

Using ArcGIS® for Public Safety 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 Applying GIS in public safety

- Lesson introduction
- How do you currently solve public safety problems?
- The geographic approach
- Problem-solving approaches in public safety
- The patterns of GIS
- The Incident Command System (ICS)
- How can GIS help with public safety?
- Lesson review

2 Getting to know your data

- Lesson introduction
- Using public safety data
- GIS data types
- Data storage types
- Exploring GIS data
- Exercise 2: Organize GIS data
 - Use ArcCatalog to view data
 - Use ArcMap to view data
 - Create a new geodatabase
 - Import and export files into a geodatabase
 - Import and export feature classes within geodatabases
 - View and edit metadata
 - Add data to ArcMap
 - Update map document properties
- Lesson review

3 Adding data to a map

- Lesson introduction
- What is a coordinate system?
- Why are coordinate systems important?
- Exploring coordinate systems in ArcGIS
- Exercise 3A: Determine a coordinate system
 - View the dataset properties
 - Add a coordinate system

- Getting data on a map
- Exercise 3B: Add data to a map
 - Geocode addresses
 - Display x,y data
- Lesson review

4 Asking questions of your data

- Lesson introduction
- Querying data
- Using queries
- Exercise 4A: Query attributes
 - Examine data
 - Use the Select By Attributes tool
 - Create a query expression
 - Summarize query results
 - Use operators in attribute queries
 - Use definition queries
- Exercise 4B: Query by location
 - Select by location
 - Select data manually
- Lesson review

5 Working with data

- Lesson introduction
- The editing workflow
- Applying the editing workflow for public safety data
- Exercise 5A: Edit public safety GIS data
 - Edit features in a feature class
 - Edit feature attributes
- What are some of the common problems in public safety data?
- Recognizing common data quality issues
- Exercise 5B: Update public safety data
 - Add an attribute field
 - Update attributes for a subset of features
 - Use the Field Calculator outside of an edit session
- Lesson review

6 Getting to know geoprocessing

- Lesson introduction
- What is geoprocessing?
- Finding tools in ArcGIS
- Exercise 6: Use geoprocessing tools
 - Use the Buffer tool
 - Use the Spatial Join tool

Geoprocessing using ArcGIS Online
Lesson review

7 Giving maps meaning with visualization

Lesson introduction

How do you recognize place?

What is visualization?

Symbology types

Classifying symbology

Exercise 7A: Work with symbology

- Use graduated color symbology to show quantity

- Use category symbology

- Use layer files to store symbology

- Use graduated symbols

Using scale and visibility to visualize information

Organizing layers

Improving your message with labeling and annotation

Exercise 7B: Optimize your map display

- Specify scale

- Organize the layers

- Set the visibility of the layers

- Add a basemap

- Label features

- Set scale range on labels

- Convert labels to map annotation

- Convert labels to geodatabase annotation

- Edit annotation

Lesson review

8 Disseminating results

Lesson introduction

Sharing public safety information

The geographic approach: Act

Considerations for sharing information

Sharing information in ArcMap

Sharing information in ArcGIS Online

Exercise 8: Share your results

- Training Services account credentials

- Configure the layout and add a legend

- Add other map elements

- Export the map

- Create a map package and upload it to ArcGIS Online

- Create a web map

- Create a web map application

Lesson review

Appendixes

Appendix A: Esri data license agreement

Appendix B: Answers to lesson review questions

Lesson 1: Applying GIS in public safety

Lesson 2: Getting to know your data

Lesson 3: Adding data to a map

Lesson 4: Asking questions of your data

Lesson 5: Working with data

Lesson 6: Getting to know geoprocessing

Lesson 7: Giving maps meaning with visualization

Lesson 8: Disseminating results