

## **CATALOG OF TRAINING**











## YOUR EDUCATIONAL RESOURCE



Drawing on a wealth of engineering and service expertise, Siewert Equipment offers accredited seminars and training for engineers & operators.

With professional licensing credits provided by the Practicing Institute of Engineers (PIE), the NYS Dept. of Environmental Control (DEC), and the NYS Dept. of Health (DOH), we can help you stay on the cutting edge of the industry.

#### **EXPERIENCED TRAINERS**

Our instructors have over 350 years of combined industry experience

#### HANDS-ON TRAINING

 Many of our seminars include live demos with glass-faced pumps and hands-on training

#### **WE COME TO YOU**

- We offer 1-2 hour lunch & learns at your location
- We provide coordination and instructors
- We handle the paperwork and approval process for accreditation
- We also host several 4-6.5 credit hour seminars every year across Upstate New York







# Enhanced Water/Wastewater Treatment by Dynamic Mixing

**Credits:** 

PDH 1 hour; DEC .5 hour; DOH 1 hour

**Description:** 

This course will provide a general overview of tank mixing options for both water and wastewater application and its benefits.

#### A-B-Ease of Valve Automation

**Credits:** 

PDH 1 hour; DEC 1 hour

**Description:** 

Introduction to the different types and applications for electrical actuators for water and wastewater treatment plants.

#### **Selection & Application of Vertical Turbine Pumps**

**Credits:** 

PDH 1 hour

**Description:** 

This presentation will go through the hydraulic methodology and construction options available when configuring a vertical turbine pump to suit a given application.

## **Metering Pump Technology**

**Credits:** 

PDH 1 hour; DEC 1 hour

**Description:** 

This course is designed to introduce engineers to metering pump technology, which is used in frequently in disinfection.

#### Thickened Aerobic Digestion Process \*\*

**Credits:** 

PDH 1 hour

**Description:** 

Overview of Thickened Aerobic Digestion Process technologies: G-TAD, M-TAD & Mem-TAD as well as results from existing operating plants.



#### Mag Drive and Power Monitor Pump Demo

**Credits:** 

PDH 1 hour

**Description:** 

This course is designed to illustrate how a live demo centrifugal pump runs on its curve and how a power monitor can keep a pump running in its optimal performance range.

Air Control in Liquid Transmission Systems

**Credits:** 

PDH 1 hour; DEC 1hour

**Description:** 

This course will provide an overview for the various types of issues when there is air in a wastewater or water line. It will describe the different types of equipment available to remove air from a pipeline.

Choosing the Right Blower Technology for your WWTP

**Credits:** 

PDH 1 hour

**Description:** 

This course will provide an overview of each type and style of blower technology, what type of WWTP should use a specific technology and what the advantages and limitations of each are.

Screen Selection, Hydraulics & Screenings Handling \*\*

**Credits:** 

PDH 1 hour; DEC 1 hour

**Description:** 

This presentation will review types of screens, screening equipment design, hydraulic considerations and screening handling.

**Mixing Fundamentals** 

**Credits:** 

PDH 1.5 hours

**Description:** 

The basics of defining the variables required for optimum mixing & the proper selection of a mixer based on process & mechanical guidelines.



\*\* indicates training that we do through our manufacturers.

We may need additional time to coordinate.

#### Nutrient Removal and Recovery Solutions

**Credits:** 

PDH 1 hour

**Description:** 

A comprehensive review of conventional and biological (BNR) and enhanced (ENR) nutrient removal solutions for liquid and side streams treatment trains at a water resource recovery facility.

## New Approach to Progressive Cavity Pumping & Design

**Credits:** 

PDH 1 hour; DEC 1 hour

**Description:** 

This presentation will provide information to engineers and operators for the design and maintenance consideration when specifying and repairing progressive cavity pumps. It will also review a new and innovative approach to maintaining flow output over the pumps lifespan.

## Biogas Safety and Handling Equipment \*\*

**Credits:** 

PDH 1 hour

**Description:** 

This course will go over design principles & standards in the proper selection and specification of biogas safety equipment, and common equipment used in biogas handling.

#### Packaged Systems in the Water & Wastewater Markets

**Credits:** 

PDH 2 hours

**Description:** 

This course will discuss the evolution of packaged systems in the water & wastewater markets from factory built to custom engineered systems & how they can ease future maintenance of equipment, prevent exposure to confined spaces, reduce costs and improve quality.



#### E/One Engineers' Day at the Factory \*\*

**Credits:** 

**PDH** 1 hour (other activity)

**Description:** 

You will tour a local manufacturing facility. Environment One Corporation manufacturers sewer grinder pump systems. The engineers will walk through the process stopping at various points along the way to understand the manufacturing processes & continuous improvement techniques as well as the testing and quality assurance areas.

**UV Advanced Oxidation** \*\*

**Credits:** 

PDH 1 hour

**Description:** 

Advanced Oxidation is the process of creating hydroxyl radicals which have a large oxidation potential & drive destructive reactions of organic chemicals in water. This presentation goes over the advanced oxidation process including effects of water quality as well as the steps to design, test and scale up a system to be installed at a water treatment plant.

