

An Innovative Approach to

"Filling in the Gap"



### The Need for New Trained Operators

- More than 25% of operators will be leaving by 2024 (Westerling, 2017).
- Utilities are seeing a decrease in applicants for positions.
  - More prevalent in rural areas due to lower wages, few benefits, and increased responsibilities (Gutenson, 2011).
- Demand for operators is also increasing (Gutenson, 2011) growth is predicted to be 6% nationally and 4% in Ohio by 2024, Water and Wastewater Treatment Plant and System Operators, 2017).



## The Need for New Trained Operators

• Millennials (the replacements) have different skill sets, and lack institutional knowledge of the previous generation (Westerling, 2017).

#### **Education Statistics**

- Doctoral or professional degree 0%
- Mater's degree 1%
- Bachelor's degree 10%
- Associate's degree 11%
- Some College 34%
- High school diploma or equivalent 39%
- Less than high school 5%

(Water and Wastewater Treatment Plant and System Operators, 2017)



# About Hocking College

- Located in Nelsonville, Ohio.
- Founded in 1968.
- Hocking is an open-access institution.
- Focused on providing an education that will be used in real-world careers.
- Hocking offers an affordable education option.
- The campus encompasses 2300 acres, with two off site campuses, on campus housing options, and extracurricular, leisure and online learning opportunities.
- Hocking is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools.



### About Hocking College

#### • <u>Mission Statement</u>:

We serve as a pathway to prosperity, teaching and inspiring all who seek to learn, growing careers and changing lives.

• <u>Our Vision</u>:

Hocking College Board of Trustees, Administration, Faculty and Staff share a vision that honors the Hocking College legacy of innovation and creativity; delivering relevant programs in high demand career pathways including transfer programs. Hocking College will be a partner and a leader in regional economic development to address social and economic disparity and provide upward mobility to those we serve. We aspire to provide an affordable comprehensive college experience with opportunity for development of the mind, body and spirit in an inclusive atmosphere for those who seek a relevant world-class hands-on experiential learning experience in a caring, supportive and nurturing environment.



- Associate of Technical Study in Natural Resources Major in Water and Wastewater Management
  - Certificate of Completion in Drinking Water Management
  - Certificate of Completion in Wastewater Management
  - Certificate of Completion in Watershed Monitoring and Assessment



• All courses within the Water and Wastewater Management curriculum will be submitted for approval by the Ohio Environmental Protection Agency for operator contact hours.



#### Program Outcomes:

- Calculate water/wastewater flow rates, storage, detention times, volumes, hydraulics, chemical dosages, and electrical applications.
- Examine and compare federal and state laws and regulation that are applicable to the water/wastewater industry.
- Assess and apply health, safety, emergency planning, and security practices and procedures to evaluate specific working environments within the water/wastewater treatment fields.
- Demonstrate skill in water/wastewater sampling and analysis techniques.
- Analyze and evaluate a variety of water/wastewater treatment processes as well as applicable operation, maintenance, and laboratory procedures.
- Explain a variety of distribution and collection system designs, operations and maintenance.
- Apply the scientific principles behind water resources management to the design of water/wastewater treatment strategies.



#### **Semester 1 (Certificate of Completion in Drinking Water Management):**

- GS 1000 Cornerstone
- WWM 1430 Drinking Water Treatment (online)
- WWM 2210 Water Distribution (online)
- WWM 2230 Water Resource Management and Protection (online)
- WWM 1250 Math and Chemistry Applications for Operators
- WWM 1270 Water/Wastewater Laws and Regulations (online)
- GENV 2210 Hydroscience



#### Semester 2 (Certificate of Completion in Wastewater Management):

- WWM 1440 Wastewater Treatment (online)
- WWM 2120 Wastewater Collection (online)
- WWM 2510 Industrial Waste Treatment (online)
- WWM 1110 Water/Wastewater Health, Safety and Security (online)
- WWM 1120 Water/Wastewater Sampling and Analysis
- GEOL 1130 Environmental Geology
- GENV 2225 OSHA 40-hr HazWoper Health and Safety

#### **Summer Semester**

• NRM 2296 – NR Practicum



# Semester 3 (Certificate of Completion in Watershed Monitoring and Assessment):

- WLM 2204 Wetland Ecology
- CM 1101 OSHA 30-hour Safety Class
- GEO 1104 Environmental Chemistry
- BIOS 1101 Environmental Science (online)
- BIOS 1160 Watershed Assessment



#### Semester 4

- MATH 1103 Applied Math (online)
- WLM 2203 Environmental Ethics (online)
- ENGL 1510 English Composition (online)
- COMM 1130 Speech (online)
- WWM 2240 Water/Wastewater Utilities Management Capstone



# Courses from the following organizations are accepted for credit toward our program.

- Operator Training Committee of Ohio
- California State University, Sacramento
- American Water Works Association
- Ohio Rural Water
- Career Tech (Vocational Education)
- Military service
- OSHA, BWC, and FEMA courses
- Transferable credits from other colleges/universities



## Admissions Process

- Visit Campus
  - Hocking Showcase
  - Discover Hocking
  - Campus Visits
- Choose Your Academic Program
- Complete Your Application (online at www.hocking.edu)
  - E-mail conformation (within 3 days)
  - Acceptance letter (within 10 days)



## Admissions Process

- Electronic resources setup:
  - E-mail
  - Navigate
  - Web Advisor
- Apply for financial aid (FAFSA) online (School Code 007598)
- Complete entry course placement
- Submit transcripts for transfer credits
- Register for classes



### For More Information

Mail: Hocking College 3301 Hocking Parkway Nelsonville, OH 45764-9588 Web: www.hocking.edu Phone: 1-877-HOCKING

E-mail: admissions@hocking.edu

-OR-

Kelly Barron-Holcomb, Program Manager Phone: 740-753-6275 E-mail: barron-holcombk@hocking.edu



### Questions/Comments?



Resources:

- Guetenson, J. (2011). State of Workforce Affairs. *Water and Wastes Digest*. Retrieved from <u>https://www.wwdmag.com/state-workforce-affairs</u>
- Hocking College. (2017). Retrieved from <u>http://www.hocking.edu</u>
- Water and Wastewater Treatment Plant and System Operators. (2017). Retrieved from <u>https://www.careeronestop.org/Toolkit/Careers/Occupations/Occupation-</u> profile.aspx?keyword=Water%20and%20Wastewater%20Treatment%20Plant%20and%20System% 20Operators&onetcode=51803100&location=OHIO
- Westerling, K. (2017). Baby Boomers, Millennials, and the Future of the Water Industry. *Water Online*. Retrieved from <u>https://www.wateronline.com/doc/baby-boomers-millennials-and-the-future-of-the-water-industry-0001</u>