3.2, RStudio Desktop*

AUTOMATE WORKFLOWS

E-Learning for automating workflows

- [ ] Building Models for GIS Analysis Using ArcGIS - This course teaches how to use the ArcGIS ModelBuilder application to create geoprocessing models, add tools and data to a model, chain tools together to form an analysis workflow, and then execute that workflow with a single click (Web Course) - *To complete these exercises, you will need ArcGIS Desktop 10.0 – 10.2 – Advanced.*
- [ ] Building Geoprocessing Models Using ArcGIS Pro - This course introduces geoprocessing models and the steps required to create, validate, and run models that automate ArcGIS analysis workflows (Web Course) – *To complete the exercises, you will need ArcGIS Pro 1.3 – 2.0 Advanced & ArcGIS Online Organizational Account – User Role.*

CREATE AND ANALYZE SURFACES

E-Learning in spatial analysis for creating and analyzing surface data

- **Modeling the Unknown: Spatial Interpolation with ArcGIS Pro** - In this seminar, you will learn how to estimate unknown values using ArcGIS Pro and the spatial interpolation capabilities of ArcGIS Geostatistical Analyst (Training Seminar) – *This seminar was developed to support the following ArcGIS Pro 1.2 & ArcGIS Geostatistical Analyst.*
- **Performing Spatial Interpolation Using ArcGIS** - This course focuses on the kriging geostatistical interpolation method and teaches how to create a kriging model that is optimized for your sample data (Web Course) - *Requires ArcGIS Desktop 10.0 – 10.2 & ArcGIS Geostatistical Analyst.*
- **Introduction to Surface Modeling Using ArcGIS** - This course teaches techniques to create raster surfaces that model continuous phenomena—things that have no discrete boundaries, such as precipitation, temperature, water flow, pollution, elevation, and population density (Web Course) - *To complete the exercises, you will need ArcGIS Desktop 10.0 – 10.2; and ArcGIS Spatial Analyst.*
- **Creating Prediction Surfaces in ArcGIS** - This course utilizes both Esri's Geostatistical and Spatial Analyst extensions and takes you on a deep dive into the geostatistical methods used to create prediction surfaces that reliably model the spatial distribution and characteristics of continuous real-world phenomena (those that have no discrete boundaries) (Web Course) – *Requires ArcGIS Desktop 10.3 – 10.5; and ArcGIS Geostatistical Analyst & Spatial Analyst.*
- **Beyond Where: Using Regression Analysis to Explore Why** - This seminar covers basic regression analysis concepts and the ArcGIS geoprocessing tools and workflows used to perform regression analysis (statistical methods used in many application areas to explore why different phenomena occur, predict spatial outcomes, and answer questions like why and how (Training Seminar) – *This seminar was developed to support the following: ArcGIS Desktop 10.1*
- **Regression Analysis Using ArcGIS** - Using regression analysis, you can determine and quantify factors that influence observed patterns of a phenomenon and predict how the pattern will change in the future. This course introduces regression analysis concepts and teaches how to create a properly specified regression model (Web Course) – *To complete the exercises, you will need ArcGIS Desktop 10.1 – 10.2 & Spatial Analyst if using Desktop Standard – included with ArcGIS Desktop Advanced.*
- **Introduction to Regression Analysis Using ArcGIS Pro** - This course introduces fundamental regression analysis concepts and teaches how to create a properly specified regression model (Web Course) – *To complete the exercises, you will need ArcGIS Pro 1.3 – 2.0 & ArcGIS Online Organizational Account – User Role. ArcGIS Geostatistical Analyst and ArcGIS Spatial Analyst.*
- **Deriving Rasters for Terrain Analysis Using ArcGIS** - This course teaches how to use ArcGIS Spatial Analyst tools to derive new raster data from an elevation raster in order to accurately model the earth's surface, solve problems, and support decision making for a variety of applications. This class uses Spatial Analyst desktop extension (Web Course) -*To complete the exercises, you will need ArcGIS Desktop 10.0 – 10.2; and Spatial Analyst.*
- **Terrain Analysis Using ArcGIS Pro** - This course teaches how to use ArcGIS Pro and ArcGIS Spatial Analyst tools to derive new raster data from an elevation raster. (Web Course) – *To complete the exercises, you will need ArcGIS Pro 1.2 – 1.4 & ArcGIS Online Organizational Account – User Role and ArcGIS Spatial Analyst.*
- **Performing Viewshed Analysis in ArcGIS Pro** - The Viewshed tool visualizes visible areas from a vantage point. This tool has many practical uses, including how to locate guard towers, fire watch towers, or event surveillance. In this course, you'll learn how to adjust the tool for your analysis (Web Course) – *To complete the exercises, you will need ArcGIS Pro 1.3 – 2.0, 3D Analyst, Spatial Analyst.*

MODEL WATER RESOURCES

The Hydro Resource Center is an online community center that promotes hydro information products created with ArcGIS methods to facilitate natural resources management. (ArcGIS Hydrology Resources)

ARCHYDRO: GIS FOR WATER RESOURCES

Instructor-led: 3 days

This course presents the Arc Hydro data model and tools and shows how to implement them using a series of real-world examples. You will learn the basic principles of the Arc Hydro data model, how to extend it, and about the Arc Hydro tools that help you efficiently manage and use the data model and perform water resource analyses.

This course is designed for: GIS Analysts, Technical Leads and Database Designers interested in ArcGIS water resource applications who want to implement the Arc Hydro data model and tools.

Learn how to:

- Combine Arc Hydro data structure and tools to solve realistic water resource problems.
- Extend Arc Hydro tools to create custom functionality.
- Integrate external models into Arc Hydro.
- Perform watershed modeling and analyses.

HYDROLOGIC AND HYDRAULIC ANALYSES USING ARCGIS

Instructor-led: 2 days

Manage our most precious resource! *Learn GIS techniques for terrain analysis, hydrologic and hydraulic characteristics extraction, numerical model input and output, modeling process automation, and result mapping. The class will take full advantage of ArcGIS and its extensions to support requirements that H&H analyses pose to GIS technology. You will gain hands-on experience developing HMS and RAS model inputs and analyzing and mapping model results. Utilization of GIS infrastructure for support of other H&H models will also be discussed. While H&H analyses are at the core of this class, the focus is on the functionality that GIS provides to H&H modeling, not on performing H&H analyses. Opportunities for using GIS for post-model analyses such as mapping and flood damage estimation will be discussed.*

This course is designed for: GIS Analyst and GIS Technical Leads working in the industry

Learn how to:

- Implement GIS as a spatial and temporal integrator.
- Use hydrologic statistical modeling (NSS and StreamStats).
- Develop hydrologic (HMS and GeoHMS) and hydraulic (RAS and GeoRAS) physical models.
- Perform floodplain mapping.

