

ArcGIS® Pro: Essential Workflows

STUDENT EDITION

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Course introduction

- Introduction
- Course goals
- Additional resources
- Installing the course data
- Icons used in this workbook
- Understanding the ArcGIS Platform

1 Getting started with ArcGIS Pro

- Lesson introduction
- Sign in to ArcGIS Pro
- Exercise 1: Locate and use common functionality
 - Start ArcGIS Pro and create a project
 - Add a folder connection and add data
 - Use the ArcGIS Pro Help to find tools
 - Use the Explore tool to navigate the map
 - Explore feature attributes
 - Select features interactively
 - Modify project properties
 - Locate features
- Lesson review

2 Creating geodatabase data

- Lesson introduction
- Common GIS data sources
- Data properties to consider
- Explore data sources
- Geoprocessing in ArcGIS Pro
- Getting data into the geodatabase
- Exercise 2A: Convert data into the geodatabase
 - Convert feature classes from one geodatabase to another
 - Convert a shapefile into a geodatabase
 - View data in ArcGIS Pro
- Importing subsets of data
- Create spatial and attribute queries
- Exercise 2B: Create and export subsets of data using queries
 - Create an attribute query and export features
 - Create a spatial query and export features
- Lesson review

3 Working with spatial reference

Lesson introduction

Shape of the earth

Datums

Setting vertical datums

Two types of coordinate systems

Exercise 3A: Set the spatial reference of a map

- Add a layer to a map

- Examine the coordinate system of a layer

- Enable the geographic transformation warning

- Apply a geographic transformation

Map projections

Distortion and spatial properties

Game of distortions

UTM and national coordinate systems

Exercise 3B: Apply a new spatial reference to a feature class

- Add additional layers to a map

- Prepare reproject parameters

- Reproject a feature class

Lesson review

4 Using ModelBuilder for data conversion

Lesson introduction

Uses of ModelBuilder

Explore a model

Using models to automate processes

Exercise 4: Build a model to convert multiple shapefiles

- Create a model and set its properties

- Add an iterator to the model and set its parameters

- Add a conversion tool to the model and set its properties

Lesson review

5 Visualizing data

Lesson introduction

Symbolizing layers

View symbolized data

Classifying numeric data

Exercise 5A: Symbolize vector data

- Symbolize data using unique values

- Symbolize data using graduated colors

- Symbolize points using graduated symbols

- Symbolize features by density

Set scale dependencies and definition queries

- Exercise 5B: Control the visibility of features
 - Add a map to a project, and then add layers
 - Set scale dependencies
 - Create definition queries
- Show raster symbology options
- Lesson review

6 Adding text to the map

- Lesson introduction
- Labeling basics
- Exercise 6A: Add and modify labels
 - Create a map and add a layer
 - Label the features
 - Change the label field
 - Modify the label font
 - Change the label position
- Label classes
- Exercise 6B: Create label classes and scale dependencies
 - Explore attributes
 - Create label classes
 - Set scale dependencies on label classes
- Geodatabase annotation feature classes
- Standard or feature-linked annotation
- Feature-linked annotation
- Exercise 6C: Convert labels to annotation
 - Add new layers
 - Add new labels
 - Convert labels to annotation
 - Modify annotations
 - Create new annotations
- Lesson review

7 Visualizing data in 3D

- Lesson introduction
- Why should you use 3D?
- Local and global scenes
- Scene elevation source
- Ground elevation surface
- Custom elevation surface
- Extruding features
- Exercise 7: Work with 3D scenes
 - Open a map file
 - Set the vertical coordinate system
 - Convert a map to a scene

- Set elevation properties for the scene
- Create a hillshade layer and set elevation properties
- Set the display properties
- Extrude the damaged buildings
- Display the earthquakes in 3D
- Link a 2D view and a 3D scene

Lesson review

8 Create features from tabular data

Lesson introduction

Ways to create points from tabular data

Adding x,y event data

Exercise 8A: Display x,y coordinate data

- Explore tabular data

- Display x,y event data

- Convert event data into the geodatabase

Geocoding addresses

Geocoding steps

Address locators

Exercise 8B: Geocode address locations

- Add and explore data

- Create an address locator

- Geocode addresses

- Explore output data

Lesson review

9 Relating tabular data

Lesson introduction

Associating tables

Cardinality

Joins

Relates

Creating a relate

Exercise 9: Join and relate tabular data

- Add a table and explore its attributes

- Convert an Excel file to a geodatabase table

- Add and calculate a field

- Join the tables

- Use the joined fields

- Export the joined layer

- Create a relate

Choose join or relate

Lesson review

10 Creating new features

Lesson introduction

Creating features and attributes

Exercise 10: Edit features and attributes

- Modify a feature template

- Digitize a polygon feature

- Update attributes

- Digitize line features

Lesson review

11 Modifying existing features

Lesson introduction

Why modify features?

Feature modification tools

Exercise 11: Use feature modification tools

- Modify vertices

- Reshape a feature

- Split a polygon

- Merge polygon features

Lesson review

12 Using ModelBuilder for analysis

Lesson introduction

Types of analysis

ModelBuilder and analysis

Selecting by attributes and buffering

The Clip and Intersect tools

Exercise 12: Create a model to analyze robberies

- Insert a map and create a model

- Query robberies

- Add the Buffer tool to the model and set parameters

- Add the Clip tool to the model and set parameters

- Add the Intersect tool to the model and set parameters

- Run the model and view the results

- Modify parameters and rerun the model

- Prepare the model for sharing

Lesson review

13 Sharing a static map

Lesson introduction

Overview of sharing in ArcGIS Pro

What is a map layout?

- Map layout objectives
- Layout design
- An improved map design
- Create a layout and add map elements
- Exercise 13: Create and share a map
 - Create a layout
 - Add a map frame to the layout
 - Add map elements to the layout
 - Create another layout in the project
 - Export the map to PDF
- Lesson review

14 Sharing dynamic maps

- Lesson introduction
- Dynamic sharing
- Sharing roles and permissions
- Sharing content to ArcGIS Online
- Exercise 14: Package data using ArcGIS Pro
 - Share a map package
 - Share a web map
 - Access shared content
- Lesson review

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- Appendix B: Answers to lesson review questions
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 - Lesson 2: Creating geodatabase data
 - Lesson 3: Working with spatial reference
 - Lesson 4: Using ModelBuilder for data conversion
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