

Agenda: Water Treatment Operator 2

In Partnership with American Water Works Association



This online eLearning course is being offered in partnership with American Water Works Association.

Summary - Learn concepts and practices about conventional water treatment processes, membrane/UV processes, and basic laboratory and sampling skills. WTO Level 2 provides an in-depth understanding of surface water treatment, groundwater treatment, and the particular parameters that dictate the successful treatment of both sources. This course will take a minimum of 12-18 hours per week of online learning activities for five weeks.

Estimate to Complete - 60 hours

Week 1 - During this first week, the course goals will be provided including learning objectives. An overview of water regulations is provided. Then, the week will focus on pathogens, types, incidents, and removal, followed by disinfection options and safe handling of chlorine. Hydraulics will be introduced along with disinfection calculations. The course concludes with a review of safety.

Week 2 - Week 2 focuses on choosing treatment trains and the equipment involved. Physical processes, filters, and pumps are examined. Math associated with treatment processes will be reviewed. Sedimentation and filtration will be discussed along with interactions to support these topics.

Week 3 - Environmental chemistry as it relates to sampling will kick-off Week 3 and will include balancing chemical reactions. Coliform sampling will be demonstrated in a video. Coagulation and flocculation will be discussed and jar testing will be demonstrated. Fluoridation, scaling, and iron and manganese management will be reviewed. The week concludes with a discussion about management of residuals.

Week 4 - Week 4 examines groundwater and surface water. Treatment techniques, including lime softening, ion exchange, aeration, and activated carbon, are discussed in detail. Water rights and sustainability are reviewed. The week concludes with an overview of water piping systems.

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Week 5 - Distribution operations are introduced in Week 5. Math for operators will be demonstrated with examples and the duties associated with the role of operator will be provided. SCADA and security of systems are discussed. The week concludes with a course review to prepare for the final assessment.

Final Assessment - Students need to answer 70% of the questions correct to pass the final assessment and receive credit for the Water Treatment Operator 2 course.

WTO 2: End of Course Survey (not included in est. 60 hours) - After passing the final assessment, students are directed to an end of course survey to evaluate the learning experience and provide license information to ensure the information in the LMS is correct.

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Module Title	Average Time to Complete
Week 1	12 hours
Week 2	12 hours
Week 3	12 hours
Week 4	12 hours
Week 5	12 hours
Final Assessment	1 hour
WTO 2: End of Course Survey (not included in est. 60 hours)	Not applicable