

WATER WORKFORCE WEBINAR SERIES

**It Takes Partnership: Filling the Pipeline of
Water Workforce Professionals for Long-Term Sustainability**

Office of Wastewater Management

Office of Water

U.S. Environmental Protection Agency

September 18, 2024

**We will start in a couple minutes.
Thank you.**

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Webinar Logistics

- This webinar is being recorded
- Participants will be in listen-only mode
- To submit a question, use the Q&A function



- Webinar slides and recording information will be sent out to all participants following the webinar

Water Sector Workforce at EPA

- Reminders:
 - Check out our website for resources and updates:
<https://www.epa.gov/sustainable-water-infrastructure/water-sector-workforce>
 - Workforce Initiative
 - Past Workforce Webinars
 - Workforce Case Studies
 - Stay tuned for information on our next webinar. If you are registered for this webinar you are automatically on the email list for future webinars!

Having Audio Difficulties?

- Call in to any of these phone numbers:

+1 669 254 5252

+1 669 216 1590

+1 646 828 7666

+1 551 285 1373

Webinar ID: 160 584 4714

Opening Poll: Please indicate the sector that you work in:

- Utility
- State or Local Government
- Federal Government
- Consultant
- Academia/Educator
- Military/Veterans
- Other

September 18, 2024

It Takes Partnership: Filling the Pipeline of Water Workforce Professionals for Long-Term Sustainability

Jim Horne, Sustainable Utilities Program Manager, U.S. EPA Office of Wastewater Management

CREATING THE WATER WORKFORCE OF THE FUTURE

WEBINAR SERIES

It Takes Partnership: Filling the Pipeline of Water Workforce Professionals for Long-Term Sustainability

Increasingly complex challenges facing water utilities make it imperative that regional partners work together to train and prepare individuals to take on the critical role of operating our nation's water infrastructure. One successful example is taking place in Northwest Ohio, led by the Toledo Metropolitan Council of Governments (TMACOG), Owens Community College, the City of Toledo, and utility partners across the region. Together, they have developed an innovative program to provide education and training to prepare individuals to operate and maintain critical drinking water and wastewater infrastructure. The program offers training for certification, as well as job placement assistance. Please join us September 18th to hear more about this exciting program, including its successes and challenges.

This webinar is part of an ongoing webinar series hosted by EPA, in partnership with leading water sector organizations around the country. More information on this webinar series can be found at <https://www.epa.gov/sustainable-water-infrastructure/water-sector-workforce-webinars>

SEPTEMBER 18, 2024
11:30 AM – 1:00 PM ET

Moderators:

- **Jim Horne**, U.S. EPA

Speakers:

- **Kari Gerwin**, Director of Water Quality Planning, Toledo Metropolitan Area Council of Governments
- **Mary Kaczinski**, Professor, Environmental Science, Owens Community College
- **Chuck Campbell**, Project Manager, City of Toledo Department of Public Utilities



September 18, 2024

Speakers:



Kari Gerwin, Director of Water Quality Planning,
Toledo Metropolitan Area Council of Governments



Mary Kaczinski, Professor, Environmental Science,
Owens Community College



Chuck Campbell, Project Manager, City of Toledo
Department of Public Utilities

**Webinar slides and recording will be sent
to registrants within a week after the
webinar.**

Building a Pipeline of New Water Operators

Kari Gerwin

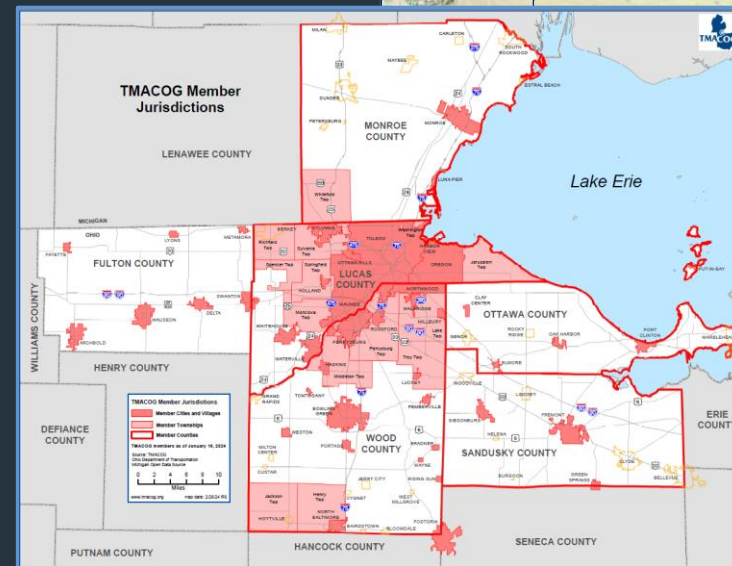
Director of Water Quality Planning

Toledo Metropolitan Area Council of Governments (TMACOG)

Who is TMACOG?

- Toledo Metropolitan Area Council of Governments (TMACOG) is a partnership of local governments focused transportation, water quality, and economic development endeavors that affect quality of life for the people of northwest Ohio

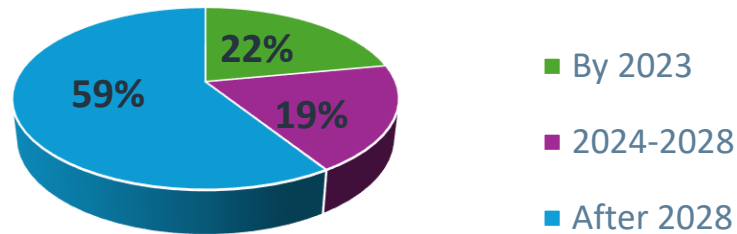
- Drinking Water
- Wastewater
- Stormwater
- Agriculture and NPS
- Water Quality Policy



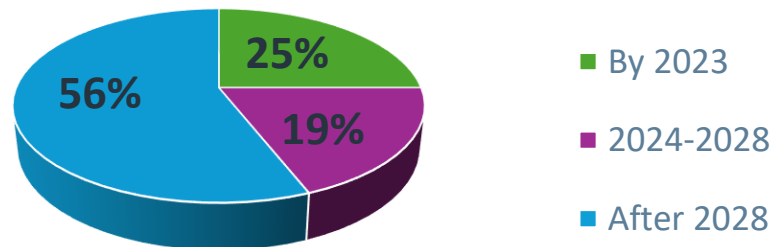
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Water Workforce Challenges in NW Ohio

Expected *Water* Operator Retirements



Expected *Wastewater* Operator Retirements



Source Ohio EPA 2018

- Water utilities are central to the vitality of NW Ohio
- Shortage of operators to fill expected retirements across the state
- Challenges of small communities
- State testing barrier
 - May 2023 stats - 24% pass rate for the Wastewater I exam and a 30% pass rate for the Water I exam.

