



A.A. Degree

Certificate

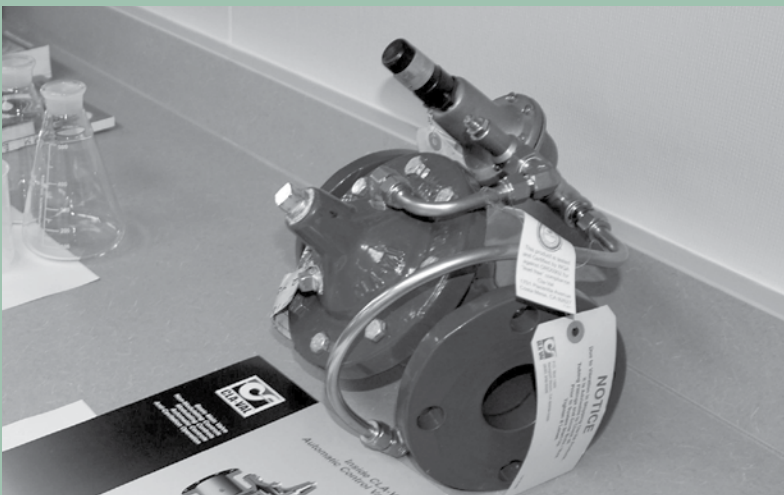
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Graduates of the Water Resources Management Associate of Arts Degree and certificate program will be qualified to seek entry level employment in the public water supply or wastewater treatment industries and incumbent workers will be qualified for more responsible positions within those industries.

Career Opportunities: Jobs for which program graduates will be qualified or which are on a complementary career track include:

- ▶ Backflow Program Manager
- ▶ *Chemist
- ▶ Construction Inspector
- ▶ Cross Connection Control Specialist
- ▶ Electronic Technician
- ▶ * Engineer, Civil
- ▶ * Engineer, Electrical
- ▶ Engineer Technician
- ▶ Equipment Maintenance Operator
- ▶ Field Operations Supervisor
- ▶ GIS/Mapping Specialist
- ▶ Inspector
- ▶ Instrumentation and Control Technician
- ▶ Instrumentation and Control Supervisor
- ▶ Laboratory Analyst
- ▶ * Bachelor Degree recommended
- ▶ Machinist
- ▶ Mechanical Systems Technician
- ▶ Meter Maintenance Technician
- ▶ Plant Operator
- ▶ Plant Process Control Electrician
- ▶ Plant Process Control Supervisor
- ▶ Recycled Water Inspector
- ▶ *Safety and Risk Manager
- ▶ Survey Technician
- ▶ Utility Worker
- ▶ Wastewater Plant Operator
- ▶ Wastewater Treatment Superintendent
- ▶ *Water Distribution Operator
- ▶ *Water Quality and Treatment Manager
- ▶ Water Systems Technician

*Bachelor's Degree may be required.



Water Resources Management

A.A. Degree or Certificate of Achievement

The Water Resources Management degree program is designed to prepare students for employment by municipal drinking water and wastewater treatment departments or industrial treatment facilities. Careers in water/wastewater technology generally involve the administration, operation and maintenance of both drinking water and wastewater treatment facilities as well as distribution and collection systems. Gavilan's Water Resources Management Program provides educational courses that prepare students for careers in Water Resources Management. Courses prepare students for certification examinations administered by the State of California as well as those administered by professional associations within the water and wastewater industry. Current instructors are experienced water and wastewater professionals, expert and up-to-date in best-of-breed industry practices. Classes are built around practical examples of real-world scenarios, demonstrations, and field trips whenever possible to maximize understanding of subject matter. Internships are available, too, through Cooperative Work Experience.

Program Learning Outcomes: Students who successfully complete an Associate of Arts Degree in Water Resources Management will:

- ▶ Follow safe practices in the laboratory and in plant operations.
- ▶ Apply chemical, microbiological, and mechanical knowledge and skills to maintain proper water and wastewater plant operations.
- ▶ Apply math and hydraulics skills in proper water and wastewater plant, collection system, and distribution system operations.
- ▶ Identify regulations and operate the plant accordingly.
- ▶ Be able to pass the California licensure examination in the water industry.
- ▶ Interact effectively in oral and written communications.
- ▶ Use computers in water and wastewater plant operation.
- ▶ Demonstrate work ethic and model professional interaction with the public.

To receive an ASSOCIATE DEGREE complete:

- ▶ **REQUIREMENTS** listed below.
- ▶ **GENERAL EDUCATION REQUIREMENTS**

To receive a CERTIFICATE OF ACHIEVEMENT complete:

- ▶ **REQUIREMENTS** listed below.

REQUIREMENTS:

WTRM 101 Introduction to Waste/Wastewater Technology (3 units)
 WTRM 102 Beginning Water/Wastewater Mathematics (3 units)WTRM
 103 Introduction to Electrical and Instrumentation Processes (3 units)
 WTRM 105 Water Distribution 1 (3 units)
 WTRM 106 Beginning Water Treatment Plant Operation (3 units)
 WTRM 107 Beginning Wastewater Treatment Plant Operations (3 units)

Electives: Select one of the following:

WTRM 108 Water Distribution 2 (3 units)
 WTRM 109 Advanced Water Treatment Plant Operation (3 units)
 WTRM 110 Advanced Water/Wastewater Mathematics (3 units)
 WTRM 111 Advanced Wastewater Treatment Plant Operation (3 units)
 WTRM 112 Applied Hydraulics (3 units)
 WTRM 113 Beginning Wastewater Collections (3 units)
 WTRM 114 Laboratory Analysis Water/Wastewater (3 units)
 WTRM 115 Supervision (3 units)

Electives: Select two of the following:

WTRM 104 Motors/Pumps/Operation & Maintenance (3 units)
 WTRM 116 Advanced Wastewater Collections (3 units)
 WTRM 117 Water Use Efficiency Practitioner (3 units)
 WTRM 118 Introduction to Occupational (3 units)
 WTRM 119 Industrial Wastewater Treatment (3 units)
 WTRM 120 Pollution Prevention & Stormwater Management (3 units)
 WTRM 121 Mechanical Maintenance (3 units)
 WTRM 190 Occupational Work Experience (1-4 units)

Total units for the certificate or degree: 25-28 units

Plus completion of general education requirements: 39-42 units

Total units required for AAIAS degree: 60 units

General Education requirements: A student may complete the Gavilan College A.A./A.S. general education, the CSU-GE Breadth or the IGETC pattern, plus sufficient electives to meet a 60 unit total. See pages 50-57 or see a counselor for details.

NOTE: A course may be used to satisfy both general education and major courses. See "Double Counting Rule" on page 47.