PERFORM HAZARD ANALYSIS

E-Learning for Hazard Analysis

- ☐ Esri's Disaster Response Program: Lessons Learned from Past Events - The Esri Disaster Response Program supports communities during times of crisis with maps and apps that help decision makers and responders visualize and analyze the situation (Training Seminar) – *This seminar was developed to support ArcGIS Online.*
- ☐ Hazus for Decision Makers - This seminar introduces Hazus-MH. It provides an overview of how it can be used by individuals and organizations to display hazard data and estimate the impacts of a disaster (Training Seminar) *This seminar was developed using Hazus 3.0.*
- ☐ Getting Started with Hazus -Gain an overview of the capabilities of Hazus-MH, FEMA's loss estimation tool for earthquake, flood, and hurricane wind hazards. Learn about the history of Hazus, different levels of Hazus analysis, and available Hazus resources. (Web Course) - *To complete the exercises, you will need ArcGIS Desktop 10.2.2 and Hazus 3.0 or Hazus 3.1.*
- ☐ Introduction to the Hazus Inventory - This course provides a general overview of the difference between aggregate and site-specific inventory. You will also explore ways to integrate non-Hazus GIS resources into your Hazus analyses for a more complete understanding of a community's risk. (Web Course) - *To complete the exercises, you will need ArcGIS Desktop 10.2.2, ArcGIS Spatial Analyst and Hazus 3.0 or Hazus 3.1.*
- ☐ Introduction to the Hazus Comprehensive Data Management System - This course focuses on the process of using CDMS to help you learn the basic workflow for importing site-specific and aggregate data to update Hazus-MH inventories. (Web Course) - *To complete the exercises, you will need ArcGIS Desktop 10.2.2, CDMS and Hazus 3.0 or Hazus 3.1.*
- ☐ Introduction to the Hazus Storm Surge Model - Upon completion, you will better understand the storm surge hazard model and how to effectively apply the results in the mitigation planning process. Hazus 3.0 (Web Course) - *To complete the exercises, you will need ArcGIS Desktop 10.2.2 and Hazus 3.0.*
- ☐ Introduction to the Hazus Flood Model - This course provides a general overview of the Hazus-MH flood model, and the process of generating a Level 1 hazard analysis for coastal and riverine flooding. (Web Course) - *To complete the exercises, you will need ArcGIS Desktop 10.2.2 and Hazus 3.0 or Hazus 3.1.*
- ☐ Understanding Hazus Flood Model Results - Learn to identify the key guidelines for properly interpreting and applying the outputs of the flood model. This course provides an overview of the various flood model results and their formats (reports, tables, and maps) (Web Course) - *To complete the exercises, you will need ArcGIS Desktop 10.2.2 and Hazus 3.0 or Hazus 3.1.*
- ☐ Loss Estimation Using the Hazus Flood Model - Learn about Hazus-MH's ability to generate data such as building damage estimates, impacts on transportation and utilities, and shelter requirements. You will also learn how the information can be used to better plan for and prevent losses from future flood events. (Web Course) - *To complete the exercises, you will need ArcGIS Desktop 10.2.2 and Hazus 3.0 or Hazus 3.1.*
- ☐ Integrating User-Supplied Data into the Hazus Flood Model - This course introduces you to the options Hazus-MH offers for integrating user-defined riverine flood hazard information into a Hazus-MH study region. (Web Course) – *To complete the exercises, you will need ArcGIS Desktop 10.2.2, ArcGIS Spatial Analyst and Hazus 3.0 or Hazus 3.1.*

- **Introduction to the Hazus Hurricane Model** - You will explore various hurricane scenarios including historical, probabilistic, and user-defined. Understanding the model and methodologies used enables educated decisions (Web Course) – *To complete the exercises, you will need ArcGIS Desktop 10.2.2, ArcGIS Spatial Analyst and Hazus 3.0 or Hazus 3.1.*
- **Understanding Hazus Hurricane Model Results** - This course addresses the various hurricane model results that Hazus-MH can produce for a hurricane loss estimation study. (Web Course) - *To complete the exercises, you will need ArcGIS Desktop 10.2.2 and Hazus 3.0 or Hazus 3.1.*
- **Loss Estimation Using the Hazus Hurricane Model** - Learn how setting the many analysis parameters in the Hazus-MH 3.0 hurricane model impact loss analysis of communities. You will also learn about Hazus-MH's ability to generate building damage estimates, shelter needs, and economic impacts from hurricane wind events (Web Course) - *To complete the exercises, you will need ArcGIS Desktop 10.2.2 and Hazus 3.0 or Hazus 3.1.*
- **Introduction to the Hazus Earthquake Model** - This course will introduce the components of the Hazus-MH earthquake model. You will learn the difference between a deterministic and probabilistic earthquake scenario and explore examples of each (Web Course) - *To complete the exercises, you will need ArcGIS Desktop 10.2.2 and Hazus 3.0 or Hazus 3.1.*
- **Understanding Hazus Earthquake Model Results** - This course explores the model's analysis outputs and an overview of its reports, tables, and maps. Learn to identify the key guidelines for properly interpreting and applying the outputs of the earthquake model (Web Course) - *To complete the exercises, you will need ArcGIS Desktop 10.2.2 and Hazus 3.0 or Hazus 3.1.*
- **Loss Estimation Using the Hazus Earthquake Model** – In this course, you will explore the physical damage model for earthquakes, damage functions for buildings, building losses, loss of use and building debris, hazard parameters, sheltering, and economic losses (Web Course) - *To complete the exercises, you will need ArcGIS Desktop 10.2.2, ArcGIS Spatial Analyst and Hazus 3.0 or Hazus 3.1.*

3D GIS

Esri's 3D solutions allow you to create, visualize, and share your concepts in context. Your 3D plans will help others make informed effective decisions. The courses outlined below will help you in understanding more about our solutions.

LEARN THE BASICS OF 3D GIS

Esri CityEngine is a stand-alone software product that provides professional users in architecture, urban planning, entertainment, simulation, GIS, and general 3D content production with a unique conceptual design and modeling solution for the efficient creation of 3D cities and buildings.

E-Learning for basic 3D GIS and CityEngine

- ☐ Esri CityEngine Essentials 1: Getting Started - This course introduces you to the world of procedural modeling using Esri CityEngine (Web Course) - *To complete exercises, you will need Esri CityEngine 2013.1.*
- ☐ Esri CityEngine Essentials 2: Build the Foundation - The video tutorials in this course will show you how to find public 2D GIS data sources and import them as base layers into CityEngine. You will learn some basic GIS data processing techniques and how to apply procedural rules to build a 3D city, one layer at a time (Web Course) - *To complete exercises, you will need Esri CityEngine 2013.1.*
- ☐ Esri CityEngine Essentials 3: All About Rules - The video tutorials in this course will help you learn how to define rules to create complex, highly realistic building forms. You will also learn best practices of Computer Generated Architecture (CGA) and get started on creating rules (Web Course) - *To complete exercises, you will need Esri CityEngine 2013.1.*
- ☐ Designing and Sharing 3D Cities Using Esri CityEngine - This seminar walks you through a city redevelopment workflow using Esri CityEngine and SketchUp. The presenters demonstrate how to build a 3D city from open source data and share it with the public (Training Seminar) - *January 2017 – Developed using Esri CityEngine.*
- ☐ ***Introduction to the City Engine Tutorials*** – The CityEngine tutorials are the starting point to get to know the features of CityEngine. The different tutorials cover all parts of the CityEngine workflow, such as project management, map layer usage, street network generation, data import and shape grammar modeling. *For all tutorials, we provide CityEngine projects containing the required data to follow the step-by-step instructions – Esri Website.*

CREATE 3D MODELS

E-Learning for creating 3D Models

- ☐ Modeling a City Using Esri CityEngine - This course discusses the key elements of a 3D city model and guidelines for GIS data used to create one. You will learn how to import GIS data into CityEngine, then apply rules to the data to add rich detail that brings the 3D city to life (Web Course) – *To complete exercises, you will need ArcGIS Online & Esri CityEngine 2015.1, Esri CityEngine 2016.0 or Esri CityEngine 2016.1.*

CREATE AND VISUALIZE DATA IN 3D

Analyze your data in a realistic perspective (ArcGIS 3D Analyst)

E-Learning using ArcGIS 3D Analyst

- ☐ Creating 3D Data Using ArcGIS - In this course, you will learn techniques to create accurate and up-to-date topographic surfaces, volumes, and 3D feature classes using LiDAR data and elevation values contained within raster surfaces and standard 2D point, line, and polygon feature classes (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.0 – 10.5 and ArcGIS 3D Analyst.*
- ☐ 3D Visualization Techniques Using ArcGIS - This course introduces fundamental concepts of 3D visualization and 3D data and presents techniques to display both spatial and non-spatial data in 3D (Web Course) - *To complete exercises, you will need ArcGIS Desktop 10.0 – 10.2 & ArcGIS 3D Analyst.*
- ☐ 3D Visualization Using ArcGIS Pro - In this course, you will get familiar with the ArcGIS Pro 3D environment and learn a variety of techniques to create 3D scenes and enhance them to meet your project needs (Web Course) - *To complete exercises, you will need ArcGIS Pro 1.4 and ArcGIS Online (User role or equivalent) & PDF Reader (i.e., Adobe) to view exports from ArcGIS Pro.*
- ☐ Editing 3D Features Using ArcGIS Pro - This course presents basic 3D editing concepts (Web Course) - *To complete exercises, you will need ArcGIS Pro 1.4, 2.0 or 2.1 and ArcGIS Online (User role or equivalent).*

PERFORM 3D VISIBILITY ANALYSIS

E-Learning for 3D Visibility Analysis

- ☐ Performing Line of Sight Analysis - Some geographic questions can only be answered in 3D. In this course, you will perform line of sight analysis to solve problems and create information that cannot be obtained in 2D (Web Course) – *To complete exercises, you will need ArcGIS Pro 1.3, 1.4 or 2.0 (Basic, Standard, or Advanced) & ArcGIS 3D Analyst.*
- ☐ 3D Analysis of Surfaces and Features Using ArcGIS - In this course, you will go beyond simple 3D visualizations as you work with a variety of 3D analysis tools to solve problems and create information that can't be obtained in 2D (Web Course) - *To complete exercises, you will need ArcGIS Desktop 10.4, 10.5 or 10.6 & ArcGIS 3D Analyst.*

IMAGERY AND REMOTE SENSING

Basic knowledge of raster data and how to interpolate and work with it may be necessary for various analysis projects. The ArcGIS Imagery Book is available online and contains a wealth of information and lessons to assist in learning more (The ArcGIS Imagery Book)

LEARN THE BASICS OF IMAGERY AND REMOTE SENSING

E-Learning for working with imagery and remote sensing

- ☐ **Basics of Raster Data** - You will explore the structure of raster data, learn about different raster formats and why raster data is preferred for certain GIS operations, and find out how to choose the appropriate type of raster data for a given application (Web Course) - *To complete exercises, you will need ArcGIS Desktop 10.0 – 10.2 (Basic, Standard or Advanced).*
- ☐ **Displaying Raster Data Using ArcGIS Pro** - Learn to appropriately symbolize rasters based on their attributes and intended use, modify raster properties to support better visualization and interpretation, and apply out-of-the-box appearance functions to enhance the viewing experience (Web Course) – *To complete exercises, you will need ArcGIS Pro 1.2 or 1.4; or 2.0 and an ArcGIS Online Organizational Account (User Role or equivalent).*
- ☐ **Get Started with ArcGIS Full Motion Video (FMV)** - In this seminar, the presenter discusses key concepts of FMV and demonstrates the latest capabilities to exploit full motion video inside ArcGIS (Training Seminar) – *This seminar was developed to support ArcGIS Desktop 10.3.*
- ☐ **Working with Full Motion Video in ArcGIS** - Full motion video (FMV) sensors on unmanned aerial vehicles or drones, or as static video cameras, provide a new type of video data. Learn how to fully utilize video from these sensor platforms and analyze FMV technology using the ArcGIS platform (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.4 or 10.5 (Advanced); Microsoft Office 2013, ArcGIS FMV Add-in for ArcGIS 10.4 or 10.5 and FMV Geoprocessing Tools for ArcGIS 10.4 or 10.5.*
- ☐ **Getting Started with Drone2Map for ArcGIS** - Learn how to use Drone2Map for ArcGIS to import drone imagery for your geospatial needs (Web Course) – *To complete exercises, you will need ArcGIS Online Organizational Account (publisher role or equivalent) – will consume approximately 1 credit & Drone2Map for ArcGIS.*
- ☐ **Streamline Imagery Workflows with Drone2Map for ArcGIS** - Drone technology is transforming traditional field data collection and imagery-production workflows. In this seminar, learn how Drone2Map for ArcGIS helps organizations save time, reduce costs, and increase speed of operations (Training seminar) – *This seminar was developed to support ArcGIS Pro 1.3 (advanced), ArcGIS Online & Drone2 Map for ArcGIS.*
- ☐ **Creating 3D Products Using Drone2Map for ArcGIS** - Drone2Map for ArcGIS turns raw still imagery from drones into stunning information products in ArcGIS. This course teaches how to create 3D point clouds, 3D texture meshes, and 3D PDFs (Web Course) – *To complete exercises you will need: ArcGIS 3D Analyst, ArcGIS Online Organizational Account (Publisher role approx. 1 credit will be consumed) and Drone2Map for ArcGIS.*
- ☐ **Creating 2D Products Using Drone2Map for ArcGIS** – Drone2Map for ArcGIS transforms your drone-captured imagery into professional-quality 2D and 3D imagery products in ArcGIS. This course teaches how to create orthomosaics and digital surface models from drone-captured still imagery (Web Course) - *To complete exercises, you will need: ArcGIS Online Organizational Account (Publisher role – approx. 1 credit will be consumed) and Drone2Map for ArcGIS 1.0.*
- ☐ **Inspect Assets Using Drone2Map for ArcGIS** - Drone imagery allows you to inspect areas that are difficult to access. This course will show you how to use the Drone2Map for ArcGIS Inspection template. This template organizes the drone flight path, photos, and notes from the inspection (Web Course) - *To complete exercises, you will need: ArcGIS Online Organizational Account (User role) and Drone2Map for ArcGIS 1.0.*

