

# WATER SCIENCE, ASSOCIATE IN SCIENCE

The WS program provides students with the technical training they need to pursue a career in the municipal potable water and wastewater industries. Waterworks operators protect public health by ensuring that plant operations comply with state and federally mandated drinking water and wastewater disposal standards. Students seeking an Associate Degree in Water Science may choose the Water option to prepare them for a career in potable water treatment or the Wastewater option to prepare them for a career in wastewater sanitation. Regardless of the option chosen, both paths lead to rewarding careers protecting the health of both the community and the environment at local, state, and federal levels.

- Analyze the fundamentals of chemistry, biology and hydraulics, as they relate to the water industry.
- Analyze the principles involved in the treatment, processing and distribution of potable water.
- Evaluate the collection and treatment of waste water.
- Understand the state licensing requirements for employment in the water industry

| Course ID                            | Title   | Units/<br>Hours |
|--------------------------------------|---|-----------------|
| <b>Required Courses</b>              |   |                 |
| WS V15                               | Water Systems Instrumentation and Controls            | 3               |
| WS V16                               | Water Quality Protection and Cross-Connection Control | 3               |
| WS V17                               | Water and Wastewater Hydraulics                       | 3               |
| WS V18                               | Pumps and Motors Maintenance and Operation            | 3               |
| WS V21                               | Water Chemistry and Bacteriology                      | 4               |
| WS V25                               | Water and Wastewater Management                       | 3               |
| <b>Required Additional Courses</b>   |   |                 |
| Select one of the following options: |   | 9               |
| <b>Wastewater Option:</b>            |   |                 |
| WS V10                               | Basic Water and Wastewater Systems                    |                 |
| WS V12                               | Wastewater Treatment                                  |                 |
| WS V13                               | Wastewater Collection                                 |                 |
| <b>Water Option:</b>                 |   |                 |
| WS V11                               | Water Treatment                                       |                 |
| WS V14                               | Water Distribution                                    |                 |
| WS V19                               | Advanced Water Treatment                              |                 |
| <b>Total Units</b>                   |   | <b>28</b>       |

## Recommended Courses

In addition to the required courses listed above, it is recommended that students who seek to obtain additional insight into this field of study consider taking one or more of the following courses: ARCH V11 Blueprint Reading: Architectural/Construction (Units: 3); CHEM V20 Elementary Chemistry (Units: 4); CT V20 Blueprint Reading: Architectural/Construction (Units: 3); DRFT V02A Blueprint Reading: Manufacturing (Units: 3), DRFT V02B Blueprint Reading: Architectural/Construction (Units: 3); ENGL V01A Academic Reading and Writing (Units: 4); MATH V03 Intermediate Algebra (Units: 5), MATH V03A (Units: -)MATH V03E (Units: ); PHYS V01 Elementary Physics (Units: 5); WEL V02 Blueprint Reading: Manufacturing (Units: 3). Although these supplemental courses may be of value to the student, please note that they do **not** satisfy the requirements for this degree.

Upon successful completion of this program, students will be able to: