WATER & WASTEWATER TECHNOLOGY

PROGRAM OVERVIEW/ HIGHLIGHTS

California’s 40 million residents and businesses rely on our State’s complex water and wastewater infrastructure to perform its functions over one billion times per day. With the State’s population projected to reach 60 million by 2050, it is essential that our water resources be more effectively managed and our wastewater be reclaimed and recycled for beneficial usages. Nothing is more vital to the State’s economic development and quality of life than water and wastewater services. In order to reduce Southern California’s reliance on imported water, it is imperative that we diversify our water resources portfolio through expanded water conservation efforts, wastewater reclamation and reuse, grey water utilization, improving watershed management practices, tapping groundwater reserves, and employing new technologies for seawater desalination.

Many water and wastewater industry jobs require specialized certifications from State regulatory agencies and/or industry recognized associations. Courses taught in the Water & Wastewater Technology program prepare students to qualify for and successfully pass these required certification examinations.

The Water and Wastewater Technology (WWTR) program at Cuyamaca College is the oldest continuously operating educational program for this critical industry sector in the entire California community college system. With nearly 25 different courses leading to Certificates of Achievement and Associate of Science Degrees in six majors, the program is the most comprehensive of its type in the State. In addition to providing the necessary training for water and wastewater industry entry-level workers, the program is also used by employees already working in the field to gain additional knowledge, skills, and abilities necessary to earn higher levels of certification and prepare them for promotional opportunities to advance their careers. In addition to classroom learning activities, students have opportunities to visit key water and wastewater facilities, hear guest speakers from the industry, and participate in cooperative work experience and/or internship programs.
Our instructors bring broad water and wastewater industry experience, professional knowledge, and passion for teaching. Cuyamaca’s individual courses, certifications, and programs of study. All of our instructors are either currently working in the industry or recently retired water and wastewater professionals who are experts in their field and understand the current, best of field industry practices. Classes are built around practical examples of real-world scenarios, classroom discussions, and simulations/demonstrations.

Joe Young
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"My Navy background together with the education I received at Cuyamaca College's Water & Wastewater Technology Program has set me up for success. First, I was accepted into the San Diego Regional Water & Wastewater Internship Program. I had an opportunity to work with four water/wastewater agencies in the San Diego region, and one of those agencies hired me full-time. Now I am starting my career, not just a job, as a Distribution Systems Operator. The staff of the Water/Wastewater program is a vital asset, the first step to networking in the water and wastewater field. I owe my success to the education I received in the Water & Wastewater Technology Program, which will continue to assist me in passing my State required certifications and furthering my career in water and wastewater."

Chaz Madrid

"If it were not for the Water/Wastewater Technology Program I would not be where I am today; the teachers are top industry professionals who have invaluable real world experience. These classes not only helped me obtain my T-3 & T-3 State Certifications but gave me the knowledge and confidence to land a job as a Water Treatment Plant Operator. If you’re considering a career in the water/wastewater industry, this is the place to go."

Jesse Bartlett-May

"The Water & Wastewater Technology Program at Cuyamaca College is first rate. The instructors are all veterans of the water/wastewater industry and keep current on the evolving technologies, procedures, and regulations involved in the water field. I was reluctant at first to return to school, but with the help of key instructors I developed into a serious student and gained a wealth of knowledge about the field of water. The knowledge I gained through the program helped me to pass State required certifications and I was able to find full-time employment at a local water treatment facility. I am now beginning a new career path in water treatment with great potential for my future. I can’t say enough about how this program has benefited me."

Anthony Allen

DEGREES AND CERTIFICATES

WATER RESOURCES MANAGEMENT

Since nearly 60% of our water demand is used for landscaping, irrigation, and other outdoor uses, students in this major will be required to take selected core and elective courses from both the Water and Wastewater Technology and the Ornamental Horticulture curriculum. This major prepares students to design, implement and evaluate water conservation/water resources management programs and to assist in developing and understanding the current, best of field industry practices. Classes are built around practical examples of real-world scenarios, classroom discussions, and simulations/demonstrations.

WATER TREATMENT PLANT OPERATOR

The USEPA Safe Drinking Water Act requires that all potable drinking water must be fully treated prior to being distributed to end users. Local water agencies in San Diego County operate water treatment plants that provide drinking water to up to 275 million people per day. Students enrolled in this major learn the key steps, processes, and current technology involved in operating these modern water treatment plants. Students who satisfactorily complete the required courses in this certificate and/or degree program will qualify to take the California Department of Public Health (CDPH) Grade T-1 & T-2 Water Treatment Plant Operator examinations required for certification and employment at water treatment plants. Most Water Treatment Plant Operator positions require shiftwork.

WATER DISTRIBUTION SYSTEMS OPERATIONS

State and Federal regulations require that Water District employees operating the extensive network of pipelines, pumping stations, reservoirs, and storage tanks must be certified by the California Department of Public Health (CDPH). Water agencies in San Diego County operate more than 10,000 miles of water distribution pipelines, hundreds of storage reservoirs and pumping stations, and many other related facilities. Students in this major learn the methodologies, procedures, and current practices involved in operating and maintaining these modern, complex water distribution systems. Students who satisfactorily complete the required courses for this certificate and/or degree program will qualify to take the CDPH Grade D-1 through D-5 Water Distribution Operator examinations required to obtain certification and employment with a water district.

WASTEWATER COLLECTION SYSTEMS OPERATIONS

Once water in San Diego County has been used for residential, commercial, & industrial needs, over 500 million gallons per day is collected through a complex system of pipelines and lift stations and transported to wastewater treatment and/or reclamation plants for processing. Students completing the required courses for this major will qualify to take nearly a dozen wastewater related certification examinations offered by the California Water Environment Association (CWEA). Although current State regulations do not require certification of wastewater collection system personnel, many public sector employers either require or prefer job applicants who have obtained the CWEA Wastewater Collection and Maintenance certifications.

WASTEWATER TREATMENT PLANT OPERATOR

The USEPA Clean Water Act and the California Water Resources Control Board (SWRCB) Water Quality Act require nearly a dozen wastewater related certification examinations offered by CWEA. There are over 80 wastewater treatment and reclamation facilities in San Diego County that are currently licensed and regulated by the SWRCB. For certification and employment at water treatment plants, Water Treatment Plant Operator positions require shiftwork.

BACKFLOW & CROSS-CONNECTION CONTROL

Public water systems in San Diego County that transport hundreds of millions of gallons each day of treated and untreated drinking water, treated and untreated wastewater, and storm water runoff. It is essential that these separate systems are protected from one another so that cross contamination cannot occur. 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 discussion of cases to cover all aspects of cross connection control and recycled water shut down testing. The major also covers the effective use of backflow prevention devices and the testing procedures required for backflow prevention assemblies. Students will qualify to take the Backflow Prevention Assembly Tester Certification examinations offered by the American Backflow Prevention Association (ABPA) and/or the American Water Works Association (AWWA), and the AKWA Cross-Connection Control Specialist certification examination.

FACULTY

For more information see the WWTR website: www.cuyamaca.edu/wwtr/courses.asp

STUDENT TESTIMONIALS

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