MANAGE IMAGERY

E-Learning for managing imagery

- [ ] **Managing Raster Data Using ArcGIS** - In this course, you will learn why the mosaic dataset is the preferred Esri raster management solution. You will learn mosaic dataset concepts and see how easy it is to create one and add raster data to it. Techniques to control display properties and optimize performance are presented (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.4.*
- [ ] **Workflows to Manage and Share Imagery in ArcGIS** - In this seminar, the presenters demonstrate best practices for designing mosaic datasets, sharing imagery, and methods for automating image management workflows (Training Seminar) – *This seminar was developed to support ArcGIS Desktop 10.2 & ArcGIS Online.*
- [ ] **Georeferencing Raster Data Using ArcGIS** - This course teaches a workflow to align a raster dataset with its real-world location and evaluate the accuracy of georeferencing results (Web Course) - *To complete exercises, you will need ArcGIS Desktop 10.1 – 10.5 (Basic, Standard or Advanced)*
- [ ] **Orthorectifying Satellite Imagery Using ArcGIS** - In this course, you will learn about ArcGIS orthorectification tools and apply them to create map-accurate imagery – familiarity with remote sensing or photogrammetry is recommended (Web Course) - *To complete exercises, you will need ArcGIS Desktop 10.3.*
- [ ] **Smart Strategies for Managing LiDAR Data** - In this seminar, the presenter's show you how to use ArcGIS to create and share a wide range of products from the data for quantitative mapping and visualization. They also show you how to manage multiple LiDAR data collections to support your user community (Training Seminar) – *November 2014 – Seminar developed to support ArcGIS Desktop 10.2.1 & ArcGIS Online.*
- [ ] **Managing LiDAR Data Using LAS Datasets** - This course teaches how to create a LAS dataset to efficiently organize LiDAR data delivered in individual LAS files. You will learn how to quickly access key information about the LiDAR data and techniques to display LiDAR points in ArcMap (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.1 – 10.2 (Standard or Advanced) & ArcGIS 3D Analyst.*
- [ ] **Managing LiDAR Data Using Mosaic Datasets** - This course teaches how to create a mosaic dataset to organize LiDAR data, apply techniques to optimize and control data display, and use functions that enhance visualization and generate new information from LiDAR data (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.1 – 10.5 (Standard or Advanced) & ArcGIS 3D Analyst.*
- [ ] **Managing LiDAR Data Using Terrain Datasets** - This course teaches how to create a terrain dataset, then use it to visualize and analyze LiDAR data (Web Course) - *To complete exercises, you will need ArcGIS Desktop 10.1 – 10.2 & ArcGIS 3D Analyst.*

PROCESS AND ANALYZE IMAGERY

IMAGE ANALYSIS WITH ARCGIS

Instructor-led: 2 days

Learn best practices and workflows to enhance visualization and extract meaningful information from satellite imagery, LiDAR, and other remotely sensed data. This course covers dynamic raster processing options available in ArcGIS and takes you on an in-depth exploration of image classification. You will use three classification methods to categorize land cover features and learn how to determine which method is appropriate for a given project and dataset.

This course is designed for: GIS professionals, image analysts, and others who work with imagery for mapping and analysis. Those working in the forestry, hydrology, environmental management, urban planning, defense, intelligence, and mining industries may find the course of particular benefit.

Learn how to:

- Apply dynamic raster processing functions to enhance raster display, prepare data for analysis, and quickly create multiple products from a single data source.
- Create a time-series mosaic dataset to visually identify and document areas of change.
- Support change detection, risk assessment, and other types of analysis by performing unsupervised, supervised, and object-oriented classification.
- Assess the accuracy of classification results.

E-Learning for processing and analyzing imagery

- ☐ Image Processing with ArcGIS - This course teaches a variety of techniques to enhance and control image display, perform simple change detection, and derive new products from a single image source (Web Course) - *To complete exercises, you will need ArcGIS Desktop 10.1 or 10.2 (Standard or Advanced).*
- ☐ Dynamic Image Processing in ArcGIS Pro - Learn about the on-the-fly image processing capabilities available in ArcGIS Pro (Training Seminar) – *June 2016 – This seminar was developed to support ArcGIS Pro 1.2 and ArcGIS Spatial Analyst.*
- ☐ Processing Raster Data Using ArcGIS Pro - Learn to use efficient solutions to process raster data and extract information products on-the-fly using raster functions in ArcGIS Pro (Web Course) – *To complete exercises, you will need ArcGIS Pro 1.4, 2.0 or 2.1 (Standard or Advanced) & ArcGIS Spatial Analyst.*
- ☐ Classifying Imagery Using ArcGIS - This course teaches image classification techniques to convert raw imagery into tangible information for planning, assessment, monitoring, management, and other tasks. Learn how to appropriate use classification techniques to identify specific land covers and generate a graph to report results (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.4, 10.5 or 10.6 (Standard or Advanced) & ArcGIS Spatial Analyst.*
- ☐ Change Detection Using Imagery – Using ArcGIS Pro and Spatial Analyst - You will work with multispectral Landsat satellite imagery and learn how to visualize, detect, and monitor differences in surface vegetation over time (Web Course) – *To complete exercises, you will need ArcGIS Pro 1.4 or 2.0 (Advanced) & ArcGIS Spatial Analyst.*

COLLABORATION AND SHARING

Modern GIS is about participation, sharing, and collaboration – whether it is in a secure private environment, throughout an organization, or with a community. Learn more about making maps and apps available to your team.

LEARN THE BASICS OF COLLABORATION AND SHARING

ARCGIS 4: SHARING CONTENT ON THE WEB

Instructor-led: 3 days

Learn how to easily share geographic content so it is accessible to everyone who needs it, when they need it, however they want to access it. This course teaches how to publish your organization's authoritative GIS data, maps, and tools as ArcGIS services that can be discovered and used on desktops, the web, and mobile devices.

This course is designed for: GIS professionals who want to share their authoritative content; Developers who want to incorporate ArcGIS services into custom applications**;** Administrators who need to understand the process for publishing ArcGIS services.

