

## **Water and Wastewater Management Program Level Student Learning Outcomes**

**Students completing the Water and Wastewater Program will be able to:**

- (1) Become knowledgeable about processes and equipment used in water treatment, water distribution, waste water collection and waste water treatment.
  - Explain the operation of a water distribution and wastewater collection systems operation.
  - Demonstrate knowledge of the basics of water supply and wastewater control.
  - Demonstrate related engineering aspects of water and wastewater systems.
- (2) Demonstrate knowledge of the procedures related to water treatment processes.
  - Explain the water filtration treatment processes.
  - Describe the disinfection processes for water
- (3) Demonstrate knowledge of the procedures related to wastewater treatment processes.
  - Describe the disinfection processes for wastewater
  - Explain primary and secondary treatment processes used in the treatment of wastewater.
- (4) Demonstrate basic knowledge of microbiology and chemistry applicable to water and wastewater treatment.
  - Understand state and federal regulations covering water and wastewater plant operations.
- (5) Demonstrate knowledge of the basic fundamentals of instrumentation and control applicable to water and wastewater facilities.
  - Demonstrate knowledge of the application calibration and servicing of instrumentation and controls applicable to water and wastewater facilities.
- (6) Demonstrate knowledge of the principles of hydraulic systems as related to water and wastewater systems.
- (7) Analyze and solve operational problems and perform mathematical calculations related to water or wastewater treatment processes. Apply mathematical problem solving techniques to water/wastewater related problems.
- (8) Demonstrate practical aspects of operating and maintaining water and wastewater facilities.
- (9) Communicate plant and water/wastewater treatment specific information effectively.
  - Interact effectively in oral and written communication.
- (10) Promote a safe work environment for self and others follow safe work practices.