

Electricity for the Water Industry

Course Overview

This course is designed to acquaint students with the electric terms, measurements and equipment used in water treatment, storage, and distribution. Course material consists of reading assignments, video lectures, review questions, study problems and lesson quizzes.

Course completion requires that the student successfully complete each component of each individual lesson. Review questions and written assignments must be submitted either online or uploaded in a Word document for the professor's review. Lesson quizzes have a minimum passing score of 70%.

Upon successful completion of the course requirements, students will receive a certificate of completion for the Electricity for the Water Industry course, which is applicable toward a Certificate in Water Treatment Technology from American Water College.

Electricity for the Water Industry (1.4 CEUs)

- Electricity, Magnetism, and Electrical Measurements
- Electrical Quantities and Terms
- Functions and Ratings of Electrical Equipment

Required Texts

Textbook: *Basic Science Concepts and Applications*, Principles and Practices of Water Supply Operations series

Edition: Fourth Edition

Author: Nicholas G. Pizzi

ISBN: 1-58321-778-9

Educational Objectives

- To provide students with an overview of electricity, magnetism and electrical measurements used in the water industry
- To provide students with the proper electrical quantities and terms used in the water industry
- To demonstrate the functions and the applicable ratings of electrical equipment used in the water industry



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Evaluation

Students will be graded on their performance on each lesson quiz, and their course participation. Unless each unit is completed, the student will not be permitted to advance to the next lesson, and the student will not be awarded credit for completion until all assignments, quizzes and lectures are completed. Please contact our office with any questions.

Support

Students can contact our student support staff with any course-related, content-related, or technology-related inquiries. Our office hours are Monday-Thursday, 9-5 CT, and Friday 9-12 CT.

Contact Info:

Phone Number: (661) 874-1655

Email Inquiries: Info@americanwatercollege.org

Additionally, students are encouraged to contact their professor directly with any questions or comments.



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Lesson 1 – Electricity, Magnetism, and Electrical Measurements

Summary of This Lesson

The basic building block of physical matter is the atom with its protons and neutrons and electrons. The electrons that orbit the nucleus of the atom can be released and transferred as a result of chemical reactions, electromagnetic forces. We will be drawing an analogy between hydraulic systems and electrical systems in an attempt to explain the components and forces that cause electricity to flow

Lesson Objectives

Upon completion of this lesson, students will be able to:

- Explain basic electricity, magnetism, and electrical measurement terms
- Explain why a knowledge of electricity is important for water system operations

Assignments for This Lesson

- Watch the video lecture for Lesson 1
- Answer Review Questions
- Complete the quiz for Lesson 1



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Lesson 2 – Electrical Quantities and Terms

Summary of This Lesson

This lesson will provide definitions of electrical quantities and terms.

Lesson Objectives

Upon completion of this lesson, students will be able to:

- Explain basic electrical quantities and terms
- Explain why electrical quantities and terms are important in water system operations

Assignments for This Lesson

- Watch the video lecture for Lesson 2
- Answer Review Questions
- Complete the quiz for Lesson 2



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Lesson 3 – Electrical Quantities and Terms

Summary of This Lesson

In this lesson we will be looking at major categories of electrical equipment which includes equipment that: generates, stores and changes electricity from one form to another

Lesson Objectives

Upon completion of this lesson, students will be able to:

- Explain the basic function of electrical equipment used in water systems

Assignments for This Lesson

- Watch the video lecture for Lesson 3
- Answer Review Questions
- Complete the quiz for Lesson 3

