

Karst Hazards Tentative Class Schedule/Agenda

*Subject to Change based on weather**

This is a comprehensive hands-on course in applied research. The course will consist of brief morning lectures (in-class or in the field) followed by visits to field sites, lab work, or other exercises related to the course. We may also have additional lectures as needed throughout the day, including evening exercises.

Monday, June 13: General Karst Hazards Introduction

Discussion topics: General karst hazards overview, introduction to equipment and case study areas

Field excursions: Overview of stormwater in Bowling Green

- Walking tour of injection well and drainage features
- Visit primary karst monitoring sites

Starting Location: WKU CRD (room TBD)

Tuesday, June 14: Stormwater and Flooding Hazards

Discussion topics: Karst flooding, hydronet, monitoring

Field excursions: Overview of stormwater in Bowling Green

- Visit major flood areas of Bowling Green, including Russellville Road corridor project, Egypt Lot, Fairview Plaza, Lost River Cave, Unitarian Church, etc.
- Measuring water levels and discharge in karst features (flowprobe, ADCP, level loggers, etc.) at primary monitoring sites

Starting Location: WKU CRD (room TBD)

Wednesday, June 15: Water Quality Hazards

Discussion topics: Water quality monitoring networks, parameters and grab sampling, water quality data analysis, real-time data processing, outreach and education

Field excursions: UnderBG Water Quality Monitoring Network

- Visit water quality monitoring network sites for UnderBG
- Working with EXO water quality sondes, taking grab samples for water quality in-field and for lab, data processing methods

Starting Location: WKU CRD (room TBD)

Thursday, June 16: Sinkhole Hazards

Discussion topics: Sinkhole causes and investigation, monitoring techniques for collapse, sinkhole survey and detection (LiDAR and DEMs)

Field excursions: National Corvette Museum Sinkhole and Bowling Green sites

- Visit National Corvette Museum Sinkhole and Exhibit
- Visit natural sinkhole entrances in Bowling Green (e.g., Dishman Lane collapse, others)
- Working with sinkhole investigation methods, geophysics, detection and monitoring techniques

Starting Location: WKU CRD (room TBD)

Friday, June 17: Hazardous Contaminants and Response Planning

Discussion topics: Hazardous spill and contaminant (e.g., radon) threats, developing and applying a framework for emergency response and hazard planning, monitoring and mitigation techniques (multigas meters, radon detection, GIS web mapping HAZKarst, etc.)

Field excursions: Overview of stormwater in Bowling Green

- Tour of gasoline leak and detergent contaminant event sites in Bowling Green
- Simulation exercise for responding to a hazardous contaminant event with first responders and Emergency Management personnel, application of GIS RUCKAS tool

Starting Location: WKU CRD (room TBD)
