

ArcGIS Pro Essentials Series: Part III

Course Length: 3 days

ArcGIS Version: Pro 3.x

App: ArcGIS Pro

Overview

Now that you are comfortable with the basic functionality of ArcGIS Pro, you may be looking for some more advanced methods of accomplishing your goals. This three-day course is designed for professionals who are ready to move beyond individual maps and into the systems, workflows, and data structures that make GIS reliable, repeatable, and maintainable across a team. You will unlock the full power of the file geodatabase, including topology rules, attribute domains, subtypes, and contingent values, to enforce data quality before errors ever get entered. You will learn to geocode address tables into map points, manage linear data along routes, and store precision annotation that persists across multiple projects. The course also introduces Arcade, ArcGIS Pro's cross-platform expression language, for driving dynamic labeling, symbology, and custom pop-ups. In the final day, you will build automation into your workflows using attribute rules, tasks, and ModelBuilder, so routine processes run faster and new staff get up to speed quicker.

Audience

This course is designed for GIS professionals who have completed ArcGIS Pro Essentials Series: Part I and ArcGIS Pro Essentials Series: Part II (or have equivalent experience) and are ready to take on the data management, quality control, and workflow automation challenges that come with running GIS at an organizational level. It is particularly valuable for those responsible for maintaining shared geodatabases, onboarding new users, or building repeatable analysis processes for their team.

Topics Covered

Day 1

- The File Geodatabase – Go beyond basic geodatabase use to understand the structural settings, storage options, and unique capabilities that distinguish it from other formats, and that unlock the advanced features covered throughout this course. (Geodatabase Structure; Geodatabase Feature Classes vs. Shapefiles)
- Address Geocoding – Convert address tables into mappable point features using ArcGIS geocoding tools, using Esri's default geocoding service or custom-built address locators tailored to your own data. (The Geocoding Process; Address Locator Options; Geocoding Addresses; Creating an Address Locator)
- Introduction to Arcade – Write lightweight expressions that work consistently across ArcGIS Pro, ArcGIS Online, Portal, and mobile apps, driving dynamic labels, conditional symbology, custom pop-ups, and field calculations without requiring Python or full scripting expertise. (Why ANOTHER Language?; Basic Syntax; Arcade Operators and Functions; Arcade for Labeling; Custom Symbology with Arcade; Conditional Statements)

Linear Referencing – Represent and analyze multiple attributes that change along the same line feature — pavement type, speed limits, crash rates, pipeline diameter — using real-world measurement values and offset event display rather than duplicating geometry. (Linear Referencing Defined; Events Along a Line; Hatching)

Day 2

- Project and Geodatabase Management – Keep projects clean and connected by managing database connections, setting default geodatabases, compressing data for read-only distribution, and importing and exporting between formats. (Project and Geodatabase Management; Importing and Exporting)
- Geodatabase Annotation – Store text as persistent, individually editable features inside a geodatabase, tied to attributes or freestanding, so your annotation survives across projects and can be managed in Catalog like any other dataset. (Creating Geodatabase Annotation; Editing Geodatabase Annotation; Changing Symbolology)
- Geodatabase Topology – Define and enforce geometric rules across your datasets — no gaps between parcels, no overlapping districts, wells must fall within leases, then validate and correct errors systematically rather than hunting for them manually. (Creating Geodatabase Topology; Topology Validation; Correcting Topology Errors)
- Maintaining Attribute Integrity – Prevent bad data from ever being entered by configuring domains, subtypes, contingent values, and default values that guide editors toward valid choices and block invalid ones. (Constraining Attributes; Domains; Subtypes; Contingent Attribute Values; Data Reviewer Extension)

Day 3

- Attribute Rules – Go further than domains by writing Arcade-based rules that automatically calculate values, enforce cross-field constraints, and flag records that fail validation, even across related feature classes and connected web services. (Why Use Attribute Rules?; Attribute Rules View; Creating and Using Attribute Rules)
- Creating Tasks – Package any ArcGIS Pro workflow into a guided, step-by-step Task that documents your process, keeps editors on track, and can be shared independently of the project, making it a practical tool for onboarding, quality control, and best practice enforcement. (What is a Task?; Working Through a Task; Creating and Sharing Tasks)
- ModelBuilder – Build custom geoprocessing tools by visually connecting inputs, tools, and outputs in a reusable model, automating repetitive workflows, testing alternate scenarios, and documenting complex processes without writing a single line of code. (ModelBuilder Basics; Creating a Model)

Format

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

Prerequisites and Recommendations

Attendees should have knowledge of Microsoft Windows® and be familiar with the basic use of ArcGIS Pro, including the topics covered in the **ArcGIS Pro Essentials Series: Part I** and **ArcGIS Pro Essentials Series: Part II** classes.