**Introduction to GIS – Workshop Overview**

The workshop is broken up into five modules. Each module covers a specific topic and may have one or more detailed presentations, short “lightning talk” presentations, demos and hands-on independent exercises. The table below references each module, presentation and exercise covered in this three-day workshop.

<table>
<thead>
<tr>
<th>Module</th>
<th>Presentation Topic</th>
<th>Exercise Type</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Module 1: Introduction to GIS</strong></td>
<td>1-1 - Introduction to GIS Introduction to ArcGIS</td>
<td>Follow the Instructor Exercise 1a - Hands on</td>
</tr>
<tr>
<td><strong>Module 2: All about Data</strong></td>
<td>2-1 - Where to Find Data (Lightning Talk) 2-2 - Data Types 2-3 - Understanding Spatial Reference</td>
<td>Exercise 2a – Hands on Exercise 2b – Hands on</td>
</tr>
<tr>
<td><strong>Module 3: Working with Tables</strong></td>
<td>3-1 - Introduction to Tables 3-2 – Working with Tables 3-3 – Selections &amp; Queries</td>
<td>Ex 3a - Hands on Ex 3b - Hands on Ex 3c - Hands on</td>
</tr>
<tr>
<td><strong>Module 4: Map Production</strong></td>
<td>4-1 – Layer Symbology 4-2 - Adding Text &amp; Graphics 4-3 - Creating a Cartographic Output 4-4 - Data Driven Pages (Lightning Talk)</td>
<td>Ex 4a - Hands On Ex 4b - Hands on Ex 4c - Hands on Reference Exercise 6c</td>
</tr>
<tr>
<td><strong>Module 5: Data Manipulation</strong></td>
<td>5-1 - Georeferencing (Lightning Talk) 5-2 – Digitizing &amp; Editing 5-3 - Working with ArcToolbox</td>
<td>Reference Exercise 6f Ex 5a - Hands on Ex 5b - Hands on</td>
</tr>
<tr>
<td><strong>Module 6: GIS Hodgepodge</strong></td>
<td>6-1 - Adding XY Coordinates to ArcMap 6-2 - Mind Over Metadata 6-3 - Google Earth (KML) 6-4 - ArcGIS Online</td>
<td>Reference Exercise 6a Reference Exercise 6b Reference Exercise 6e Reference Exercise 6d</td>
</tr>
</tbody>
</table>
Hands-on Exercises

Exercise 1a: ArcMap Basics
- Getting Started: Opening ArcMap
  - Open a New Map
- The ArcMap Interface
  - Exploring the GUI
  - Working with Toolbars
- Opening a Previously Created Map Document
  - Open a Project File (.mxd) within ArcMap
- Using the Tools Toolbar to Navigate Within Data View
  - The Tools Toolbar in Detail
  - Using the Mouse to Pan and Zoom
- Adding Data to ArcMap
  - Adding a Shapefile to ArcMap
  - Opening a Feature Attribute Table
- Using Basic Tools in ArcMap
  - Using the Identify Tool
  - Measure Features
  - Spatial Bookmarks
- Layer Properties and Data Frame Properties
  - Layer Properties
  - Data Frames and Data Frame Properties
  - Insert a New Data Frame
- Save Your Work!
  - Save Your Map Project (.mxd)
- Finding Help
  - ArcGIS Desktop Help
  - ArcGIS Desktop Web Help
- Let’s Review!

Exercise 2a: Working with Data
- Getting Started: Opening ArcCatalog
  - Exploring the ArcCatalog Interface
- Navigating the Catalog Tree
  - Locate the ArcGIS10 Folder
- Modifying the Catalog Tree
  - Connecting to a Folder
  - Launch ArcMap
  - Folder Connections in ArcMap
- Exploring Data Types
Exercise 3b: Working with Tables

Getting Started
- Open an Existing Map (.mxd)
- Table Options
- Add a Table to ArcMap and Open the Table
Exercise 4b: Labels, Graphics and Annotation

- Set Up Your Map
- The Labels Tab
- Setting a Scale Range
- Using a Label Expression
- Formatting a Label Expression

Exercise 4a: Symbology

- Changing a Layer's Symbol
- Line Symbol Selector
- Polygon Symbol Selector
- Point Symbol Selector

