

South Dakota Mines Field GPS Workshop

Day 1. GIS and GPS

Lesson 1. GIS basics

Geodatabase feature classes
Why use GIS for data collection?
Geodatabase fields and tables
Geodatabase field domains
Review of GIS/GPS Coordinate systems
Exercise: Creating a feature class

Lesson 2. Intro to ArcGIS Online

Accessing ArcGIS Online
Feature services
Web maps
Exercise: Create and share a web map

Lesson 3. Publishing a feature service

Publishing a feature service
Publishing an editable feature service
Creating a web map for editing
Exercise: Creating an editable feature service and including it in a web map

Lesson 4. GNSS and GPS

Brief history of GPS
How does GPS work?
GPS accuracy, precision
Cell phone location: do you need a GPS?
Exercise: (using Collector)
Data collection with phone
Data collection with phone + GPS

Day 2. Mobile data collection

Lesson 5. ArcGIS Field Apps

Overview of ArcGIS Field apps:
Collector, Survey123, QuickCapture, Workforce
Exercise: Match the application to the app

Lesson 6. ArcGIS Collector

Review of desktop setup
Working offline
Demo: Web setup for Collector
Exercise: Using Collector

Lesson 7. More Collector

Collecting Photos
Using pick lists
Disconnected editing
Exercise: Doing more with Collector

Lesson 8: Using Survey123 and QuickCapture

Review: Why Survey123 and QC?
Setting up a Survey123 and QC
Exercise: Set up Survey123 and QC
Exercise: Collecting data with Survey123 and QC

Lesson 9. Using hosted data

Using hosted data in ArcMap, ArcGIS Pro
Exercise: View and download and perform analysis today's data using ArcMap and ArcGIS Pro



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