

Teacher Professional Development Project Schedule

June 26, 2024 (Workshop 1)

9:00 AM - Depart UHV Campus for Invista Wetland Center (UHV Bus)

9:30 AM – Activity 1.1: Hydrologic Cycle and Water Resources

9:30 AM - Exercise 1.1 – Hydrologic Cycle using Physical Models of Watersheds and Aquifers

9:30 AM - Simulation of Precipitation (Facilitator: Tim Andruss)

~9:45 AM - Simulation of Storm Water Runoff and River Flow (Facilitator: Tim Andruss)

~10:00 AM - Simulation of Infiltration and Aquifer Recharge (Facilitator: Tim Andruss)

~10:30 AM - Simulation of Surface Water and Groundwater Interactions (Facilitator: Tim Andruss)

11:00 AM - Exercise 1.2 – Assemble and Use a Basic Aquifer Model (Facilitator: Tim Andruss)

11:30 PM – Activity 1.3: Lake/Wetlands Site Visit

11:30 AM Exercise 1.3 – Lake/Wetlands Water Sample Collection

11:30 AM - Observation of Hydrologic Processes (Facilitator: John Snyder)

~12:00 PM - Collection of Surface Water Sample using Field Protocols (Facilitator: Tim Andruss)

12:30 PM – Lunch

1:00 PM – Depart Invista Wetland Center for Riverside Park (UHV Bus)

1:30 PM – Activity 1.4: River Site Visit

1:30 PM - Exercise 1.4 – River Water Sample Collection

1:30 PM - Observation of Hydrologic Processes (Facilitator: Tim Andruss)

~2:00 PM - Collection of Surface Water Sample using Field Protocols (Facilitator: Tim Andruss)

2:30 PM – Depart Riverside Park for Clements Ranch (UHV Bus)

3:00 PM – Activity 1.5: Water Well Site Visit

3:00 PM - Exercise 1.5 – Water Well Groundwater Sample Collection

3:00 PM - Observation of Hydrologic Processes (Facilitator: Tim Andruss)

~3:15 PM - Collection of Groundwater Sample using Field Protocols (Facilitator: Tim Andruss)

3:45 PM – Depart Clements Ranch for UHV Campus (UHV Bus)

Teacher Professional Development Project Schedule

June 27, 2024 (Workshop 2)

9:00 AM - Depart UHV Campus for Invista Wetland Center (UHV Bus)

9:30 AM – Activity 2.1: Risks to Water Resources

9:30 AM - Exercise 2.1 – Aquifer Depletion and Pollutant Migration in Aquifers and Watersheds

9:30 AM - Simulation of Drawdown and Aquifer Depletion (Facilitator: Tim Andruss)

~9:45 AM - Simulation of Saltwater Intrusion (Facilitator: Tim Andruss)

~10:00 AM - Simulation of Pollution Migration across a Watershed (Facilitator: Tim Andruss)

~10:15 AM - Simulation of Pollution Migration in an Aquifer (Facilitator: Tim Andruss)

10:30 AM - Exercise 2.2 – Water Sample Analysis and Comparison

10:30 AM - Measurement of Basis Water Quality Characteristics (Facilitator: Tim Andruss)

~10:45 AM - Measurement of Select Analytes (Facilitator: Tim Andruss)

~11:00 AM - Comparison of Lake Water, River Water, and Groundwater (Facilitator: Tim Andruss)

11:30 AM - Activity 2.2: Water Resource Conservation Approaches and Technology

11:30 AM - Exercise 2.3 – Groundwater Conservation and Preservation

11:30 AM – Simulation of Aquifer Storage and Recovery (Facilitator: Tim Andruss)

~11:45 AM – Simulation of Brackish Groundwater Development (Facilitator: Tim Andruss)

12:00 PM – Lunch

12:30 PM – Depart Invista Wetland Center for UHV Campus (UHV Bus)

1:00 PM - Exercise 2.4 – Technology and Science in Water Conservation

1:00 PM - Simulations of Groundwater using Artificial Intelligence/Machine Learning (AI/ML) (Facilitator: Teresa Le Sage-Clements)

3:45 PM – Project Evaluations and Concluding Remarks (Facilitator: Tim Andruss)