Learn how to:

- Determine which sharing option is appropriate for your needs.
- Author and publish map services to share your authoritative GIS data.
- Create and publish image services to provide fast access to imagery.
- Publish feature services to enable editing of GIS data over the web.
- Publish geoprocessing services to share analysis workflows and results.
- Share GIS resources as stand-alone services and in web maps and web applications.

-or-

SHARING GIS CONTENT USING ARCGIS

Instructor-led: 2 days

Learn how to efficiently share a variety of geospatial resources to an ArcGIS Online organizational site or ArcGIS Enterprise portal website. This course teaches how to publish high-performing services that extend ArcGIS mapping and analytics capabilities across your organization.

This course is designed for: GIS professionals; Web Administrators, and Application Developers who need to understand the process for publishing ArcGIS services.

Learn how to:

- Devise a sharing strategy that supports your organization's workflows and business goals.
- Share map layers, web maps, data, imagery, custom analysis tools, and ArcGIS Pro project packages
- Create map and vector tile caches to enable fast display performance.
- Share content between ArcGIS portals.

USER WORKFLOWS FOR ARCGIS ONLINE ORGANIZATIONS

Instructor-led: ½ day

This workshop introduces you to web maps, apps, and other authoritative content that may be available through your ArcGIS Online organizational site. You will see how this content can help you infuse projects with geographic context, additional business intelligence, and visual impact. The instructor shows how to create and share web maps on an organizational site and from within Microsoft Excel and PowerPoint. Note: Workshop concepts also apply to organizational sites created using Portal for ArcGIS.

This course is designed for: This workshop is for individuals who have access to an ArcGIS Online organizational site or Portal for ArcGIS site.

Learn how to:

- Discover web maps and other types of authoritative content and assess whether they meet your project needs.
- Create a web map, add data to it, and style the map to suit your needs.
- Create an online presentation from a web map and add dynamic map slides to a PowerPoint presentation.
- Quickly configure a web app to have the look and features you need using Web AppBuilder for ArcGIS or a template.
- Create a map inside Microsoft Excel to visualize and analyze spreadsheet data.
- Share web maps, apps, and presentations so they are accessible to your colleagues, to everyone in your organization, or to the public.

E-Learning options for more about the basics of collaboration and sharing

- ☐ Power Your Organization with ArcGIS Online Maps, Apps, and Analytics - This seminar introduces ArcGIS Online and its capabilities that help individuals, teams, and entire organizations enhance projects and increase collaboration. Explore ArcGIS Online content and learn how to create and share new information that supports informed decision making (Training Seminar) – *Created September 2015 - This seminar was developed to support ArcGIS Online.*
- ☐ Power Your Enterprise with ArcGIS Apps - ArcGIS Online organizational subscriptions include a core set of mapping apps: Collector for ArcGIS, Operations Dashboard for ArcGIS, and Explorer for ArcGIS. In this seminar, learn about each app and how they work together to collect data, manage operations, and boost efficiency (Training Seminar) – *Created September 2014 -This seminar was developed to support ArcGIS Online, Collector for ArcGIS 10.2.5 (Android and iOS), Operations Dashboard for ArcGIS 10.2.3 and Explorer for ArcGIS.*
- ☐ Boost Productivity with Explorer for ArcGIS - In this seminar, the presenters show you how to use the app and share your data with other Explorer for ArcGIS users (Training Seminar) – *Created August 2014 – This seminar was developed to support Explorer for ArcGIS.*
- ☐ Get Started with Configurable Apps – In this seminar, the presenters introduce some of the most popular configurable apps and guide you through the steps to share a web map as a configurable app, then modify app elements to reflect your brand, purpose, and audience, as well as how to add functionality to enhance the user experience and embed your finished app in a website or another app, such as a story map. (Training Seminar) – *Created February 2017 – This seminar was developed to support ArcGIS Online.*

SHARE MAPS, LAYERS AND SCENES

E-Learning for sharing maps, layers and scenes using the platform

- Creating and Sharing GIS Content Using ArcGIS Online - This course shows how to publish data and map layers directly to ArcGIS Online as services, then use those services to quickly build a web map (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.2 – 10.5 and ArcGIS Online Organizational Account (Publisher Role or Equivalent – Approx. 5 credits will be consumed).*
- Sharing Maps and Layers with ArcGIS Pro - You will learn how to choose an appropriate sharing option for a given audience, type of content, and intended use (Web Course) - *To complete exercises, you will need ArcGIS Pro 1.2 or 1.3 or 2.0 (Standard) & ArcGIS Online Organizational Account (Publisher Role or Equivalent – Approx. 5 credits will be consumed).*
- Creating and Sharing Map Packages in ArcGIS - This course teaches a workflow to plan, design, and efficiently create map and tile packages that are attractive, high-performing, and tailored to the needs of those who will use them (Web Course) – To complete the exercises, you will need ArcGIS Desktop *10.1 – 10.5 (Standard or Advanced).*
- Sharing 3D Content with ArcGIS - This seminar presents an overview of the latest ArcGIS 3D tools, techniques, and viewing environments (Training Seminar) - *10.3*
- Sharing 3D Content Using Scene Layer Packages - Enhance your organization's 3D experience. In this course, learn workflows to create 3D scenes in ArcGIS Pro and share your work to ArcGIS Online (Web course) – *ArcGIS Pro 1.3.1 or 1.4 or 2.0, 3D Analyst and ArcGIS Online publisher role*
- Achieving Interoperability Using ArcGIS and OGC Standards - This seminar shows how ArcGIS and OGC standards together help GIS professionals and developers share geospatial content and solutions worldwide (Training Seminar).

SHARE IMAGERY

E-Learning for sharing imagery

- Sharing Cached Imagery in ArcGIS - In this seminar, learn how to provide easy access to imagery collections using ArcGIS for Desktop caching tools and ArcGIS Online (Training Seminar) – *Created September 2015 – This seminar was developed to support ArcGIS Pro 1.0 & ArcGIS Online.*
- Using Multidimensional Scientific Data with ArcGIS - This seminar presents an overview of ArcGIS tools and workflows that simplify management of scientific data. You will learn how to easily visualize and process multivariate, multidimensional datasets, and how to use a raster model to dynamically generate analysis results that can be easily shared (Training Seminar) – *Created March 2016 – This seminar was developed to support ArcGIS Desktop 10.4, ArcGIS Pro 1.2 & ArcGIS Online.*
- Working with NetCDF Data in ArcGIS Pro - NetCDF is a standard format used by the scientific and academic communities to store multidimensional data. This course will have you incorporating scientific data and models into common GIS workflows (Web Course) – *To complete exercises, you will need ArcGIS Pro 1.3 (Basic), ArcGIS Spatial Analyst and ArcGIS Online (User Role or equivalent).*

CONFIGURE AND MANAGE FOR COLLABORATION AND SHARING

ARCGIS ENTERPRISE: CONFIGURING A BASE DEPLOYMENT

Instructor-led: 2 days

Learn how to install and configure an ArcGIS Enterprise base deployment to enable individuals to securely access, create, and share geospatial resources to boost collaboration and gain location-based insights. You will learn how to license and install the four software components of a base deployment and ensure system security and performance.

