CE-QUAL-W2 Water Quality Modeling Workshop (Aug 16 - 18, 2022)

* Day 1 - Aug 16, 8:30 AM - 4:30 PM:
  + Introduction (course overview, student and instructor introductions) (30 min)
  + Water Quality Modeling Fundamentals
    - Lecture 1.1: Hydrodynamics modeling (30 min)
    - Lecture 1.2: Temperature modeling (30 min)
    - Lecture 1.3: Water quality constituent modeling (30 min)
  + Overview of CE-QUAL-W2 Version 4.5
    - Lecture 1.4: General overview and new features in Version 4.5 (30 min)
  + CE-QUAL-W2 Model Input Data
    - Lecture 1.5: CE-QUAL-W2 bathymetry (30 min)
    - Workshop 1.1: CE-QUAL-W2 bathymetry (1 hr)
    - Lecture 1.6: Time series input data (30 min)
    - Workshop 1.2: Time series input data (1 hr)
* Day 2 - Aug 17, 8:30 AM - 4:30 PM:
  + CE-QUAL-W2 Model Demos
    - Lecture 2.1: Water temperature case study (30 min)
    - Lecture 2.2: Dissolved oxygen case study (30 min)
    - Lecture 2.3: Total Dissolved gas case study (30 min)
  + CE-QUAL-W2 Model Setup
    - Lecture 2.4: Model Setup Overview (30 min)
    - Workshop 2.1: Model Setup: Case Study (1 hr)
  + CE-QUAL-W2 Utilities
    - Lecture 2.5: Model Utilities (30 min)
    - Workshop 2.2: Model Utilities: Case Study (45 min)
  + CE-QUAL-W2 Calibration and Validation
    - Lecture 2.6: Calibration and Validation Fundamentals (30 min)
    - Workshop 2.3: Calibration and Validation: Case Study (45 min)
* Day 3 - Aug 18, 8:30 AM - 4:30 PM:
  + ERDC Tour: fish flume (CEERF), sediment lab, etc. (1.5 hr)
  + Workshops and Demos
    - Workshop 3.1: Add a port to a dam (1 hr)
    - Workshop 3.2: Selective withdrawal (1 hr)
    - Workshop 3.3: Upgrading a CE-QUAL-W2 model to Version 4.5 (1 hr)
    - Workshop 3.4: Special Topics and Student Demos (1 hr)
      * Note: students will be invited to submit topics of interest for demonstration and discussion
* Each day should include:
* A 1.5-hour lunch break
* Four 15-minute breaks
* 5.5 hours of instruction