**COURSE TITLE**
Water Industry Hydraulics

**COURSE DURATION**
1 hour

**OVERVIEW**
This course covers the concepts, calculations, and operational uses of hydraulics in the water industry, and will examine the physics behind certain operations and processes within the water treatment industry. Subjects included in the course are density and specific gravity, pressure and force, head, head loss, pumping rates and pump heads, flow rates, and flow measuring devices. This course will examine each of these concepts in detail and explain their application.

This training course has 10 learning modules with a 10-question exam.

**PREREQUISITES**
No prior knowledge is required.

**BEHAVIORAL OBJECTIVES**
After successfully completing this course, you will be able to:

- recognize the concepts of pressure and force
- explain how pressure varies throughout a water system
- define the characteristics of pumps
- interpret basic pump curve information
- recall Net Positive Suction Head Required (NPSHR) and Net Positive Suction Head Available (NPSHA)
- describe pump horsepower and efficiencies
- name the different styles and types of impellers for pumps
- explain how to calculate flow rates and describe the devices used to measure flow rate

**COURSE OUTLINE**
- Introduction – 5 minutes
- Density and Specific Gravity – 4 minutes
- Pressure and Force – 8 minutes
- Piezometric Surface and Hydraulic Grade Line – 7 minutes
- Head or Pressure Head – 10 minutes
- Pumping Rates and Pump Heads – 3 minutes
- Horsepower and Efficiency – 4 minutes
- Pump Characteristic Curves – 5 minutes
- Pump NPSHR and NPSHA – 5 minutes
- Flow Rate – 5 minutes
- Flow Measuring Devices – 3 minutes
- Summary – 1 minute

**AVAILABILITY**
This course is offered online and is available 24 hours a day, 7 days a week, 365 days a year.

**TRAINING METHODOLOGY & EVALUATION**
This course is self-paced online training. Review exercises and case studies reinforce the content, and students are evaluated with a multiple choice exam. Upon completion, students are prompted to submit a course evaluation.