



# Requirements to Gain & Maintain Operator Licensing

RRCC's Water Quality Management Technology (WQM) program operates closely with the state licensing system to prepare students to obtain employment in water/wastewater quality management.



Funded in part by the National Science Foundation and TAA-Department of Labor  
By the Colorado Operator Certification Program Office

Water and wastewater plants operate within districts that are classified based on the population served, source water quality, and complexity of the system, on a D-A and 1-4 scale. A high percentage of holders of A and 4 licenses are WQM students.

In order to gain and maintain employment at a treatment plant, an operator must hold a valid license for the discipline, equivalent to (or higher than) the classification of the district within which the plant operates.

Each discipline license is sequential and students must start with a Level 1 or Class D license after having passed a state licensing examination. Each of the five basic disciplines requires its own license. In addition to the five basic licenses, there are three additional licenses available for small systems. For more information on small systems licensing, please contact the OCPO office Table A on page 3 describes the five basic licenses:

1. Water Treatment Operator
2. Wastewater Treatment Operator
3. Industrial Wastewater Treatment Operator
4. Wastewater Collection Operator
5. Water Distribution Operator

Each facility is classified on a scale of either D-A or 1-4 for each discipline.

- Water Treatment System D-A
- Wastewater Treatment System D-A
- Industrial Wastewater Treatment System D-A
- Wastewater Collection System 1-4
- Wastewater Distribution System 1-4

## Gaining Employment as a Water Operator

Students that want quick entry into the water industries workforce are encouraged to take the following WQM college courses in the first semester. These courses have been designed to prepare WQM students for the state license exam. Upon successful

completion of these courses, students may apply to take the state license exams. Grants from the National Science Foundation (NSF) and the TAA-Department of Labor funded the development, redesign and adaptation of these WQM courses for hybrid and distance learning.

### Recommended courses:

- WQM 100 - Introduction to Water Quality
- WQM 124 - C & D Review for Water Treatment, or
- WQM 125 - C & D Review for Wastewater Treatment

### Optional course:

- WQM 105 - Specific Calculations for Water Quality

## Maintaining an Operator License through RRCC

Each license level must be renewed every three years with up to three training units (TUs). This can be acquired by passing courses offered by RRCC's WQM program. One TU is acquired by completing 10 contact hours of study at the college level. The Water/Wastewater Facility Operators Certification Board automatically approves each WQM-accredited course in 10-hour increments. In addition, grants from the National Science Foundation (NSF) and the TAA-Department of Labor funded the development, redesign and adaptation of many WQM courses for hybrid and distance learning.

Table B on page 4 shows the approved training unit values for WQM courses. This information is NOT listed in the RRCC catalog or schedule. Proof of course completion in the form of a college transcript must accompany licensing and renewal applications.

more...





cont'd

### Preparing for the State License Exam

The Operator Certification Program Office (OCPO) receives more than 2,500 exam applications per year. Follow the pointers below as small mistakes can delay your application processing and approval.

1. You may submit your application approximately 5-6 weeks prior to the deadline date. The testing schedule can be found on [www.OCPOweb.com](http://www.OCPOweb.com)
2. ONLY register for a test date at a testing site specifically listed on the website under Exam Instructions —Dates and Locations.
3. If you are taking two or more exams, you must fill out a separate application for each exam. The fee for each application is \$60. If paying by check or money order, separate payment is required for each application. Online exams cost an additional \$35 per approved exam at the time of scheduling.
4. Once approved to take an exam, it is the examinees responsibility to confirm an online exam date and time and pay the additional fee. Instructions for scheduling an online exam are on the exam approval letters. Once approved for an online exam you cannot change to a traditional paper, pencil exam.
5. Entry-level testers do not need to submit a TU (training unit) summary form.
6. For those submitting TUs and/or transcripts, include copies of your transcript if you are submitting for-credit college classes, or Certificate of Completion if you are submitting not-for-credit classes, with the application.
7. You do not need to list every class you are taking on your application. Simply write “Red Rocks student” and attach a copy of your transcript. Be prepared to provide an official copy, should the committee request it.
8. When listing your previous work experience, include only jobs that are relevant to the water and wastewater industry and the exam for which you are applying. Be specific; e.g., “Sampling, processing, monitoring, lab analysis, disinfecting clear wells,” etc.

If you are unsure about the process, call OCPO at 303-394-8994 for immediate assistance. As grades on the exam are part of our evaluation process, please submit a copy of your results so that we can better serve you.

more...

