

# BACKFLOW & CROSS- CONNECTION CONTROL ASSOCIATE IN SCIENCE AND CERTIFICATE OF ACHIEVEMENT



Students will study the technical processes, procedures, and methods used in the production, use, and distribution of recycled and reclaimed wastewater, including backflow protection, legal, administrative and permitting issues, the treatment process, health and safety concerns, and the cross-connection control (shut down) test as performed in San Diego County. The courses consist of both classroom and demonstration sessions which cover all aspects of cross-connection control and recycled water shut down testing.

## Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Differentiate between different backflow devices and methods.
- Compare and contrast the effective uses of backflow devices and explain their limitations.
- Describe the specifications, installation, and operation of typical devices used in backflow prevention and testing and explain their proper installation.
- Perform accurate backflow prevention tests using proper test equipment.
- Analyze backflow prevention test results using standardized test reporting forms.
- Evaluate backflow testing device malfunctions.
- Articulate the importance of proper backflow testing equipment selection and use.
- Cite specific laws pertaining to cross-connection control programs.
- Complete basic backflow testing device repairs requiring breakdown and reassembly.
- Articulate the AWWA and ABPA testing standards.

## Associate in Science Degree Requirements

Code	Title	Units
CWS-101	Fundamentals of Water & Wastewater	3
CWS-102	Calculations in Water & Wastewater	3
CWS-130	Water Distribution Systems	3
CWS-204	Applied Hydraulics	3
CWS-280	Backflow Tester Training	2
CWS-282	Cross-Connection Control Specialist	3
CWS-284	Cross-Connection Control Specialist- Recycled Water	3

Select at least nine units from the following:		9-11
CWS-103	Water Resources Management	
CWS-105	Water Conservation	
CWS-106	Electrical & Instrumentation Processes	
CWS-110	Laboratory Analysis for Water & Wastewater	
CWS-115	Wastewater Reclamation and Reuse	
CWS-132	Wastewater Collection Systems	
CWS-134	Pumps, Motors & Valves	
CWS-290	Cooperative Work Experience	

**Total Units** **29-31**

Plus General Education Requirements (<https://catalog.gcccd.edu/cuyamaca/degree-requirements-transfer-information/>)

## Certificate of Achievement

Students who complete only the major requirements above qualify for a Certificate in Backflow & Cross-Connection Control. An official request must be filed with the Admissions and Records Office prior to the deadline as stated in the Academic Calendar.