Innovative Water Infrastructure Workforce Development Grant Program



- Early 2021 - TMACOG applied in partnership with Owens Community College and City of Toledo
- Late 2021 - Awarded \$494,874 to build the Water Workforce Coalition and training program
 - Subcontract to Owens Community College- \$292,960
 - \$163,800 *in-kind commitment* from City of Toledo (0.75 FTE term over 3 years)
- Spring 2022 – Project Launch



Northwest Ohio's Water Workforce Coalition

Goal

- Develop a network of partners to *recruit, train, and employ* the water sector workers of the future

Intended outcomes

- Improve training opportunities for those entering the water utility workforce
- Expand pool of trainers - faculty and water utility employees
- Open lines of communication between water utilities and potential employees
- Strengthen collaborations among partners who may not typically work together
- Ultimately, more individuals entering the water utility workforce

Program Framework

Partnerships

- Develop collaborative partnerships to address water workforce needs

Recruitment

- Recruit trainees through targeted and innovative approaches

Training

- Provide training through intensive 16-week program

Curriculum

- Develop new training program to prepare participants to pass the Ohio EPA operator exams

Connections

- Connect trainees with local utilities

Scaling-up

- Make the program available to other areas of Ohio and the U.S.

Collaborative Partnerships

Goal – Understand Operator and Partner Perspectives and Gain Their Commitment

Understand Current workforce needs

Understand Dynamics Between Small and Large Facilities

Understand Barriers to Success and Employment

Plan with Sustainability in Mind

Recruit Trainers

Approaches

Early Engagement of Key Partners

- Utilities
- Educational institutions
- OEPA
- Social Services
- Industry Groups

Partner Kickoff Aug 2022

Formed Ad Hoc Committees to Guide Program Development

- Recruitment
- Training
- Employment



Recruitment

Goal – reach 5 primary audiences

secondary/post secondary students

people reentering workforce

current utilities employees

veterans

underemployed

Approaches

- Kickoff with Press Conference
- Rolled out Digital Media Campaign
- Partnership with Groups Serving Target Audiences
- Representation on Recruitment Committee
- Presence at Career Fairs and Events

Information Sessions and Bus Tours leading up to each semester

INVESTMENT IN BRANDING AND MARKETING



Marketing



WATER WORKFORCE COALITION

Branding

- Logos, slogans, tag lines

Media Engagement

- Press, Print media, TV and Radio

Website –

www.waterworksforyou.org

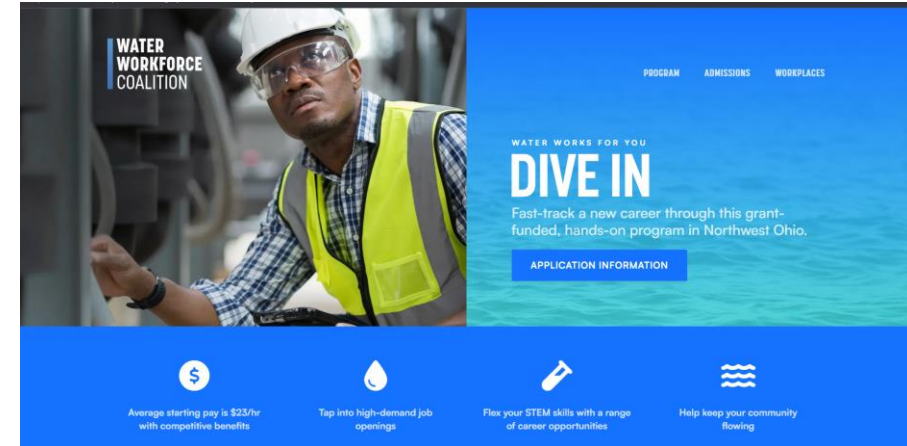
Printed and Branded Materials

- Tri-folds, business cards, stickers, water bottles, etc.