This course is designed for: GIS Technical Leads, System Administrators and Web Administrators – anyone tasked with supporting the deployment of ArcGIS for Enterprise.

Learn how to:

- Install ArcGIS Server, Portal for ArcGIS, ArcGIS Data Store and ArcGIS Web Adapter.
- Configure an ArcGIS Enterprise portal to manage users, groups, and content sharing privileges.
- Apply HTTP certificates to support encrypted communication
- Configure a suitable authentication method for your organization's needs.

ARCGIS FOR SERVER: SITE CONFIGURATION AND ADMINISTRATION

Instructor-led: 3 days

This course teaches how to successfully plan, deploy, configure, and manage an ArcGIS for Server system that enables GIS content sharing across the enterprise. You will explore the ArcGIS for Server architecture and practice applying recommended workflows to configure ArcGIS Server sites and manage GIS services, applications, and users. Techniques and best practices to ensure system performance and security are emphasized. Note: This course applies to ArcGIS 10.2, 10.3, and 10.4. Esri will provide ArcGIS 10.3 for use during the class.

This course is designed for: IT administrators, system administrators, GIS web administrators, and others responsible for installing, managing, or supporting an ArcGIS for Server system

Learn how to:

- Plan an ArcGIS for Server deployment that meets your business requirements.
- Configure the Web Adaptor component to integrate your ArcGIS Server with a web server.
- Publish services that have the capabilities required for your applications.
- Plan, create, and update a cache for high-performing map and image services.
- Tune and monitor services to ensure high performance.
- Implement security for your site and services that meets the needs of your organization.

E-Learning for configuring and managing your enterprise for collaboration and sharing

- [ ] Best Practices for Your ArcGIS Online Organization - In this seminar, you will learn how to configure your ArcGIS Online organizational site's home page, organize content, invite participants, and create a brand identity for the content you publish (Training Seminar) – *Created June 2014 – This seminar was developed to support ArcGIS Online.*
- [ ] Preparing to Implement ArcGIS Online - This course presents a three-step planning process to align your ArcGIS Online organizational site with your business needs and key workflows (Web Course) – *There are no exercises in this course. Designed to support ArcGIS Online.*
- [ ] Configuring and Administering an ArcGIS Online Organization - This course introduces ArcGIS Online administrators to workflows for configuring general site settings, branding the organization's home page; managing site members, groups, and content; and choosing security options that meet the organization's needs (Web Course) – *There are no exercises in this course. Designed to support ArcGIS Online.*
- [ ] Performing ArcGIS Online Administrator Tasks - This course offers ideas and techniques to efficiently manage site members, content, credit consumption, and security over time (Web Course) – *To complete exercises, you will need an ArcGIS Online account.*
- [ ] Explore the World of ArcGIS Enterprise - This seminar discusses essential concepts that underlie a modern Web GIS supported by an ArcGIS Enterprise deployment. Anyone who wants to understand server-based GIS and related IT concepts will find this seminar of interest. (Training Seminar) – *on September 7, 2017; This seminar was developed to support ArcGIS Enterprise 10.5 or 10.5.1 (Standard or Advanced)*

ADMINISTER WEB SECURITY

E-Learning for education on administering web security

- [ ] Configuring Enterprise Logins for ArcGIS Online and Portal for ArcGIS - In this seminar, the presenters share techniques and tips to configure SAML with Microsoft Active Directory Federation Services (ADFS), a common identity provider. You will also learn how to streamline access to your ArcGIS organizational sites by configuring single sign-on access for users (Training Seminars) – *Created February 2016 – This seminar was developed to support ArcGIS Server 10.4 Workgroup or Enterprise (Standard), ArcGIS Online Organizational Account (Admin role); ArcGIS Data Store 10.4 and Portal for ArcGIS 10.4.*
- [ ] Portal for ArcGIS: Leveraging Windows Single Sign-On for your Organization - This seminar discusses the Portal for ArcGIS security model and user authentication options, focusing on Integrated Windows Authentication (IWA) (Training Seminar) – *Created April 2015 – This seminar was developed to support ArcGIS Desktop 10.3.1, ArcGIS Server 10.3.1 Workgroup and Portal for ArcGIS 10.3.*

REAL-TIME GIS

Make better decisions the moment something happens! Real-time GIS analyzes sensor data and other live feeds, then puts it on interactive maps for real-time decision making. For more information – go to Esri website (Real-Time GIS)

MONITOR OPERATIONS

- [ ] **Real-Time Decision Making with Operations Dashboard for ArcGIS** - This seminar introduces the latest version of Operations Dashboard for ArcGIS, the app that monitors assets, activities, and events to support data-driven, "at-a-glance" decision making. The presenters highlight the new web experience for authoring interactive dashboards and how to leverage Operations Dashboard capabilities from within an ArcGIS Online organization (Training Seminar) – January 25, 2018. *This seminar was developed to support ArcGIS GIS Online and Operations Dashboard for ArcGIS.*

LEARN THE BASICS AVAILABLE FOR DEVELOPERS

- Python for Everyone -This course introduces fundamental Python concepts and the Python scripting environment in ArcGIS. Tips and techniques to help you master proper Python syntax, script flow, and error handling are presented (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.3 - 10.5 & PythonWin 2.7.*
- ArcGIS App Strategies - This seminar presents three strategies to create apps that provide the desired user experience and functionality for a given project (Training Seminar) – *November 2015 – Supports ArcGIS Apps*
- Basics of JavaScript Web Apps - Create web mapping apps to display geographic information. This course explores how to make basic web apps using HTML, CSS, and JavaScript. It also introduces how to build a web map app using the ArcGIS API for JavaScript (Web Course).
- Introduction to the ArcGIS for Server REST API - This course explains what the ArcGIS for Server REST API is and how it helps you find GIS resources, discover their capabilities, and put them to use in your own maps and apps (Web Course).
- Introduction to the ArcGIS Runtime SDK for iOS - This seminar focuses on what is needed to use the SDK. It covers different functionality you can add to your apps and how to deploy (Training Seminar) – *April 2013 – This seminar was developed to support Apple iOS SDK 5 & and ArcGIS App for iOS.*

SCRIPT AND AUTOMATE

INTRODUCTION TO GEOPROCESSING SCRIPTS USING PYTHON

Instructor-led: 3 days

Python scripts can reduce the time spent on complex or repetitive tasks, enabling GIS staff to be more productive. This course teaches how to create Python scripts to automate tasks related to data management, feature editing, geoprocessing and analysis, and map production using ArcGIS. You will also learn how to share your Python scripts so your key GIS workflows are accessible to others.

