

Water Distribution Technology Education

A.A. DEGREE: 60 units

CERTIFICATE OF ACHIEVEMENT: 21 units

DESCRIPTION

The Water Distribution Technology Education program is designed to teach students the methods, processes, technology and current practices involved in operating and maintaining modern, complex water distribution systems. Students who satisfactorily complete the required courses for this degree will qualify to take the CDPH Grade D-1 through D-5 Water Distribution Operator examinations required to obtain certification and employment with a water district.

PROGRAM LEARNING OUTCOMES

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

- ▶ Identify sources and characteristics of water common to water distribution systems.
- ▶ Compare and contrast the different types of water distribution systems currently in use.
- ▶ Identify drinking water public health hazards and water quality standards common to the industry.
- ▶ Utilize calculations and conversions to determine water flow, pressure, volume, velocity and force and chemical dosage used in water distribution systems.
- ▶ Identify and compare methods used to handle, install and repair water distribution pipe.
- ▶ Explain the principles of pump operation for the types of pumps used in water distribution systems; including common problems, necessary adjustments and typical packing gland problems.
- ▶ Explain the electrical principles involved in control circuits common to water distribution systems.
- ▶ Explain the required safe handling and storage of chlorine used in water distribution systems.
- ▶ Check and utilize water maps and drawings to determine location, type and characteristics of water distribution systems.
- ▶ Specify necessary procedures needed to safely complete field work in a water distribution system.
- ▶ Compare and contrast factors considered in the selection of pipe and different types of water meters.
- ▶ Demonstrate how to read meters and calculate the meters accuracy.

CORE REQUIREMENTS: (21 UNITS) UNITS: (21 UNITS)

WTRM101	Introduction to Water, Wastewater Technology . . .	3
WTRM102	Beginning Water, Wastewater, Distribution Math . .	3
WTRM103	Introduction to Electrical and Instrumentation . . .	3
	Processes	3
WTRM104	Motors and Pumps, Operation and Maintenance .	3
WTRM105	Water Distribution 1	3
WTRM106	Beginning Water Treatment Plant Operation	3
WTRM132	Advanced Water Distribution	3

LIST A: (3 UNITS) SELECT ONE OF THE FOLLOWING

WTRM107	Beginning Wastewater Treatment Operations	3
WTRM109	Advanced Water Treatment Plant Operation	3
WTRM110	Advanced Water/Wastewater/Distribution Math . . .	3
WTRM111	Advanced Wastewater Treatment Plant Operation	3
WTRM112	Applied Hydraulics	3
WTRM113	Beginning Wastewater Collection	3
WTRM114	Laboratory Analysis for Water, Wastewater	3
WTRM115	Supervision	3

LIST B: (4 - 8 UNITS) SELECT TWO OF THE FOLLOWING

WTRM116	Advanced Wastewater Collections	3
WTRM118	Introduction to Occupational Health and Safety . .	3
WTRM121	Mechanical Maintenance	3
WTRM133	Water Conservation	3
WTRM134	Industrial Wastewater / Stormwater Management .	4
WTRM235	Pollution Prevention	3
WTRM190	Occupational Work Experience/Water/Wastewater .	1-4
	Technology	1-4

FOR CERTIFICATE COMPLETE CORE COURSES: 21 UNITS

FOR ASSOCIATE DEGREE COMPLETE CORE (21 UNITS) , LIST A (3 UNITS) AND LIST B (4-8 UNITS), AND GENERAL EDUCATION REQUIREMENTS: 35 - 39 UNITS

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 a counselor for details.

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