



The Water Quality Management Technology (WQM) program at Red Rocks Community College is one of the most comprehensive training programs in the country, preparing students for employment in water and wastewater operations and other water industries.



Funded in part by the National Science Foundation and TAA-Department of Labor

The program is aligned with the Federal Environmental Protection Agency and the Colorado Department of Public Health and Environment, ensuring that students obtain the skills and knowledge needed for all careers within the industry. Innovative Training Facility and Outdoor Labs The WQM program is located within the Environmental Training Center, a newly renovated facility with four classrooms, a fully equipped laboratory, and direct access to the outdoor Distribution Training Lab and mobile learning lab. The Distribution Training Lab is Colorado's most advanced water distribution training site, with hands-on outdoor training areas designed to teach students the intricacies of distributing safe drinking water. Applied, technical skills are learned throughout the lab, while students work with the labs live water mains, pressurized above and belowground piping arrays, and an above ground vault. A mobile learning lab funded in part by the National Science Foundation and the TAA-Department of Labor, is used as an analytical laboratory for testing chemical and biological parameters within the field.

The Curricula, Staff and National Industry Criteria

WQM offers multiple academic pathways that guide students toward their professional and academic goals, including certificates, license preparation courses, continuing education courses, and an Associate of Applied Science degree that can be transferred to some four-year programs.

All instructors are credentialed, meaning they have proven industry experience in the topics they teach. Courses are designed to be delivered in various formats, including traditional classrooms, online and as hybrid. Grants from the National Science Foundation (NSF) and the TAA-Department of Labor (TAA) funded the development, redesign and adaptation of many WQM courses for hybrid and distance learning.

NSF and TAA funding also supported a project comparing WQM course learning objectives against the Need-To-Know criteria developed by the Associated Boards of Certification (ABC), a national organization that provides testing for professional certification in drinking water treatment and distribution, and wastewater collection and treatment. WQM at RRCC is the only education institution in Colorado to comply with and present all ABC identified 592 Need-To-Know criteria in the classroom.

WQM Academic Pathways

WQM certificates are a combination of courses that can be used to represent academic accomplishments to employers in lieu of, or while they are seeking an Associate degree. Certificates include Introduction to Water Treatment, Introduction to Wastewater Treatment, Laboratory Analysis, Mathematics in Water Quality, Distribution and Collection Systems, Education and Experience, Advanced Wastewater Treatment Certification (D-A), and Advanced Water Treatment Certification (D-A).

A significant number of students want immediate entry into the water industry workforce. This program operates closely with the state licensing system to prepare students for employment in water/wastewater quality management. In order to gain and maintain this type of employment, an operator must hold a valid license. Students interested in preparing for the state licensing exams are advised to take pre-selected WQM college courses that are designed for this purpose. Maintaining state licenses requires training units and often additional coursework, so many advanced licensed operators are also WQM students.

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After gainful employment, each license level must be renewed every three years with up to three training units (TUs), which can be acquired by passing courses offered through our program. One training unit is acquired by completing 10 contact hours of study at the college level. Colorado's Water/Wastewater Facility Operators Certification Board automatically approves each WQM-accredited course in 10-hour increments.

Another academic pathway serves students who want to earn a two-year Associate of Applied Science degree in Water Quality Management Technology. WQM has transfer agreements with selected four-year programs for those students who want to pursue a Bachelor's degree.

Student Support

Students are encouraged to connect with our on-site career coach who can create a plan for success and assist with résumé development, mock interviews, and career exploration within the WQM industry. This position is funded by a grant from the TAA- Department of Labor with the purpose of assisting students during training and mentoring students who are ready to enter the workforce.

More women are entering the water industry than ever before for the solid pay and job opportunities ranging from water treatment to water resources management. With funding from the NSF and a matching grant from the TAA –Department of Labor, we have been able to support networking events with representation from women in water industries, job readiness training workshops, and other support services.



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Red Rocks Community College is committed to diversity in its people and programs. The College is an equal opportunity educational institution which prohibits all forms of discrimination and harassment including those that violate federal and state law, or the State Board for Community Colleges

Employment Opportunities in Water Operations

Colorado has approximately 2,800 wastewater districts and 4,000 water districts statewide. Labor statistics¹ estimate that between 2010 and 2020, Colorado will see a 27 percent increase in wastewater and water jobs. WQM recognizes that a trained workforce will be in high demand, and is responding by increasing our utility connections and continuing to expand and deliver courses that best meet the industry need. Many utilities include continuing education in their benefits package, and employees take advantage of the multiple WQM academic pathways to enter into the water industries field or to maintain licenses.

Water treatment is considered a recession-proof industry, and this type of work can never be out-sourced. Based on 2013 income statistics², a water or wastewater treatment technician can earn approximately \$40,000 annually with an introductory license. Salary increases typically correlate with license advancement, and most districts offer benefit packages.

¹ <http://www.bls.gov/emp/>

² <https://www.colmigateway.com/vosnet/Default.aspx>

and Occupational Education Board Policies 3-120 and/or 4-120. The College does not discriminate on the basis of race, creed, color, sex/gender, sexual orientation, gender identity or expression, religion, age, national origin or ancestry, pregnancy status, veteran's status, genetic information, physical and/or mental disability or any other category protected by applicable law in its employment practices or education programs. Red Rocks Community College will take appropriate steps to ensure that the lack of English language skills will not be a barrier to admission and/or participation in vocational education programs.

The College has designated Dr. Bill Dial, Executive Director of Human Resources as its Affirmative Action Officer/Title IX Administrator/Equal Opportunity Administrator with the responsibility to coordinate its civil rights compliance activities and grievance procedures. For information, contact: Dr. Bill Dial, Executive Director of Human Resources, Title IX Administrator, Title VII/Equal Opportunity Administrator, ADA/Section 504 Administrator, PO Box 17, 13300 West Sixth Avenue, Lakewood, CO 80228-1255. Telephone: 303.914.6298. Email: bill.dial@rrcc.edu