



William J. "Mickey" Conway, District Manager

WASTEWATER AND AQUATIC BIOLOGY

COURSE SYLLABUS AND OVERVIEW

Instructor: Steve Lundt
Water Quality Scientist

Date: July 24, 2019

Location: Metro Wastewater Reclamation District
6450 York Street
Denver, CO 80229

Email: kmerritt@mwr.dst.co.us

Website: www.metrowastewater.com

Course Description

- The course is designed to give teachers an overview of the treatment process at Metro Wastewater Reclamation District and highlight the environmental benefits to the South Platte River. The program will include tours of the treatment facility and the Metro District Laboratory.
- Water quality scientists will present an overview of aquatic life assessment techniques, including introductions to fish and macroinvertebrate sampling. Habitat and water quality assessment will also be discussed. Participants will get hands-on field experience conducting a macroinvertebrate survey.
- The course is designed primarily for teachers of biology, environmental science, earth sciences, chemistry, and related sciences but is open to teachers at all levels.

Graduate Credit and Grading Policy

- To earn an **A** in the course, teachers must participate in all program activities and incorporate aspects of the day's events into a lesson plan appropriate for individual grade levels. Various formats will be accepted. All lesson plans should be submitted to Kelley Merritt (kmerritt@mwr.dst.co.us) within one week of completing the site visit.
- To earn a **B** in the course, teachers must participate in all program activities.

Course Goals and Learning Objectives

- Provide teachers with background knowledge to help students become global stewards of the environment.
- Demonstrate the science behind decisions that affect the wastewater treatment process and aquatic habitat improvement projects.
- Provide a number of hands-on field experiences with practical classroom applications.

Schedule

8:00 a.m. – 8:30 a.m.	History of the Metro District
8:30 a.m. – 9:00 a.m.	Introduction to the science and practice of wastewater treatment
9:00 a.m. – 9:15 a.m.	Travel to project site
9:15 a.m. – 11:30 a.m.	Visit a river site with the Metro District's water quality scientists (discussion and hands-on activities)
11:30 a.m. – 11:45 a.m.	Travel back to the Metro District
11:45 a.m. – 12:45 p.m.	Return to the Metro District for lunch (provided by the Metro District) and continued discussion of downstream water quality and habitat/watershed projects
12:45 p.m. – 1:45 p.m.	Tour of the 170-acre Robert W. Hite Treatment Facility
1:45 p.m. – 2:45 p.m.	Tour the on-site laboratory where nearly 36,000 samples are analyzed and 314,000 analytical results are reported annually in support of the Metro District's clean water mission
2:45 p.m. – 3:45 p.m.	Q&A with the subject-matter experts who participated in the activities and tours.
3:45 p.m. – 4:15 p.m.	Round of Wastewater Jeopardy and review of Metro District educational materials
4:15 p.m. – 5:00 p.m.	Course feedback and paperwork for continuing education credit available through Colorado School of Mines

Dress Code and Safety Procedures

- The Metro District is a highly industrialized work environment and **closed-toe shoes are required.**
- Many of the activities will be conducted outside in the sun for an extended period of time. Hats, sunscreen, and insect repellent are recommended.
- The Metro District provides reasonable accommodations for tours (and any other public programs) in accordance with the Americans with Disabilities Act. Please let us know if anyone in your group has a disability-related need for accommodation. To ensure consideration of specific accommodation requests, visitors must contact the Metro District at least **14 days in advance of the requested tour.**