

## **Cave and Karst Field Data Collection and Visualization**

### **Course Schedule – June 14-19, 2026**

#### **Sunday: June 14, 2026, 7:30pm sign in**

- Orientations
  - WKU orientation
  - Park Orientation
  - Class Orientation
- Overview of Learning Outcomes
- Equipment/software demonstrations
- Review Next Days Exercises; gear/equipment needed

#### **Monday: June 15, 2026**

8:30am- 12:30- classroom

- A bit about data management
- Introduction to data visualization
- Types of karst field data and what to do with it
- Prep for field exercise (collecting geographic data, photo-documentation)

12:30 -1:45pm Lunch break

1:45-5:30 pm in-cave field Exercise (data collection)

- Collection of geographical data (surface and in-cave), photo-documentation

5:30-6:45 pm dinner break

6:45-8:45 Evening session -

- Data Reduction and Plotting
- Making shapefiles and KMLs using Google Earth Pro
- Hyperlinking photo images

#### **Tuesday: June 16, 2026**

8:30am- 12:30- classroom

- Cave and karst feature inventories
- Use of inventory applications
- Prep for in-cave field exercise (Collecting cave and karst feature data)

12:30 -1:45pm Lunch Break

1:45-5:30 pm In-cave field exercise (data collection)

- Collecting and georeferencing resource inventory data

5:30-6:56 pm dinner break

6:30-8:30 Evening session -

- Plotting data and inventories in GIS software

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### **Wednesday: June 17, 2026**

8:30am- 12:30- classroom

- Overview on ArcGIS Story maps
- In-class exercise on story maps using existing data and information
- Cave radio location – locating cave passages with respect to the surface
- Prep for field exercise (Cave radio location, infrastructure mapping)

12:30 -1:45pm Lunch Break in Horse Cave

1:45-5:30 pm In-cave field exercise

- Conducting a cave/surface radio- location
- Mapping show cave infrastructure

5:30-6:56 pm dinner break

6:30-8:30 Evening session -

- Plotting the infrastructure data on the cave map
- Georeferencing cave map with radio-location using ArcGIS Online
- Starting a story map

### **Thursday, June 18, 2026**

8:30am- 11:30- classroom

- Introduction to underground photogrammetry
- Story maps continued
- Prep for field exercise

11:30-12:30- Lunch

12:30-4:30pm In-cave photogrammetry field exercise

4:30-6:00pm Dinner break

6:00-8:30pm evening session

- Processing photogrammetry data
- Story map on today's field work

### **Friday, June 19, 2026**

8:30am- 11:00- classroom

- Surface lidar – using it in ArcGIS Online
- Prep for field project – using what we learned to visualize cave/karst data
- Students taking course for credit determine class project with instructor

11:30-4:30 Field project – cave TBA

4:30-6:00 Dinner break

6:00-9:00pm Visualizations of data collected.