**TABLE A: LICENSING REQUIREMENTS CHART**

Each level license must be renewed every three years with up to 3 Training Units (TUs)

<b>License Discipline</b>	<b>D License Requires</b>	<b>C License Requires</b>	<b>B License Requires</b>	<b>A License Requires</b>
Water Treatment Operator	Pass Colorado state exam	2 years experience after D license*	3 years experience after C license *	4 years experience after B license*
Wastewater Treatment Operator	Pass Colorado state exam	2 years experience after D license*	3 years experience after C license*	4 years experience after B license*
Industrial Wastewater Treatment Operator	Pass Colorado state exam	2 years experience after D license*	3 years experience after C license*	4 years experience after B license*
	<b>Level 1 Requires</b>	<b>Level 2 Requires</b>	<b>Level 3 Requires</b>	<b>Level 4 Requires</b>
Water Distribution System Operator	Pass Colorado state exam	2 years experience after Level 1 license*	3 years experience after Level 2 license*	4 years experience after Level 3 license*
Water Collection System Operator	Pass Colorado state exam	2 years experience after Level 1 license*	3 years experience after Level 2 license*	4 years experience after Level 3 license*

\*Applicable vocational education can reduce the experience requirement by half

more...

**TABLE B: RRCC STUDENT CONTACT HOUR VALUES FOR WQM COURSES**

Course	Actual Contact Hours				
	WT*	WWT	DS	CS	SP
WQM 100 – Introduction to Water Quality Management	20	20	10	10	
WQM 105 – Specific Calculations	40	40	20	20	
WQM 109 – Distribution Systems			45		
WQM 118 – Collection Systems				45	
WQM 119 – Basic Water Analysis	40	10	10	10	
WQM 120 – Water Quality Equipment Maintenance	20	20	20	20	
WQM 121 – Environmental Sampling and Volume Measurements	40	10	10	10	
WQM 122 – Instrumentation and Electrical Control	15	10	10	10	
WQM 123 – Water Reuse Systems		45			
WQM 124 – C and D Review for Water Treatment Operators	45				
WQM 125 – C and D Review for Wastewater Treatment Operators		45			
WQM 126 – Safety and Security Systems					45
WQM 130 – Water Chemistry	20	15	10		
WQM 131 – Solids Waste Management	20	20	5		
WQM 140 – Management and District Leadership	15	15	15	15	
WQM 150 – Troubleshooting	15	10	10	10	
WQM 160 – Managing the Global Water Supply	30	15			
WQM 165 – Water Law	20	15	5	5	
WQM 169 – International Water Development	20	15	5	5	
WQM 200 – Hydraulics	10	10	30	10	
WQM 206 – Design Interpretations	20	20	10	10	
WQM 207 – Activated Sludge Systems		60			
WQM 212 – Drinking Water Regulations	45		15		
WQM 216 – Bacteriological and Biological Analysis	15	45			
WQM 217 – Disinfection Techniques	30	30			
WQM 224 – A and B Review for Water Treatment Operators	45				
WQM 225 – A and B Review for Wastewater Treatment Operators		45			
WQM 230 – Industrial Monitoring		45			
WQM 280 – Internship	Variable				
WQM 285 – Independent Study	Variable				

Approved by the Water/Wastewater Facility Operators Certification Board

\*WT: Water Treatment Operator  
WWT: Wastewater Treatment Operator  
DS: Water Distribution System Technician  
CS: Wastewater Collection System Technician  
SP: Special Projects



Many WQM activities are supported by one or both of the following grants:

The National Science Foundation's Advanced Technological Education (ATE) program under Award No. 0903055. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

Trade Adjustment Assistance Community College and Career Training – U.S. Department of Labor (TAA). "This product was funded by a grant awarded under the President's Trade Adjustment Assistance Community College and Career Training Grants as implemented by the U.S. Department of Labor's Employment & Training Administration. The information contained in this product was created by a grantee organization and does not necessarily reflect the official position of the U.S. Department of Labor. All references to non-governmental companies or organizations, their services, products, or

resources are offered for informational purposes and should not be construed as an endorsement by the Department of Labor. This product is copyrighted by the institution that created it and is intended for individual organizational, non-commercial use only."

Red Rocks Community College is committed to diversity in its people and programs. The College is an equal opportunity educational institution and does not discriminate on the basis of disability, race, creed, color, gender, sexual orientation, gender expression, religion, age, national origin, or ancestry, or any other category protected by applicable law. The College has designated the Human Resources Director as its Equal Opportunity Employment Officer and Title IX Administrator with the responsibility to coordinate its civil rights compliance activities and grievance procedures. Report all concerns or complaints relating to discrimination or harassment to the Title IX/EO Coordinator(s): Bill Dial, Director of Human Resources/Title IX Administrator, 13300 West Sixth Avenue, Lakewood, CO 80228. 303.914.6298. bill.dial@rrcc.edu.