



**Developer and Owner – WWOTC**

**Online Course – Instructor Led**

## **Pumps & Pumping Hydraulics**

**Feb 22-23, 2022 (8:30 – 12:30 AST)**

### **Course Objective / Description**

This “specialty” course has been custom-designed for plant operators or maintenance personnel. Mathematical applications will be performed as part of this course. Proficiency in math operations and unit conversions is required.

What will be covered:

- Velocity and flow rate
- Force - pressure and head
- Types of pumps and applications
- Basic pump components
- Pump performance characteristics & system characteristics - centrifugal pumps, friction losses, water hammer, cavitation, flow control and measurement
- Horsepower and related calculations

<b>Lesson</b>	<b>Description</b>	<b>Contact Hours</b>
Lesson 1	Course Overview/Introduction of Subject Matter and Concepts	0.5
Lesson 2	Force, Pressure, and Head	1.5
	Break	0.25
Lesson 3	Velocity and Flow Rates	1.75
Lesson 5	Pump Hydraulics	1.5
Lesson 6	Types of Pumps	0.5
	Break	0.25
Lesson 7	Chemicals and Rodding	0.5
Lesson 8	Pump Selection	1.25
	<b>Total Instruction/Contact Time:</b>	<b>7.0</b>

**CEU: 0.7**

# Pumps & Pumping Hydraulics

**Feb 22-23, 2022 (8:30 – 12:30 AST)**

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Company Mailing Address \_\_\_\_\_

City, Province: \_\_\_\_\_ Postal Code: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

ACWWA Membership #: \_\_\_\_\_ WEF Membership #: \_\_\_\_\_

If no membership number is listed, you will be invoiced as a non-member. See pricing below.

### **Fee for ACWWA or WEF Members & Employees of UTILITY Members**

Course:  $\$355.00 + \$53.25 \text{ HST (15\%)} = \$408.25$

### **Fee for Non – Members**

Course:  $\$380.00 + \$57.00 \text{ HST (15\%)} = \$437.00$

**Invoices will be sent to the address listed above.**

**PO number to be included on the invoice** \_\_\_\_\_

**Payment can be made by Visa, Master Card or cheque.**

Card Holder's Name \_\_\_\_\_

Credit Card Number \_\_\_\_\_ Expiry \_\_\_\_\_

Signature \_\_\_\_\_

Email address for credit card receipt \_\_\_\_\_

Cheques should be made payable to:

**ACWWA**

PO Box 28141 · Dartmouth, NS · B2W 6E2

Phone 902-434-6002 Fax 902-435-7796