Digital Ads

- 2 months to kick off campaign
- Targeted audiences and geographies

waterworksforyou.org



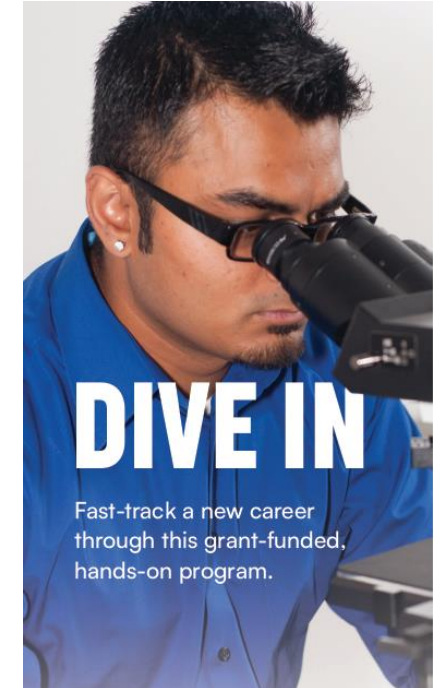
Impressions
91,305

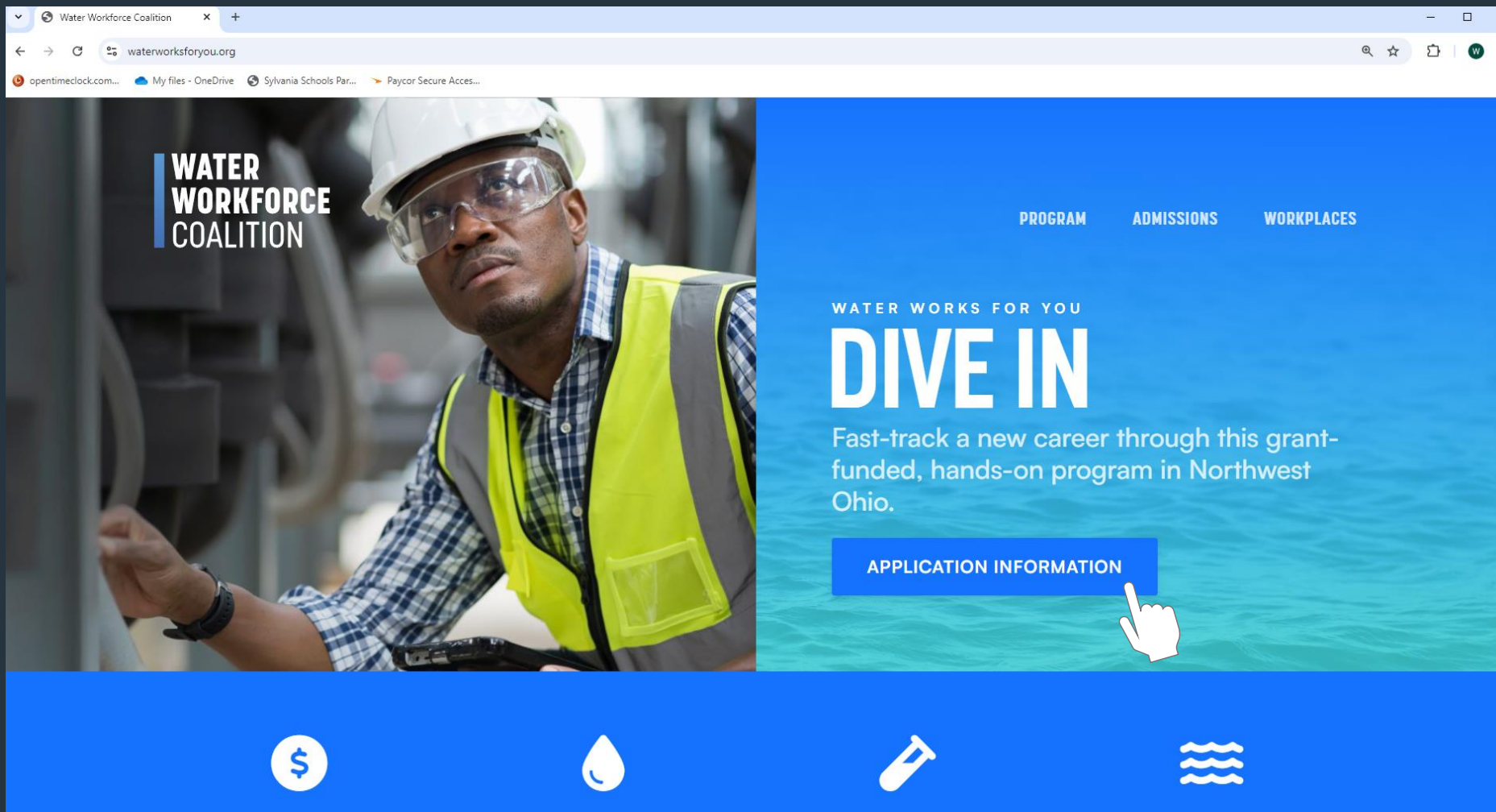


Clicks
1,963



Conversions
103





waterworksforyou.org

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READY TO GET STARTED?

Fill out the form below and we will reach out with further instructions.

Full Name

Email Address

Phone Number

Add a Message or Ask a Question

Water Workforce Coalition

waterworksforyou.org/apply-now

opentimeclock.com... My files - OneDrive Sylvania Schools Par... Paycor Secure Acces...

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PROGRAM ADMISSIONS WORKPLACES

READY TO GET STARTED?

Fill out the form below and we will reach out with further instructions.

Full Name

Kari Gerwin

Email Address

gerwin@tmacog.org

Phone Number

(419) 241-9155

Add a Message or Ask a Question

I am a current public employee interested in this training program

waterworksforyou.org

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Water Workforce Coalition

waterworksforyou.org

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PROGRAMADMISSIONSWORKPLACES



NO COST TRAINING AND SUPPORT

Save Time And Money With This Grant Funded Program

Looking to launch your career in the water and wastewater industry but worried about the costs? Thanks to grant funding, our program offers comprehensive training, mentorship, and assistance with the exam - all at no cost to you.

LEARN MORE

waterworksforyou.org

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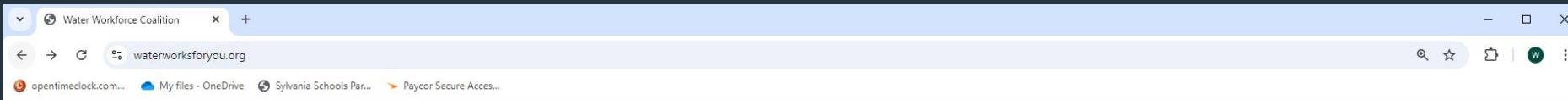


BUILD YOUR FUTURE

Get Expert Guidance And Ongoing Support

Our experienced instructors and mentors will be there to provide one-on-one guidance and support as you progress through the program, ensuring you have everything you need to succeed.

[LEARN MORE](#)



ATTEND AN EVENT

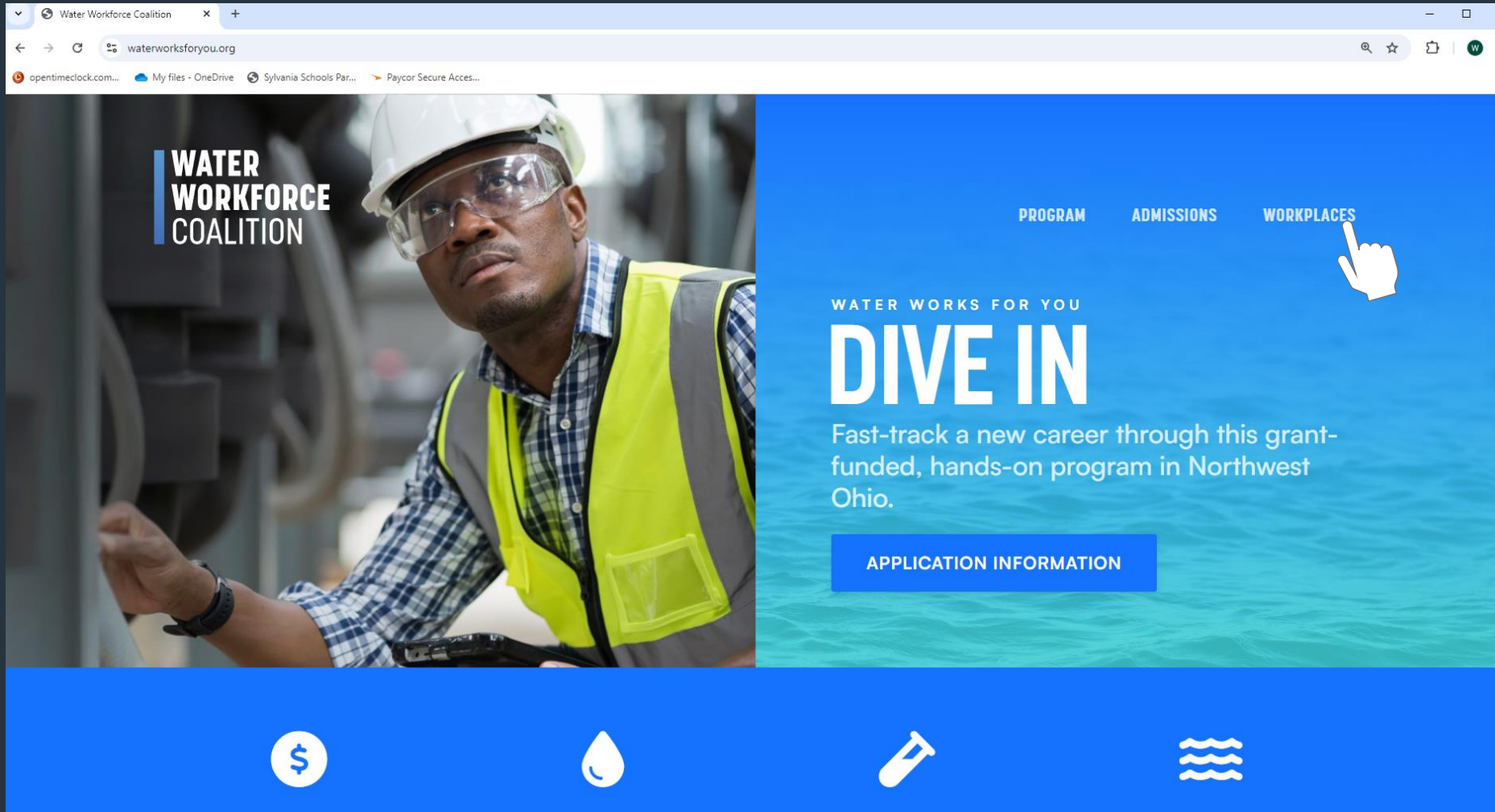
Interested In The Water Treatment Professions
Certificate Program?

