# Table of Contents

Esri resources for your organization

## Course introduction

Course introduction
Course goals
Training Services account credentials
Icons used in this workbook
Understanding the ArcGIS platform

1 Welcome to GIS

Lesson introduction
GIS
Geographic data
Geographic data types
GIS data models
Points, lines, and polygons
Representing real-world objects
GIS data on ArcGIS Online
Exercise 1: Differentiate between vector and raster data models
  - Sign in to ArcGIS Online
  - Investigate vector data
  - Investigate raster data
Choosing a data model
Lesson review
Answers to Lesson 1 questions

2 3D, imagery, and real-time data

Lesson introduction
3D data
Benefits of 3D data visualization
Using 3D data
Imagery raster vs. elevation raster
Using imagery data
Real-time data
Using real-time data
Exercise 2: Explore real-time stream-gauge data
  - Add a real-time feed to a web map
  - Investigate real-time data
Lesson review
3 Managing GIS data

Lesson introduction
Data collection methods
Choosing a data collection method
Geodatabases
Geodatabases and web services
Web services
Metadata
Exercise 3A: Explore metadata
  Open a web map
  Investigate the metadata
  Open a second web map and investigate the metadata
Searching for geographic data
Exercise 3B: Search for data for a mapping project
  Search for data
  Investigate the metadata
  Mark data as a favorite
Lesson review
Answers to Lesson 3 questions

4 Mapping in a GIS

Lesson introduction
Map components
Layers
Exercise 4A: Configure layer properties
  Open a web map and add a layer
  Investigate the map legend and attribute table
  Change the layer symbology
  Investigate transparency and the visible range
  Change what the attribute symbology is based on, create labels, and apply a filter
  Configure pop-ups
Types of symbology
Choosing symbology
Exercise 4B: Create a map
  Create a map
  Change the basemap
  Add data to the map
  Investigate the data
  Change the layer symbology
  Change the symbol color
Exercise 4C: Add layers and change symbology for your mapping project
   Create a web map
   Add layers
   Change the layer symbology
   Save the map
Lesson review
Answers to Lesson 4 questions

5  Sharing and collaborating in a GIS

Lesson introduction
Web layer benefits
Web layer types
Exercise 5: Use web layers in your map
   Search for web layers
   Add web layers to your map
Item ownership
Groups
Item sharing
Accessing shared content
Accessing items in ArcGIS Desktop
Lesson review
Answers to Lesson 5 questions

6  Answering questions using data

Lesson introduction
Asking geographic questions
Spatial analysis
Types of spatial analysis
Spatial analysis questions
Performing analysis
Exercise 6: Perform spatial analysis
   Create a map
   Add data to a map
   Perform proximity analysis
   Perform overlay analysis
   Prepare a web map for sharing
   Share a web map
   Open a shared web map
Lesson review
7 Putting GIS to use

Lesson introduction
ArcGIS apps
Comparing apps
Story maps
Exercise 7A: Use Map Viewer to prepare your web map for sharing
  Open your web map
  Prepare your map for sharing
Creating a web app
Exercise 7B: Share your web map and create a web app
  Share your web map
  Create a web app
  Configure your web app
Web app purpose and intended audience
Lesson review
Answers to Lesson 7 questions

Appendices

Appendix A: Esri data license agreement
Appendix B: Answers to lesson review questions
Appendix C: Additional resources