This course is designed for: All GIS analysts, specialists, data processors, and others who want to automate ArcGIS tasks and workflows using Python.

Learn how to:

- Choose a Python scripting environment that meets your needs.
- Incorporate cursors, describe objects, and list objects into scripts to manage and update data.
- Use ArcPy classes and geometry objects to create and update features and perform geoprocessing operations.
- Use the ArcPy mapping module to automate map document and layer management.
- Apply techniques to ensure valid script syntax and error handling.
- Create custom script tools and geoprocessing packages to share your scripts.

The following e-Learning options utilize Python with ArcGIS for Desktop or ArcGIS for Server to automate work to perform analysis, manage or convert data with scripts

- ☐ Python Scripting for Geoprocessing Workflows - This course teaches how to create Python scripts to automate ArcGIS geoprocessing tasks, increasing productivity and efficiencies in GIS workflows (Web Course) – *To complete exercises, you will need ArcGIS Desktop 10.3, 10.4 or 10.5 (Basic, Standard or Advanced) & PythonWin2.7.*
- ☐ Python Scripting for Map Automation - This course teaches how to write Python scripts to automate map production and related data management tasks (Web Course) – To complete exercises, you will need ArcGIS Desktop *10.0 –10.5 (Basic, Standard or Advanced)*
- ☐ Creating Python Scripts for Raster Analysis - This course discusses creating a raster object, accessing its properties, and using them in your Python scripting (Web Course) – *To complete exercises, you will need ArcGIS Pro 1.4, 2.0 & ArcGIS Spatial Analyst or ArcGIS Pro 2.1 (Standard or Advanced); Spatial Analyst and ArcGIS Online Organizational Account (User Role or Equivalent)*

BUILD DESKTOP GIS APPS

EXTENDING ARCGIS PRO WITH ADD-INS

Instructor-led: 3 days

Deliver a Custom Experience

Learn how to use the ArcGIS Pro SDK to develop custom add-ins that support your organization's unique workflows. This course introduces key ArcGIS Pro SDK programming patterns, the ArcGIS Pro API, and a wide range of interface customizations and custom functionality that can be deployed using add-ins.

This course is designed for: GIS Desktop Application Developers

Learn how to:

- Develop, test, and deploy ArcGIS Pro SDK customizations using the add-in extensibility framework.
- Customize the ArcGIS Pro ribbon and apply key programming patterns.
- Create custom tools to interact with maps and scenes and select or edit geodatabase features.
- Create dock panes and other controls to work with projects, portals, items, views, layers, symbols, and renderers.

Using e-Learning for Build Desktop GIS Apps

- ☐ Extend ArcGIS Pro Functionality with Add-ins - Presenters demonstrate how to modify the ArcGIS Pro user interface and build customizations that leverage the SDK's asynchronous programming pattern (Training Seminar) – *April 2016 – This seminar was developed to support ArcGIS Pro 1.2, ArcGIS Online and Microsoft Visual Studio 2013.*
- ☐ Building ArcGIS Pro Add-ins and Solution Configurations - This seminar shows how to incorporate your organization's unique tools and workflows into ArcGIS Pro using the ArcGIS Pro SDK for the Microsoft .NET Framework (Training Seminar) – *October 2017 – This seminar was developed to support ArcGIS Pro 2.0 Standard or Advanced, ArcGIS Online, ArcGIS Pro SDK 2.0 for the Microsoft .NET Framework, Microsoft Visual Studio 2017*

BUILD WEB GIS APPS

For GIS Managers who may or may not be familiar with JavaScript who want to develop custom web applications that include ArcGIS services and functionality.

INTRODUCTION TO WEB DEVELOPMENT USING ARCGIS API FOR JAVASCRIPT

Instructor-led: 3 days

Learn how to create web apps that feature ArcGIS content and capabilities. Version 4 of ArcGIS API for JavaScript provides a streamlined experience for application development and new capabilities to easily incorporate 2D and 3D content. This course introduces the API classes, components, and available functionality that will help you create high-performing web applications.

This course is designed for: GIS Analysts and GIS Technical Leads

Learn How To:

- Create apps that incorporate your organization's web maps, web scenes, and layers.
- Display and render maps in both 2D and 3D.
- Include capabilities for end users to query map layers and perform spatial analysis.
- Develop and test application functionality using version 4 of ArcGIS API for JavaScript.

-or-

For Developers who are familiar with JavaScript and want to learn more about developing custom GIS web applications that include ArcGIS services and functionality, this is the course for you.

DEVELOPING WEB APPS WITH ARCGIS API FOR JAVASCRIPT

Instructor-Led: 3 days

This course teaches how to use ArcGIS API for JavaScript to efficiently build high-performing, engaging web applications that meet the needs of their intended audience. You will learn about the classes available in the API, how to use them in a JavaScript-based web application, and how to incorporate ready-to-use content and ArcGIS services to enhance your applications. It is recommended that students first attend: Introduction to the ArcGIS for Server REST API

This course is designed for: JavaScript developers who want to create applications that include ArcGIS services and functionality

Learn how to:

- Build, test, and deploy a web application using ArcGIS API for JavaScript.
- Use the ArcGIS platform to incorporate ready-to-use content and online services that allow end users to visualize, query, analyze, and edit data.
- Configure API components to meet user requirements.
- Apply best practices to ensure high performance and proper communication between the client application and web server.

For an e-Learning option to learn more

- ☐ **Building 3D Web Apps with ArcGIS API for JavaScript** - Build a 3D web application with the ArcGIS API 4.x for JavaScript with minimal code. This seminar demonstrates how to author web scenes and load them into custom apps. Learn how you can customize the experience with beautiful visualizations and custom pop-ups (Training Seminar) – November 2016 – This seminar was developed to support *ArcGIS Pro 1.3 (advanced) ArcGIS Online Organizational Account (Publisher role), 3D Analyst & JavaScript 4.1.*

For individuals wanting to learn about Web AppBuilder for ArcGIS which provides a foundation for building intuitive, focused apps that run anywhere, on any device, without writing a single line of code, this is the course for you.

Link to Esri Website → (Web AppBuilder) - To use Web AppBuilder, you must have an ArcGIS organizational account.

CONFIGURING WEB APPS USING WEB APPBUILDER FOR ARCGIS

Instructor-led: 1 Day

Learn how to easily create intuitive, focused web apps that are accessible on desktop and mobile devices—without writing any code. This course shows how to take advantage of existing web maps, themes, and widgets to build apps that feature your organization's branding and deliver the functionality your users require. Completion of Creating and Sharing GIS Content with ArcGIS Online or equivalent knowledge as a prerequisite is helpful.

This course is designed for: GIS Professionals and GIS Managers

Learn how to:

- Plan a web app's design based on the audience and required functionality.
- Configure themes and widgets to meet web app requirements.
- Evaluate web app design and functionality on virtual devices.
- Publish a web app.