Attend an information session and take tours to learn more about
the drinking water and wastewater industries.

REGISTER FOR AN EVENT

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waterworksforyou.org

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Water Workforce Coalition

waterworksforyou.org/workplaces

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PROGRAMADMISSIONSWORKPLACES

Organization	City	
CITY OF BOWLING GREEN WASTEWATER TREATMENT PLANT https://www.bgohio.org/Jobs.aspx →	Bowling Green Ohio Public	+
CITY OF FOSTORIA WATER TREATMENT CENTER https://fostoriaohio.gov/careers →	Fostoria Ohio Public	+
CITY OF TOLEDO WATER RECLAMATION FACILITY https://toledo.oh.gov/employment →	Toledo Ohio Public	+
FREMONT WATER RECLAMATION CENTER https://jobs.fremontohio.org →	Fremont Ohio Public	+
LUCAS COUNTY WATER RESOURCE RECOVERY FACILITY https://co.lucas.oh.us/Jobs.aspx →	Waterville Ohio Public	+
OTTAWA COUNTY REGIONAL WATER https://www.co.ottawa.oh.us/Jobs.aspx →	Port Clinton Ohio Public	+
THE NORTHWESTERN WATER AND SEWER DISTRICT https://www.nwwsd.org/about/jobs/ →	Bowling Green OH Public	+
VILLAGE OF PUT-IN-BAY WASTEWATER TREATMENT PLANT https://www.villageofpib.com/employment/ →	Village of Put-in-Bay Ohio Public	+



IS YOUR PLANT HIRING?

Share Your Job Posting

Fill out this short form to share open operator positions directly with students and recent graduates

[SUBMIT A JOB POSTING](#)

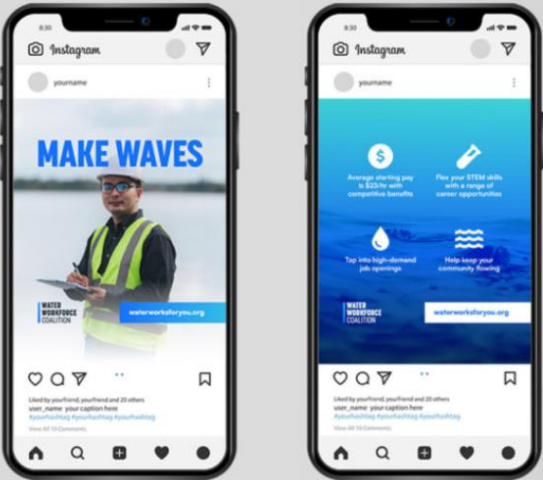
Water Workforce Coalition

waterworksforyou.org/resources

opentimeclock.com...My files - OneDriveSylvania Schools Par...Paycor Secure Acces...

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PROGRAMADMISSIONSWORKPLACES



ZIP FILE

Social Media Tool Kit

This social media toolkit is a zip folder with Facebook and Instagram graphics and copy to be shared on partner social media channels. There is also a handy PDF with instructions outlining what and how to post. This kit will help our program reach further, and ultimately positively impact our local water workforce.

DOWNLOAD

waterworksforyou.org

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New training program

Goal – Prepare students to take OEPA Class 1 Exams

Classroom Instruction

Labs

On-the-job Learning

Water Treatment Professions Certificate Program

- Full-time 16 weeks
- Tailored to Ohio EPA's "need to know" criteria
- Reinforce classroom learning in labs and facilities
- Exam prep integrated into the program

Operators feedback through Training Committee



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Curriculum

Goal – Meet Ohio EPA *Water* Class 1 Content Area Objectives

Treatment Process

Laboratory Analysis

Equipment Operation and
Maintenance

Source Water
Characteristics

Security, Safety,
Compliance, and
Administrative Procedures

Goal – Meet Ohio EPA *Wastewater* Class 1 Content Area Objectives

Treatment Process
Monitoring, Evaluation,
and Adjustment

Laboratory Analysis

Equipment Evaluation and
Maintenance

Equipment Operation

Security, Safety,
Compliance, and
Administrative Procedures



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Connect Trainees & Utilities

