



WASTEWATER AND AQUATIC BIOLOGY

COURSE OVERVIEW

Instructors: Steve Lundt
Senior Water Quality Scientist

Jordan Parman
Senior Water Quality Scientist

Date & Time: June 20, 2023; 8 a.m. to 5 p.m.

Location: Metro Water Recovery
6450 York Street
Denver, CO 80229

Email: Colleen Miller, cmiller@metrowaterrecovery.com

Website: www.metrowaterrecovery.com

Course Description

- The course is designed to give teachers an overview of the wastewater treatment process at Metro Water Recovery and highlight the environmental benefits to the South Platte River. The program will include tours of the treatment facility and 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 of all subjects and 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 Colleen Miller (cmiller@metrowaterrecovery.com) 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 hands-on field experiences with practical classroom applications.

Schedule

8:00 a.m. – 8:30 a.m.	History of Metro Water Recovery and breakfast (provided by Metro)
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 river site
9:15 a.m. – 11:30 a.m.	Visit a site on the South Platte River with Metro’s water quality scientists (includes discussion and hands-on activities)
11:30 a.m. – 11:45 a.m.	Travel back to Metro
11:45 a.m. – 12:45 p.m.	Lunch will be provided by Metro, with continued discussion of downstream water quality and habitat/watershed projects
12:50 p.m. – 1:50 p.m.	Tour of the 170-acre Robert W. Hite Treatment Facility
1:50 p.m. – 2:20 p.m.	Tour of the on-site laboratory where thousands of water samples are analyzed each year in support of the Metro’s clean water mission.
2:20 p.m. – 2:30 p.m.	Break
2:30 p.m. – 3:00 p.m.	Biosolids – what they are, how they are made, how they are used
3:00 p.m. – 3:30 p.m.	Q&A with the subject-matter experts who participated in the activities and tours.
3:30 p.m. – 3:45 p.m.	Review of Metro’s educational materials and tour offerings.
3:45 p.m. – 4:45 p.m.	Course feedback and paperwork for continuing education credit available through Colorado School of Mines.

Dress Code and Safety Procedures

- Metro 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. Water will be provided.
- Metro provides reasonable accommodation for tours and other public programs in accordance with the Americans with Disabilities Act. Please let us know if you have a disability-related need for accommodation at least 14 days prior to this class.