Microturbine Combined Heat & Power Systems \*\*

**Credits:** 

PDH 1 hour

**Description:** 

The course covers the concept and benefits of combined cooling, heat and power (CCHP) systems and microturbine technology and its use in these systems. Integration of microturbine-powered CHP/C-CHP systems within a variety of facilities and with renewable biogas as a fuel option is discussed and several case studies are presented.

All About Low Pressure Sewer Systems

**Credits:** 

PDH 1 hour

**Description:** 

The fundamentals of low pressure sewer systems & the viability of the systems as a sustainable solution for failing conventional sewer systems. Includes an overview of low pressure sewer systems, system equipment, operation & maintenance overview, & system design principles.



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#### Gorman-Rupp Factory Training \*\*

**Credits:** 

PDH 6 hours; DEC 9.5 hours

**Description:** 

This training will help those attending to better understand the concepts and interaction of the different types of pump curves, what NPSH and cavitation are and the different type of pumps are available. It will also educate the operators on how to take proper gauge readings and interpret them. This will empower them to properly trouble-shoot their systems and keep their plant running more efficiently.

## Screen Selection, Operation & Maintenance

**Credits:** 

PDH 1 hour; DEC 1 hour

**Description:** 

This course covers the following: what screenings are and why remove them, the removal quantities and quality, the different types of screens and applications, wash press types and applications, and the design criteria.

## Fundamentals of Pumping \*\*

**Credits:** 

PDH 4 hours

**Description:** 

The glass face pump is a live demonstration that simulates suction and discharge/cavitation and air entrainment as well as moving conditions of service. Attendees will work together to tear down a pump and put it back together, teaching them maintenance and the critical parts of the pump to check peridodically. The packaged lift station demo provides an overview of basic pump hydraulics, how to determine NPSH and system head curve, and troubleshooting.

#### **Mechanical Seals Basic Training**

**Credits:** 

PDH 1 hour

**Description:** 

The subject matter covers mechanical sealing devices and proper use in a pump system to improve rotating equipment.



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#### Submerged, Attached-Growth Bioreactor Process

**Credits:** 

PDH 1 hour

**Description:** 

Attendees will learn about this process that utilizes a Biologically Active Filter (BAF) operating as a sequencing batch reactor. The reactor maintains a high fixed film biomass concentration averaging an equivalent of 12,000 Volatile suspended solids per liter. A system with a small footprint with superior treatment results.

Wastewater Aeration \*\*

**Credits:** 

PDH 1 hour

**Description:** 

Aeration is the largest energy user at most municipal wastewater treatment plants. The one hour presentation will include basic "Aeration 101", as well as a review of alternate technologies that can achieve the desired results.



## **SEMINARS**

We host several seminars every year across Upstate New York in Albany, Syracuse, Rochester, and Buffalo. The specific seminars offered vary from year to year; information on registration and dates will be on our website under 'Training & Events' and on our social media pages. You can also ask to be added to our email notification list. Below is a list of previous seminars.

#### Exploring the Pump Universe - Level 1

**Credits:** 

PDH 6.5 hours; DEC 6.5 hours

**Description:** 

Students will learn the basics of centrifugal & positive displacement pumps & the differentiation among them. Hands-on demos will drive the technical points. Sudents will leave with the understanding of how proper selection, operation & maintenance lead to longer pump life.

#### Centrifugal Pump Seminar

**Credits:** 

PDH 6.5 hours; DEC 6.5 hours

**Description:** 

This seminar will teach the attendees about the fundamentals of fluid mechanics and hydraulics as it relates to the pump industry. We further discuss pump types, running pumps efficiently and the best practices used to ensure acceptable reliability.

### **Positive Displacement Pump Seminar**

**Credits:** 

PDH 6.5 hours; DEC 6.5 hours

**Description:** 

Technical overview of the different types of positive displacement pumps. Features, benefits and processed application limitation of each technology will be presented along with a hands-on portion of troubleshooting and teardown.



#### **Mixer Seminar**

**Credits:** 

PDH 4 hours

**Description:** 

The seminar will cover mixer design and application in industrial processes, different types of mixer designs and their effects on the application process, and the importance and process of tank cleaning.

#### Control Valves for the Water & Wastewater Markets

**Credits:** 

PDH 4 hours; DEC 4 hours

**Description:** 

This seminar will explain the various types of valves and gates, how they can be used to control flows through dams, flood control pump stations, levees (etc.) and how to specify what valves will be needed for new applications/installations and how to maintain/troubleshoot existing valves within their systems.

#### Screen Seminar

**Credits:** 

PDH 4 hours

**Description:** 

This seminar will educate both municipalities and spec engineers on how to properly select and size the right screen for each application or project, to better understand hydraulic sizing and the effluence to determine screen type, design and size.

#### Water & Wastewater Technology Spotlight

**Credits:** 

PDH 4 hours, DEC 4 hours

**Description:** 

This seminar provides an overview of options in various types of pump technology. These can be used for chemical injection, disinfection, combination valves, etc. It will also provide information to attendees for design, maintenance and repair of the various types that will be discussed.