E-Learning for working with Web Apps

- ☐ **Get Started with Web AppBuilder for ArcGIS -** This seminar shows how to quickly build a web app that showcases your data; configure widgets that allow end users to query the data, perform analysis, and more; and choose the app's look and feel (Training Seminar) – *January 2015 - This seminar was developed to support ArcGIS Online, Web AppBuilder for ArcGIS Developer Edition 1.0.*
- ☐ **Creating Web Applications Using Templates and Web AppBuilder for ArcGIS** - This course teaches how to use ArcGIS Online templates and Web AppBuilder for ArcGIS to quickly share a web map as a cross-platform application that features the content and geospatial capabilities you will need (Web Course) – *To complete the exercises, you will need ArcGIS Online Organizational Account (Publisher role or equivalent).*
- ☐ **Discover the Next-Generation ArcGIS API 4 for JavaScript** - At version 4, Esri's ArcGIS API for JavaScript has a brand-new architecture that developers will love. This streamlined, next-gen application programming interface (API) has a new object model, components, and cutting-edge capabilities (Training Seminar) – *May 2016 – Developed to support ArcGIS API 4 for JavaScript.*
- ☐ **Configuring Apps Using AppStudio for ArcGIS** - People use apps on their mobile device for many of their daily activities. AppStudio for ArcGIS lets you create geo-enabled apps without writing a single line of code. This course will quickly show you how to do so for iOS and Android (Web Course) – *To complete exercises, you will need ArcGIS Online (Publisher role), AppStudio for ArcGIS and AppStudio Player for ArcGIS for Android or iOS.*
- ☐ **Introduction to Web AppBuilder for ArcGIS (Developer Edition)** - This presentation will cover the different types of customizations you can do. You will also learn how to get Developer Edition installed and ready to use. This is part 1 of a series on Web AppBuilder for ArcGIS Developer Edition (Training Seminar) - *August 2017– This seminar was developed to support the following: ArcGIS Online Organizational Account (Publisher role or equivalent), Web AppBuilder for ArcGIS Developer Edition 1.0*

CERTIFICATION

LEARN ABOUT CERTIFICATION EXAMS

27-minute overview to learn more about Esri Technical Certifications

- ☐ **Discover Esri Technical Certifications** - In this seminar, you will get key information on available certifications, exam-preparation resources, and the benefits of achieving an Esri technical certification (Training Seminar).

PREPARE FOR ARCGIS DESKTOP CERTIFICATION EXAMS

E-Learning options for preparing for desktop exams

- ☐ **Esri Technical Certification: Sample Questions for ArcGIS Desktop Entry** - This set of sample questions is designed to help you prepare for the ArcGIS Desktop Entry certification exam (Web Course)
- ☐ **Esri Technical Certification: Sample Questions for ArcGIS Desktop Associate** - This set of sample questions is designed to help you prepare for the ArcGIS Desktop Associate certification exam (Web Course)
- ☐ **Esri Technical Certification: Sample Questions for ArcGIS Desktop Professional** - This set of sample questions is designed to help you prepare for the ArcGIS Desktop Professional certification exam (Web Course)

PREPARE FOR ARCGIS DEVELOPER CERTIFICATION EXAMS

E-Learning options for preparing for developer exams

- ☐ **Esri Technical Certification: Sample Questions for Web Application Developer Associate** - This set of sample questions is designed to help you prepare for the Web Application Developer Associate certification exam (Web Course)
- ☐ **Esri Technical Certification: Sample Questions for ArcGIS Desktop Developer Associate** - This set of sample questions is designed to help you prepare for the ArcGIS Desktop Developer Associate certification exam (Web Course)

PREPARE FOR ARCGIS ENTERPRISE CERTIFICATION EXAMS

E-Learning options for preparing for enterprise exams

- ☐ **Esri Technical Certification: Sample Questions for Enterprise Geodata Management Associate** - This set of sample questions is designed to help you prepare for the Enterprise Geodata Management Associate certification exam (Web Course)
- ☐ **Esri Technical Certification: Sample Questions for Enterprise Geodata Management Professional** - This set of sample questions is designed to help you prepare for the Enterprise Geodata Management Professional certification exam (Web Course)
- ☐ **Esri Technical Certification: Sample Questions for Enterprise System Design Associate -** This set of sample questions is designed to help you prepare for the Enterprise System Design Associate certification exam (Web Course)
- ☐ **Esri Technical Certification: Sample Questions for Enterprise Administration Associate** - This set of sample questions is designed to help candidates prepare for the Esri Enterprise Administration Associate certification exam (Web Course)

ESRI MASSIVE OPEN ONLINE COURSES (MOOCS) FOR 2018

To sign up for any of the MOOCs, just click the "Register Now" button to fill out your name and email.

Do It Yourself GeoApps

Anyone can build apps on the ArcGIS Platform.

This course will show you how to combine location and narrative in one application to better communicate and broadcast your story, create custom web applications that solve problems in your community, and build powerful native applications for iOS and Android devices without touching a piece of code. The course is four weeks and requires 3-4 hours of study per week to be successful. The only class scheduled for 2018 is **September 5 – October 16, 2018.**

Cartography

Learn from Accomplished Cartographers Using World-Class GIS.

With coaching from experienced cartographers and practical, hands-on exercises using ArcGIS Pro, you'll become a smarter mapmaker, ready to go beyond the defaults and make better maps. The course covers six weeks and requires 2-3 hours of study per week. Classes in 2018 are scheduled: **April 18 – May 29, 2018** and **September 5 – October 16, 2018.**

The Location Advantage

Explore how Location Analytics can be used in Business.

Location analytics uses the locational component of business data to improve users' understanding of their market, customers, and business processes. This MOOC explores the capabilities of Esri Business Analyst Online. The course covers six weeks and requires 1-2 hours of study per week.
The only class scheduled for 2018 is **April 18 – May 29, 2018.**

Earth Imagery at Work

See Why Imagery is Information.

Digital images of earth's surface produced by remote sensing are the basis of modern mapping. They are also used to create valuable information products across a spectrum of industries. This MOOC is for everyone who is interested in applications of earth imagery to increase productivity, save money, protect the environment, and even save lives. Classes in 2018 are scheduled: **February 7 – March 20, 2018** and **October 31 – December 11, 2018**.

Going Places with Spatial Analysis

Gain a deeper understanding of spatial data analysis.

This MOOC is for people who know something about data analysis and want to learn about the special capabilities of spatial data analysis. You'll get free access to the full analytical capabilities of ArcGIS Online, Esri's cloud-based GIS platform. This course requires six weeks and requires 2-3 hours of study per week. As this course is being revised, the only class scheduled for 2018 is **October 31 – December 11, 2018.**

For additional information on Esri's MOOC Program – go here: **http://www.esri.com/mooc**