

# Applied Hydraulics

## Course Overview

This course is designed to acquaint students with the hydraulics involved in water treatment, storage and distribution, and the math that applies to hydraulic principles. 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 *Applied Hydraulics* course, which is applicable toward a Certificate in Water Treatment Technology from American Water College.

## 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

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

Edition: Fourth Edition

ISBN: 1-58321-799-1

## Educational Objectives

- To provide students with an overview of density and specific gravity and the mathematical concepts that apply
- To provide students with an overview of pressure and force, and the mathematical concepts that apply
- To acquaint students with the principles of piezometric surface and hydraulic grade lines
- To acquaint students with head, head loss, and the mathematical applications that apply

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- To acquaint students with pumps and calculating their efficiency
- To acquaint students with flow rate problems encountered in the water treatment and distribution process
- To acquaint students with thrust, thrust control, and the mathematical concepts that apply