3rd Water Reuse Academy - 2025
Environmental Engineering Program
University of Colorado at Boulder

Environmental engineers have played an important role in modern society by providing safe drinking water and protecting the environment. Now, due to population growth and climate change, we are facing mounting challenges with the sustainability of our water supplies. Amongst practicing professionals it is well understood and agreed that water reuse needs to be a larger part of water supply systems. The **time for water reuse** on multiple scales for non-potable to direct potable reuse **is now**. For this vision to be realized, there is a need for water engineers to be grounded not only in engineering fundamentals, but the breadth and communication skills to navigate water supply issues, and the complexities of dealing with multiple stakeholders.

The mission of the Water Reuse Program at the University of Colorado at Boulder is to educate students through coursework and research to be successful water reuse professionals. CU faculty have multiple water reuse oriented research projects including teaming with the Water Research Foundation and others on a multi-year, multi-million-dollar U.S. EPA research grant "Unlocking the Nationwide Potential of Water Reuse." Our proposal in response to the U.S. EPA call "Occurrence and Implications of De Facto Water Reuse on Drinking Water Supplies" has been recommended for funding by external reviews and is awaiting final EPA determination.

We are pleased to announce the **3rd edition of the University of Colorado Water Reuse Academy**, directed to practicing professionals. This 2.5-day CU Water Reuse Academy to be held on **April 1-3rd, 2025** at the University of Colorado-Boulder SEEC facility. The expanded program will include management, planning and implementation in addition to raw and finished water quality concerns, operational considerations, and treatment process fundamentals linked to design. The last afternoon there will be a tour of the Aurora Water Peter Binney purification facility, one of the nation's largest and most advanced treatment facilities.

Attendees must have a basic understanding of water and wastewater treatment, with either a degree in engineering or at least five years of professional experience in treatment. The course is taught by CU Boulder faculty and affiliated faculty. Our keynote speaker, Doug Owen, will use his experience with the San Diego Pure Water Program to address big picture issues and approaches. Registration is $1,200 and is limited to 25 attendees. All instructional costs, a set of course notes, and all meals are included. Lodging is not included. The deadline for registration is March 14th, 2025. Cancellations made up until that date and will receive a refund less a $100 cancellation fee. Registrations will be confirmed by email. Participants can register here.
For more information contact Anna Segur.

What you will learn about potable water reuse in this spring 2025 course:

- An overview of water reuse, drivers and the regulations and guidelines that guide it.
- Which microbiological and chemical contaminants are of concern.
- The impact of upstream wastewater treatment on reuse water quality and operational concerns
- Process fundamentals, design criteria and implementation of treatment technologies:
  - Oxidation – ozone, UV and AOP
  - Membranes – microfiltration, nanofiltration and reverse osmosis
  - Advanced treatment use of coagulation, biofiltration, activated carbon adsorption and ion exchange
- Management, planning and implementation

Water Reuse is our Future!

3rd Water Reuse Academy

Tuesday April 1st through Thursday April 3rd 2025

University of Colorado - Boulder (CU-B)

Environmental Engineering (EVEN) Water Reuse Program (CUWR)

Sustainability, Energy and Environment Community (SEEC) Facility

Day 1 –½ day - Starts at noon **Location University of Colorado- Boulder East Campus SEEL 303**		
Check-in	12:00	**Instructors**
Lunch	**12:30**	Scott Summers/ Bill Becker/ Doug Owen
• **Course Welcome Schedule and Arrangement**		
• **Overview, Drivers, and Regulations**	12:45	Bill Becker
• **Microbial contaminants of concern**	1:30	Cresten Mansfeldt
• **Chemical contaminants of concern and DBPs**	2:15	Eric Peterson
Break	**3:00**	
• **Operational considerations and use of HAACP**	3:15	Ben Stanford
• **Linking reuse water quality to WW treatment**	4:00	Sherri Cook
• **Distribution systems - corrosion**	4:45	Sheldon Masters
Reception – Dinner off-site	**6:30**	
• **San Diego Pure Water Program Update**		Doug Owen
Day 2 – Treatment Processes **Location SEEL 303**		
Breakfast	**8:00**	
• **Microfiltration and ultrafiltration**	8:15	Tony Straub
• **Nanofiltration and reverse osmosis**	9:00	Tony Straub
Break	**10:00**	
• **Ozone oxidation/ disinfection**	10:30	Fernando Rosario-Ortiz
• **UV Disinfection**	11:30	Karl Linden
Lunch	**12:30**	
• **Advanced oxidation**	1:30	Karl Linden
• **Biological filtration**	2:30	Scott Summers
• **Coagulation**	3:00	Julie Korak
Break	**3:15**	
• **Activated carbon adsorption**	3:30	Scott Summers
• **Ion exchange**	4:30	Julie Korak
Dinner – off-site	**6:30**	
Day 3 – Planning and implementation ½ day **Location SEEL 303** **and Tour ½ day**		
Breakfast	**8:00**	
• **Planning and implementation** I	8:15	Austa Parker and Katie Spahr
Break	**10:00**	
• **Planning and implementation** II	10:15	Austa Parker and Katie Spahr
Lunch		
• **Wrap up**	**11:30**	Scott/Bill/Doug
Tour Aurora Water – Binney Facility	**1:00**	Kevin Linder and Ann Malinaro

All instructors are CU Boulder faculty and affiliated faculty.

*Professional development hours (*PDHs) are available. The PDHs will be issued by a NYSED Approved Sponsor. For states that have continuing education requirements, most accept approved New York courses.