Goal – Provide opportunities for meaningful career connections and mentorship

Recruitment

Training

Job seeking

Employment

Connections with Local Utilities and Operators

Plant tours and talks with operators before enrolling in program

Guest Speakers in the Classroom

Small group and individual on-the-job (OTJ) learning every Friday

Lunchtime Career Talks throughout semester

Access to Job Postings



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Participating Utilities

City of Bowling
Green
Wastewater

City of Toledo
Wastewater

City of Fremont
Wastewater

Lucas County
Wastewater

Perrysburg
Wastewater

Village of Put-
in-Bay
Wastewater

City of Bowling
Green Water

City of Toledo
Drinking Water

City of Findlay
Drinking Water

City of Fostoria
Drinking Water
Village of Oak

Harbor

City of Fremont
Drinking Water

Ottawa County
Drinking Water

City of Oregon
Drinking Water

Northwestern
Water and
Sewer District

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Scaling-up

Goal – Make program materials available to other parts of Ohio and the US

Provide Resources on Program Website

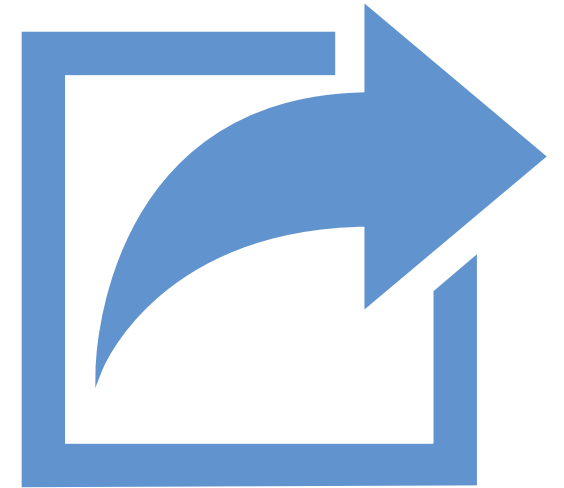
Marketing Toolkit

Curriculum and program Materials

Lists of resources

Summary of Successes, Challenges, and Lessons Learned

Ability to expand website to include evolving partnerships and initiatives





OWENS
COMMUNITY COLLEGE

Water Treatment Professions Certificate

Mary Kaczinski

Professor, Environmental Science

Owens Community College

Goals for Students

- Earn the Water Workforce Professions technical certificate
 - Includes OSHA 30-hour certificate
- Succeed on the Class 1 Ohio Operator Certification Exam in *Water Treatment* or *Wastewater Treatment*
- Gain employment at a treatment facility
- Become a Certified Class 1 Operator
 - After 12 months plant experience
 - Includes hours spent in this program
- Progress in an ***important, meaningful*** career



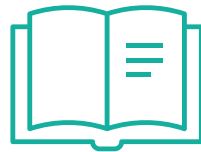
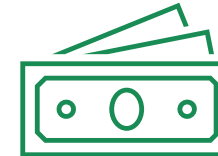
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The Water Workforce Professions Technical Certificate



Approved by Ohio Dept of Higher Education as a short-term technical certificate

Students are eligible for financial aid to cover expenses not covered by grant funds (e.g. living expenses, computer)



Courses are applicable to the Owens Associate of Science, Environmental Science Concentration

Provide a start towards higher degrees if that is their ambition



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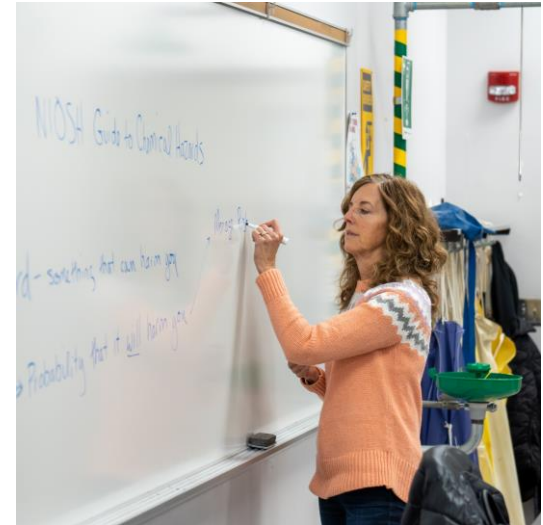
Curriculum

- Developed to meet objectives for Ohio Class 1 Certification Exam
 - Need to Know Criteria for the WPI Water or Wastewater Exams
 - Equipment Operation, Evaluation and Maintenance
 - Process Monitoring and Adjustment
 - Laboratory Analysis
 - Safety, Security, Compliance and Administrative Procedures



Curriculum

- Emphasis on understanding of concepts and WHY they are important
- How does this career fit into the larger water treatment profession?
- How does this career fit into society and the environment as a whole?
- Focus on problem solving and ‘figuring it out’





Mondays – Thursdays In the Classroom and Lab

- Instructors with teaching and professional experience
 - Owens Faculty
 - Former County Sanitary Engineer
 - Dual Class IV Statewide Trainer
 - OSHA Authorized Instructors
- Classroom, laboratory, and field trips
- Tutoring available
- Practice testing

Courses

1st Eight Weeks (3 classes)

- ENV101 – Intro to Environmental Science
- ENV103 – Intro to the Water Treatment Profession
- ENV124 – Environmental Sampling Methods

2nd Eight Weeks (2 classes)

- ENV110 OSHA General Safety
- Students Choose:*
- ENV230 Wastewater Treatment
 - ENV235 Water Treatment

A man in a red jacket and blue jeans stands on the left side of the frame, facing a group of people seated at long wooden tables. He is gesturing with his right hand while speaking. The room has white walls and a grey carpet. Several people are seated at the tables, some looking towards the speaker. A laptop and a water bottle are visible on one of the tables in the foreground.

Brown Bag Wednesdays

- Volunteers from facilities visit class just before lunch on Wednesdays
- Speak about their jobs and how they got started, including their challenges along the way
- Q&A – ‘Ask Me Anything’

OTJ Fridays

- On Fridays, students go beyond the classroom and visit various treatment facilities.
 - First half of program– rotation around area water and wastewater facilities
 - Second half – assigned to one facility for multiple weeks
- Reinforce classroom
- Learn via hands on experience
- Build network and mentor relationships



Foundations

ENV101

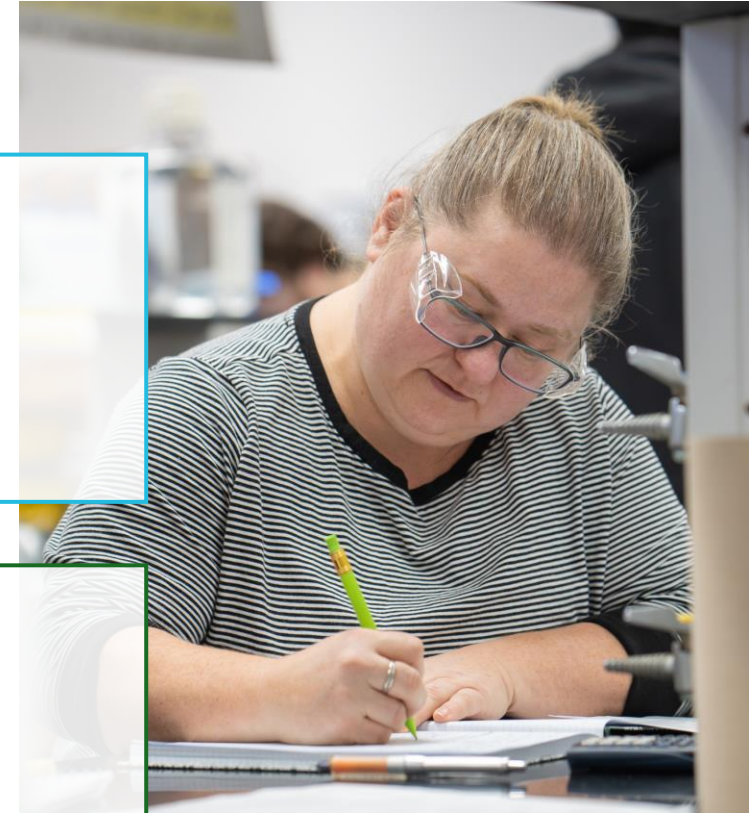
Intro to Environmental Science

- *Why is water treatment so important?*
- *How does the environment work, and how do humans affect it?*

