

# ADVANCED WATER TREATMENT ASSOCIATE IN SCIENCE AND CERTIFICATE OF ACHIEVEMENT



The most advanced and current wastewater treatment technology involves processing wastewater into purified drinking water. Wastewater Treatment Operators at these new treatment facilities will be required to have the new CWEA/AWWA Advanced Water Treatment certifications, AWTO 3-5. Students who complete the required courses for this certificate and/or degree program will be prepared to take and pass the CWEA AWTO 3 and AWTO 4 certification exams.

## Program Learning Outcomes

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

- Perform advanced water treatment work functions in accordance with accepted water and wastewater industry standards and practices.
- Assess and resolve advanced water treatment process issues and problems using current water and wastewater industry-specific methods, tools, and resources.
- Communicate effectively, orally and in writing, to managers, peers, subordinates, and the public.
- Abide by water and wastewater industry codes and regulations regarding occupational health, safety, and environmental standards.

## Associate in Science Degree Requirements

Code	Title	Units
CWS-102	Calculations in Water & Wastewater	3
CWS-107	Safety in Water & Wastewater	3
CWS-110	Laboratory Analysis for Water & Wastewater	3
CWS-112	Water Treatment Plant Operations	3
CWS-114	Wastewater Treatment Plant Operations	3
CWS-115	Wastewater Reclamation and Reuse	3
CWS-116	Advanced Water Treatment I	3
CWS-134	Pumps, Motors & Valves	3
CWS-216	Advanced Water Treatment II	3
CWS-268	Membrane Plant Operation	3
Select at least six units from the following:		6-7
CWS-100	Career Pathways in Water & Wastewater	
CWS-101	Fundamentals of Water & Wastewater	
CWS-103	Water Resources Management	
CWS-106	Electrical & Instrumentation Processes	
CWS-130	Water Distribution Systems	

CWS-132	Wastewater Collection Systems
CWS-204	Applied Hydraulics
CWS-206	Advanced Electrical & Instrumentation Processes
CWS-207	Practical Skills in Water & Wastewater Systems
CWS-210	Advanced Laboratory Analysis for Water & Wastewater
CWS-212	Advanced Water Treatment Plant Operations
CWS-214	Advanced Wastewater Treatment Plant Operations
CWS-232	Advanced Wastewater Collection Systems
CWS-280	Backflow Tester Training
CWS-282	Cross-Connection Control Specialist
CWS-284	Cross-Connection Control Specialist-Recycled Water
CWS-290	Cooperative Work Experience

**Total Units**

**36-37**

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 Advanced Water Treatment. An official request must be filed with the Admissions and Records Office prior to the deadline as stated in the Academic Calendar.