

COURSE OUTLINE**Environmental Technology 130
Water Distribution Operation and Maintenance****I. Catalog Statement**

Environmental Technology 130 provides an understanding of drinking water distribution systems operation and maintenance. Topics covered include design criteria, storage, pumping, flow control, construction methods, disinfection, control of water quality in a water distribution system, federal and state drinking water regulations, maintenance and administration of a water distribution system. Field trips and/or a semester project may be required. This course meets the initial educational requirements for a distribution operator certification exam.

Units – 3.0

Lecture Hours – 3.0

Prerequisite: None

II. Course Entry Expectations

Skill Level Ranges: Reading 5; Writing 5; Listening/Speaking 5; Math 3.

III. Course Exit Standards

Upon successful completion of the required coursework, the student will be able to:

1. describe design criteria for a distribution system;
2. describe components of distribution systems flow control;
3. describe the disinfection of water distribution facilities;
4. describe how to protect the water quality in a distribution system;
5. evaluate related safety issues of drinking water distribution;
6. evaluate the administrative needs for the operation of a treatment facility.

IV. Course Content**Total Contact Hours - 48**

A.	Role of a Distribution Operator	3 hours
B.	Hydraulic Components of a Distribution System	6 hours
C.	Storage	3 hours
D.	Pumps	6 hours
E.	Flow and Pressure Control Facilities	6 hours
F.	Construction Methods and Materials	9 hours
G.	Water Quality and Protection	6 hours

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| H. | Drinking Water Regulations | 6 hours |
| I. | Administration and Record Keeping | 3 hours |

V. Methods of Presentation

The following instructional methodologies may be used in the course:

1. lecture/discussion;
2. multimedia presentations;
3. demonstration;
4. field trips.

VI. Assignments and Methods of Evaluation

1. Midterm examination.
2. Final examination.
3. Manipulation Skills Evaluation.

VII. Textbook

Office of Water Programs. *Water Distribution System Operation and Maintenance: A Field Study Training Program*. Current Edition.

Sacramento: CSUS Foundation, Office of Water Programs, 2005.

10th Grade Textbook Reading Level ISBN: 1593710208

VIII. Student Learning Outcomes

1. Students will explain the design criteria for a water distribution system.
2. Students will describe the components of distribution systems flow control.
3. Students will describe the disinfection techniques used for water distribution facilities.
4. Students will describe the methods used to protect and the related safety issues regarding the water quality in a distribution system.
5. Students will evaluate the administrative needs for the operation of a treatment facility.