ENV103

Intro to the Water Treatment Profession

- *How does the water profession work to protect our environment?*
- *Overview of both treatment processes*
- *Basic water math*
- *Students reflect on goals and choose their preferred path*



Principle to Practice

ENV124

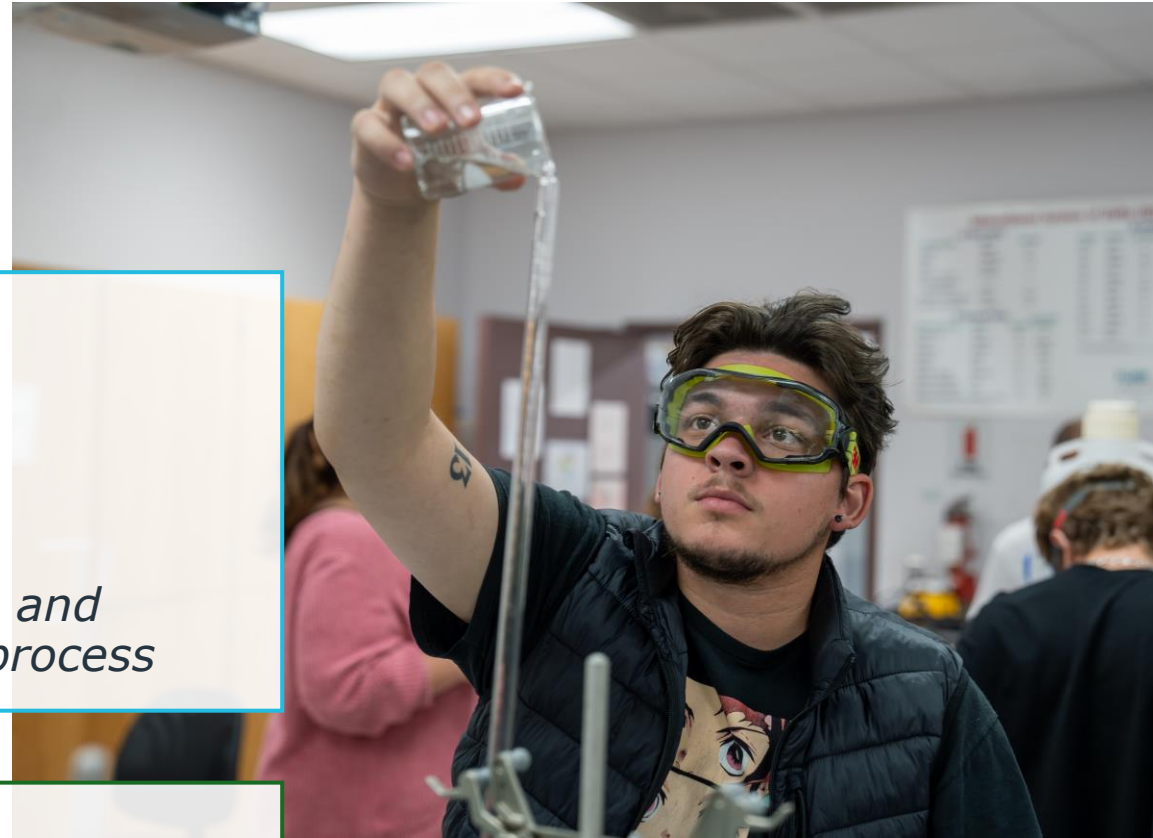
Environmental Sampling Methods

- *How do we know our treatment is successful?*
- *Learn how samples are collected and analyzed, and how that information is used in the treatment process*

ENV110

OSHA General Safety

- *What hazards exist at facilities?*
- *What procedures are in place to protect employees?*



Water or Wastewater Focus

ENV230

Wastewater Treatment

- *How does each part of the treatment process work?*
- *What is the operator's role in process control, solving problems, and making adjustments?*

ENV235

Water Treatment

- *How does each part of the treatment process work?*
- *What is the operator's role in process control, solving problems, and making adjustments?*



Cohort 1 January 16 – May 9, 2024

- 21 students successfully completed the certificate program
- 12 Wastewater/9 Water
- OTJ training provided at 12 facilities in NW Ohio
- Cohort style class developed a great rapport and support each other



The next two cohorts

- Cohort 2 – Fall 2025
 - Currently in Week #5
 - 23 students
 - one medical withdrawal
- Cohort 3 – Spring 2025
 - 24 seats available
 - 29 people have applied
 - Owens and TMACOG working with applicants to complete all registration requirements

Success So Far!

- A huge part of our success is due to the cooperation of our local facilities
 - Hosting prospective students for tours before they sign up
 - Hosting OTJ Fridays for rotating tours and 8-week assignments
 - Sending staff to participate in 'Brown Bag Wednesdays, ask me anything' sessions
- Students have been energized and inspired by the passion and enthusiasm of current Water Workforce Employees

Changing Lives



Many expressed that they were seeking a career change for various reasons:

More rewarding – personally and financially

More stability

Pathway for advancement

Meaningful career using science/technical skills



This opportunity gave some the ‘push’ they needed to try something new

Overcame reservations about their own abilities, especially in math

Moving Forward

- Having all tuition and fees covered by the grant certainly was a factor in its popularity
- We are now planning for what this program will look like after the final grant-funded cohort finishes (May 2025)

This is how it should be!

Our Mission:

Owens Community College is the conduit to changing lives for the better in northwest Ohio. Through affordable, accessible, high-quality education and training, and connecting with business and industry through relevant programs, we create pathways to a better quality of life and progress for the Region.

We are proud to be participating in this workforce development effort, and thankful to be an active partner with the water treatment industry!

