



Clean water management is a vital and rewarding field that protects public health, supports the environment, and ensures access to safe water for communities. Jobs like Wastewater Operators take part by ensuring that sewage and industrial waste are safely treated and released back into the environment, protecting public health and preserving water quality for ecosystems and human use.

The Future of Wastewater Operators in California:

In modern day, California's wastewater management sector is experiencing significant workforce challenges. This is due to a combination of an aging workforce, increasing retirements, and a shortage of skilled workers.

Employment Statistics:

- In May of 2023, California alone employed approximately 10,620 water and wastewater treatment plant and system operators (with an average annual wage of \$81,510).
- Approximately 37% of California's water workforce is over the age of 50, leading to a wave of retirements known as the *"silver tsunami."*
- About 67% of California water agencies report difficulties in recruiting water and wastewater operators.
- There is a significant gap in technical skills, with many agencies struggling to find trained and certified applicants.
- Organizations like the California Water Environment Association (CWEA) are working to elevate the profile of water-related careers and encourage more individuals to pursue opportunities in this field.

These statistics stand together to show that there is a huge pool of untapped potential in the field for wastewater operators. They are needed and wanted, but the workforce isn't there due to a lack of certifications and trained individuals. Which is worrisome since wastewater operators are essential operatives for ensuring public health, environmental protection, and sustainable water management.

As aging infrastructure, population growth, and climate change place increasing pressure on water systems, there is a critical and growing need for well-trained individuals to operate and maintain wastewater treatment facilities efficiently.

So, as a *Community* College, there is no reason for us not to take part in creating programs and resources to help cultivate the next generation of wastewater operators.

College of Marin can prepare students for high-demand, stable careers that also help safeguard communities since these careers ensure clean waterways, regulatory compliance, and the responsible reuse of water resources.

All of this makes these courses a vital investment in both workforce development and the future of environmental stewardship.

Community College Programs in Wastewater Operator Training:

Several California community colleges offer specialized programs designed to equip students with the necessary skills and knowledge for wastewater operator roles. Below is an overview of notable programs:

1. Clovis Community College:

- *Programs Offered:*
 - Wastewater Treatment Operator Certificate
- *Certification Preparation:*
 - State Water Resources Control Board (SWRCB) Grades I-III
- *Duration:* Two Semesters
- *Key Courses:*
 - Basic and Advanced Wastewater Treatment
 - Water Mathematics
 - Water Distribution

2. Cuyamaca College:

- *Programs Offered:*
 - Wastewater Treatment Operations Associate in Science
 - Wastewater Treatment Operations Certificate of Achievement
- *Certification Preparation:*
 - SWRCB Grades I-V
- *Key Courses:*
 - Basic and Advanced Wastewater Treatment
 - Wastewater Collection Systems

- Laboratory Analysis for Water and Wastewater
- Mechanical Maintenance

3. Shasta College

- *Program Offered:*
 - Water/Wastewater Treatment Certificate
- *Certification Preparation:*
 - SWRCB Grades I-II
- *Key Courses:*
 - Intro to Water Treatment Technology
 - Introduction to Wastewater Treatment
 - Intermediate and Advanced Treatment Courses

4. Solano Community College

- *Programs Offered:*
 - Water & Wastewater Technology Associate in Science
 - Water & Wastewater Technology Certificate of Achievement
- *Certification Preparation:*
 - SWRCB Grades I-III
- *Key Courses:*
 - Wastewater Treatment Technology
 - Water Distribution Systems
 - Laboratory Techniques

Certifications and Associate Degrees:

To ensure students are adequately prepared for the workforce, the following certifications and degrees are recommended:

Certifications:

- SWRCB Wastewater Treatment Operator Grades I-V
- CWEA Wastewater Collection Systems Grades I-IV
- CWEA Laboratory Analyst Grades I-IV
- AWWA Water Distribution Operator Grades I-IV
- Backflow Tester and Cross-Connection Control Specialist

Associate Degrees:

- Wastewater Treatment Operations Associate in Science
- Water/Wastewater Technology Associate in Science

These certifications and degrees align with industry standards and regulatory requirements, and enhance employability and career advancement opportunities for graduate students.

Recommendations on Integrating the Programs:

To effectively integrate a wastewater operator career pathway into your college's curriculum, consider the following steps:

1. *Curriculum Development:* Collaboration with industry professionals (Robert Rak) and accrediting bodies to develop a curriculum that meets SWRCB and CWEA standards.
2. *Faculty Training:* Engage current instructors and possible future instructors with practical experience in wastewater operations who are and can be certified professionally.
3. *Partnerships:* Establish possible partnerships with local water and wastewater agencies to provide students with hands-on training and internship opportunities.
4. *Certification Preparation:* Offer preparatory courses and workshops that can help students pass certification exams, which can be through a study group or a completely online course offered
5. *Advisory Board:* Form an advisory board comprising industry experts to provide ongoing guidance and ensure the program remains relevant to current industry needs.

By implementing these strategies, our college could develop programs that would play a pivotal role in addressing the workforce needs of the wastewater industry and provide students with valuable career opportunities, contributing to the sustainability of water resources in California.

Work Cited

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