

Umpqua Community College

WQT 261

Water Distribution

Course Outline

COURSE DESCRIPTION

This course covers the fundamentals of operation and maintenance of water distribution systems. The fundamental properties of fluid flows and pressures in a closed system are addressed, in general. Course is designed to prepare student for the Grade I Water Distribution Operator examination.

COURSE OUTCOMES

Students who successfully complete this course will:

- 1) Identify the need for water storage in operating a water distribution system, the typical types of storage devices, and the routine operation and maintenance activities required for each device type.
- 2) Identify piping, valving, and appurtenances common to water distribution systems and routine operations and maintenance required.
- 3) Describe the control, range, and measurement of water pressures in distribution systems including the mathematical calculations necessary to verify accuracy of measurements.
- 4) Explain corrosion monitoring, disinfection residuals and by-products in distribution systems, methods of measurement, and appropriate responses to information obtained.

COURSE TEXTBOOK

“Water Distribution System Operation and Maintenance,” 7th Edition, 2018, by California State University, Sacramento, ISBN 978-1-323-82918-9

SCHEDULE OF ASSIGNMENTS

Week	Topic and Reading	Assessments
1	Topic: Water Distribution Overview and Storage Facilities Text Reading: Chapter 1 and 2 Math: Introduction to Water Math	Homework Discussion Quiz
2 & 3	Topic: Distribution System Facilities Text Reading: Chapter 3 Math: Pressure, C-Factor, Flow	Homework Discussion Quiz
4	Topic: Water Quality Text Reading: Selections from Chapters 3 and 4 Math: Volume, Flow	Homework Discussion Quiz
5 & 6	Topic: Operation and Maintenance Text Reading: Chapter 4 Math: Work, Power, Horsepower	Midterm Homework Discussion Quiz
7 & 8	Topic: Disinfection Text Reading: Chapter 5 Math: Disinfection and Dosing	Homework Discussion Quiz

9	Topic: Safety Text Reading: Chapter 6	Homework Discussion Quiz
10	Topic: Administration Text Reading: Chapter 7 Math: Review	Homework Discussion Quiz
11	Final Exam	