My Thoughts

- Traditional training focuses on the 'what' and 'how'
- This program starts out with the 'why'
 - Chemistry and biology
 - Lab tests and how the parameters they measure impact the process
- Problem solving
- Math – focus on basics early
 - Area, volume, velocity, flow
 - Stressed importance of organization and units

Successes, and Challenges to Build Pipeline of New Operators

Chuck Campbell

Project Manager

City of Toledo Department of Public Utilities



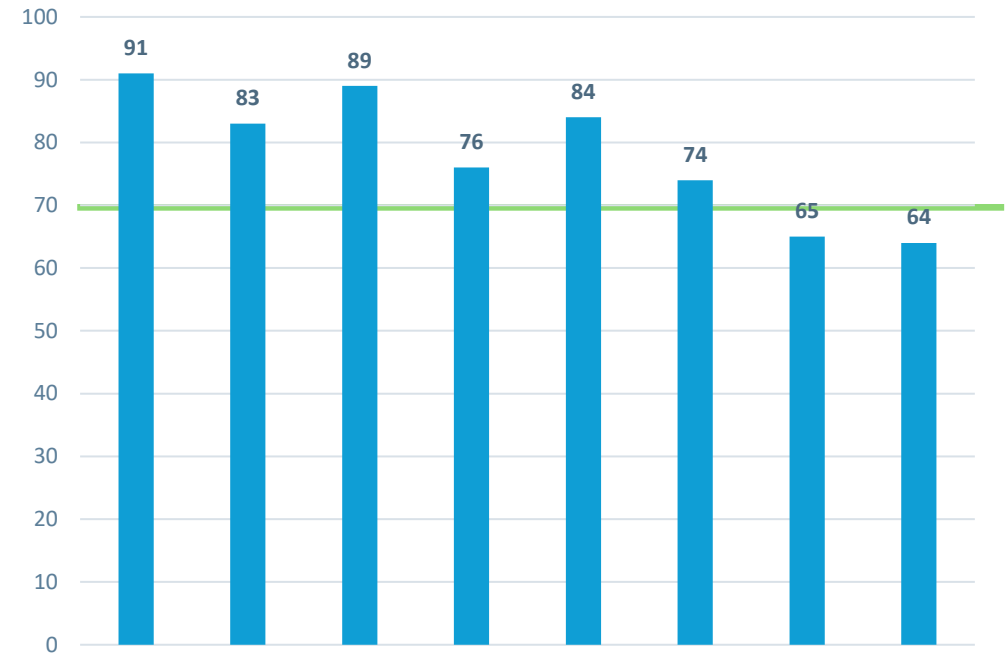
you're going to have some support
from your professors.

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OEPA Class 1 Exam Results - Water

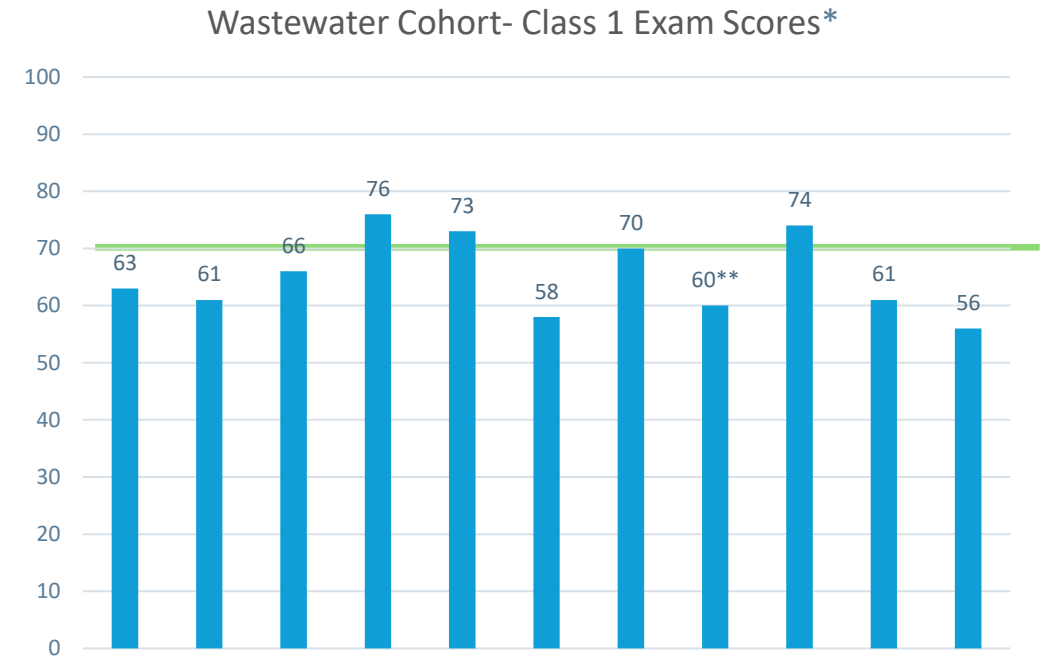
- **Summary**
- 9 of 9 Water students took the exam
- 6 of 9 passed exam
- 0 students retook the exam
- 5 students took Class II after passing Class I
 - 3 passed
- 1 student passed Class A, but failed Class I
- Average score – 75.6%

Water Cohort- Class 1 Exam Scores



OEPA Class 1 Exam Results - Wastewater

- **Summary**
- 10/12 Wastewater students took the exam
- 4/10 passed exam
- 4 students retook the exam (1 passed)
- 1 student took the Class II after passing Class I, but missed by 1 point
- Average of WW Students – 65.8%