Making Thematic Maps

- Symbolizing Point Categories
- Symbolizing Line Categories
- Symbolizing Polygon Categories

Classifying Numeric Data

Save Symbology in a Layer (.lyr) File

Exercise 3c: Selections and Queries

- Selectable Layers
- Selection Options
- Interactive Features Selection
- Clear Selected Features
- Select by Attributes Query Builder
- Creating a Definition Query
- Select by Location
- Export Selected Features

Extra Credit

- Select By Location Using Selected Features
- Select By Graphics

Extra Credit

- Advanced Calculations

Table Joins

- Join Two Tables
- Examine Joined Tables
- Field Calculator
- Add an Excel File of Election Results
- Join Excel File to a Feature Class
- Export as Feature Class

Extra Credit

- Advanced Calculations
Advanced Labels: Label Classes
- Create a Label Class
- Specify a Label Scale Range

Geodatabase Annotation
- Adding Additional Data Frames
- Create a Geodatabase Annotation Class
- Exploring Annotation

Adding Graphics to a Map
- The Draw Toolbar
- Add a Graphic Shape to Your Map
- Add a Text Element to Your Map
- Deleting a Graphic or Text Element

Exercise 4c: Map Layouts

Getting Started: Layout Basics
- Set up Your Map
- Working in Layout View
- The Layout Toolbar
- Data Frames in Layout View

Adding Cartographic Elements
- Add a Title
- Add a Legend
- Add a Scale Bar
- Add a North Arrow
- Add a Text Element
- Add an Image
- Customize the Overview Map

Creating a PDF Map
- Preparing Your Layout for Export
- Export to PDF
- Explore Your PDF
- Advanced PDF Functions

Printing & Sharing a Map
- Print Your Map
- Creating a Map Package

Exercise 5a: Digitizing Basics

Editing Tools
- Preparing the View for Editing
- Starting an Edit Session
- The Editing Environment
Digitizing Points .................................................................................................Error! Bookmark not defined.
Digitizing Lines ...............................................................................................Error! Bookmark not defined.
Digitizing Polygons .........................................................................................Error! Bookmark not defined.
Edit a Vertex ....................................................................................................Error! Bookmark not defined.
Advanced Editing ..............................................................................................Error! Bookmark not defined.
Prepare Your Map .............................................................................................Error! Bookmark not defined.
The Cut Polygons Tool ......................................................................................Error! Bookmark not defined.
Extra Credit .......................................................................................................Error! Bookmark not defined.
Exercise 5b: ArcToolbox ..................................................................................Error! Bookmark not defined.
Basic Geoprocessing Tools ..............................................................................Error! Bookmark not defined.
Using the Clip Tool ..........................................................................................Error! Bookmark not defined.
Using the Dissolve Tool ..................................................................................Error! Bookmark not defined.
Search for ArcToolbox Tools ...........................................................................Error! Bookmark not defined.
The Dissolve Tool Interface .............................................................................Error! Bookmark not defined.
Export a Subset of a Data Layer ......................................................................Error! Bookmark not defined.
More Advanced Geoprocessing Tools .............................................................Error! Bookmark not defined.
The Buffer Tool ...............................................................................................Error! Bookmark not defined.
The Union Tool ................................................................................................Error! Bookmark not defined.
Analyzing the Results .......................................................................................Error! Bookmark not defined.
The Intersect Tool .............................................................................................Error! Bookmark not defined.
Reference Exercise 6a: Mad About Metadata ..............................................Error! Bookmark not defined.
Getting Started: Metadata in ArcCatalog .......................................................Error! Bookmark not defined.
Explore Existing Metadata ..............................................................................Error! Bookmark not defined.
No Metadata? .....................................................................................................Error! Bookmark not defined.
Editing Metadata ..............................................................................................Error! Bookmark not defined.
Metadata Style Options ...................................................................................Error! Bookmark not defined.
Editing Metadata ..............................................................................................Error! Bookmark not defined.
Lightning Round: Getting Coordinate Data into ArcMap ...............................Error! Bookmark not defined.
Lightning Round: Data Driven Pages .............................................................Error! Bookmark not defined.
Lightning Round: ArcGIS Online ......................................................................Error! Bookmark not defined.
Lightning Round: Converting to Google KML ...............................................Error! Bookmark not defined.
Lightning Round: Georeferencing ...................................................................Error! Bookmark not defined.