**Water Student passed the Water exam and later took the WW exam

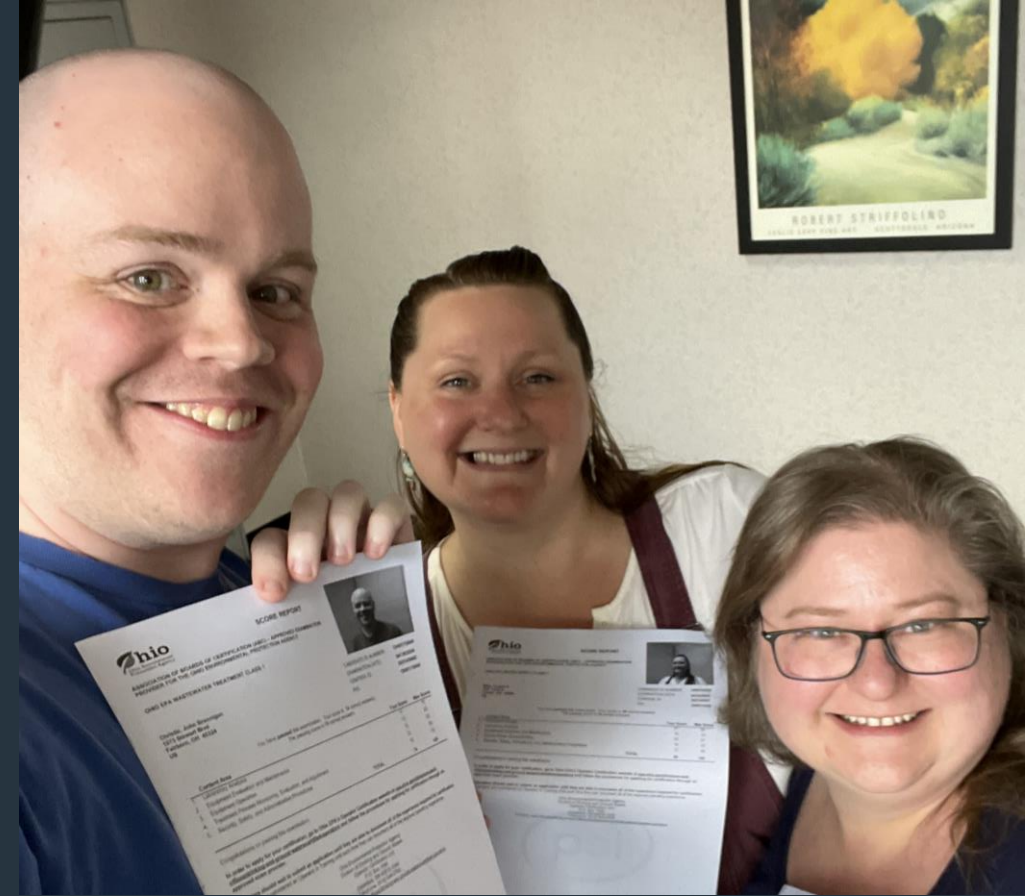
Employment Outcomes

Wastewater Students

- 1 Apprentice at NW Water and Sewer District
- 3 Employed at Toledo Water Reclamation
- 1 Employed at Bowling Green Wastewater
- 1 Employed by private sector WW Contractor
- 2 Reported employment outside of Water Workforce

Water Students

- 1 Employed at Toledo Collins Park Drinking Water Plant
- 1 Employed at City of Bowling Green Drinking Water Plant
- 1 Employed by private sector Water contractor
- 2 Hired by City of Fremont Water



Class I Content Area Summary

Water

	TREATMENT PROCESS	LABORATORY ANALYSIS	EQUIPMENT OPERATION AND MAINTENANCE	SOURCE WATER CHARACTERISTICS	SECURITY, SAFETY, COMPLIANCE, AND ADMINISTRATIVE PROCEDURES
Number of Questions	30	13	27	10	20
Average Score (%)	78.8	77.9	73.1	77.5	85.0

Wastewater

	TREATMENT PROCESS MONITORING, EVALUATION, AND ADJUSTMENT	LABORATORY ANALYSIS	EQUIPMENT EVALUATION AND MAINTENANCE	EQUIPMENT OPERATION	SECURITY, SAFETY, COMPLIANCE, AND ADMINISTRATIVE PROCEDURES
Number of Questions	30	15	20	25	10
Average Score (%)	66.9	69.5	55.4	59.1	76.4

Program Successes

Filling operator vacancies through cooperative partnership

- 52% Confirmed Placement in Water Utilities

New partnerships – Ohio Means Jobs, WPI, 360 Water, and many more

Successful first cohort

- Impressive results on Water Exams
- Job placement for Wastewater Students

Support and resources for those who failed the OEPA Exam

Visibility for water sector careers

- Over 140 people have attended program info sessions
- Around 120 have attended tours of water and wastewater plants
- 7,500 unique website users
- More than 650 People requesting program information

Challenges

Challenges for smaller utilities or political subdivisions

- Short staffed but enthusiastic involvement

Identifying and connecting with private sector partners

- Recent partnerships with Kleinfelder and 360 Water a good start!

Difficulty connecting with veterans and current utility employees

Testing challenges for wastewater students

- Revising WW content

Assuring consistency in On-the-Job experiences

Streamlined mechanism to track students after program completion



What's next?

- 2 more cohorts funded by EPA grant
 - Fall 2024 in session– 23 students
 - Spring 2025 – 29 applicants
- Continue to refine program to address testing challenges
- Develop bank of utility trainers, mentors, and speakers
- Further develop partnerships and commitments to ensure long-term program success
- Develop Educational Toolkit to share online
- Explore flexible options for current full-time employees
- Build in flexibility for changing workforce needs

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Looking beyond the grant



Identify long-term funding mechanisms



Partnerships for expanding program to other areas of Ohio and US



Integrate emerging contaminants, climate, and equity



Integration of water sector jobs into grades 5-12 curriculum

WATER WORKFORCE COALITION

Thanks to Our Partners!



Environmental
Protection
Agency



OhioMeansJobs.com



OWENS
COMMUNITY COLLEGE



Contact Us

Kari Gerwin, TMACOG

Gerwin@tmacog.org

Mary Kaczinski, Owens Community College

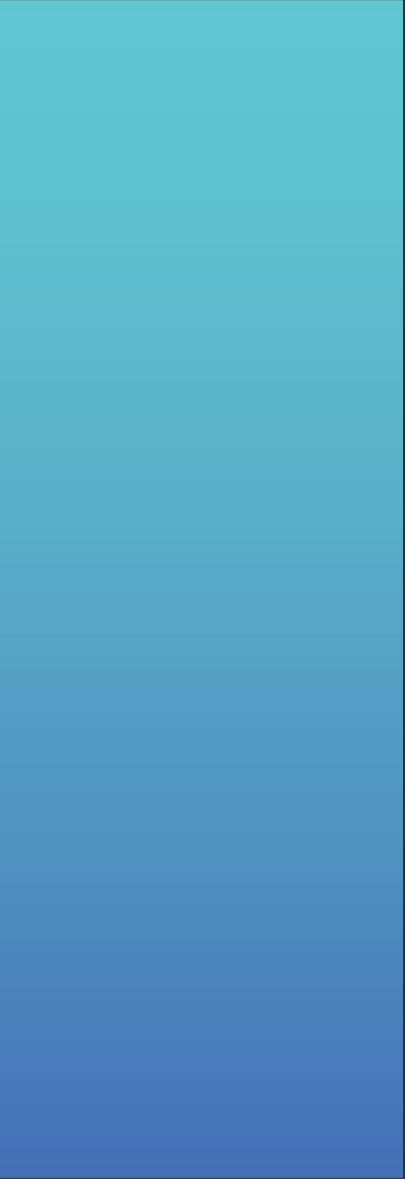
Mary_Kaczinski@owens.edu

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www.WaterWorksForYou.org

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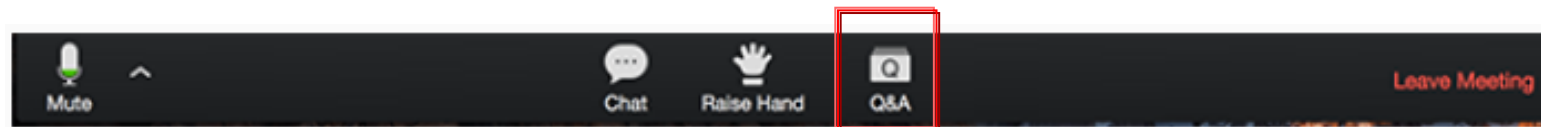
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Questions?

Q&A Session

Webinar slides and recording will be sent to registrants in the next week.



Closing Poll

On a scale of 1-10, with 10 being the best score and 1 being the worst, how would you rate today's webinar?

Thank you!



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