

#### HOW TO REGISTER FOR AN MRWA CLASS ON OUR WEBSITE

Did you get this brochure with your name on it? If so, you are in the database.

DO NOT create an account. Call the MRWA office if you do not know what email address we have on file for you.

Go to mrwa.net click login at the very top of the page, enter your email and follow the prompts to set up a password. (If you are not found, call the MRWA office, do not create an account)

Note: Even though membership is by community, accounts in the system are by person

Once you are logged in your name will appear at the very top of the page You can register any of the employees in your community now Go to events tab, Select event, Enter # of tickets you need (attendees), Click continue

In the attendee field start typing the attendee's LAST NAME and select the pop-up name. The rest of the fields for that attendee will populate if we have the info in the database.

Note: Do no overwrite the info in the populated field unless it has changed. For Example: City of XYZ do not change it to City of XYZ Water Department. Individuals are tied to the specific city name. Or Benjamin Smith do not overwrite to Ben Smith. Benjamin Smith is tied to the city membership—Ben Smith is not.

Please make sure we have the attendee cell phone and attendee email address. Repeat for each additional attendee.

#### Click Continue

At the end select invoice (bill to you so the invoice comes to you) Or pay with credit card

If registering for multiple classes, you will need to register and checkout for each class.

### **Water Certification Review Courses**

#### 1.2 CECs, Water Technical

You must attend the entire class to earn the CECs



Michigan Rural Water Association has compiled review courses for those planning to take the water treatment and distribution Certification Test. The course will be instructed by an experienced water operator. The course content has been structured based on the DEQ study guide for waterworks operator certification exams. Concentration will be placed on reviewing math skills, system maintenance, chlorination, sampling, and other areas necessary to help you study for your certification exam. During this two-day review course, your instructor will answer your questions and provide tips on test-taking.

#### TOPICS WILL INCLUDE

Chlorination Contingencies & Emergencies Corrosion **Cross Connections Customer Relations** Fluoridation Hardness/Softening **Hydrants Hydraulics** Instrumentation Iron Removal Main Installation Management Meters Microbiology Pipes & Joints O&M Phosphate Pumps & Motors Record Keeping Safety **SDWA** Sampling Storage Taste & Odor Valves Wells

Water Quality

#### **AGENDA**

8:30 a.m. Class Begins 10:30 a.m. Break

10:45 a.m. Class Resumes
Noon Lunch (provided)
1:00 p.m. Class Resumes

2:30 p.m. Break

2:45 p.m. Class Resumes4:00 p.m. Class Adjourns

### **Distribution S1 & S2**

October 18-19, 2023 Bakers of Milford 2025 S Milford Rd Milford MI 48381

October 25-26, 2023 English Hills Terrace 5179 West River Drive NE Comstock Park MI 49321 October 25-26, 2023 Online via zoom

Need last-minute help? If you attend one of the two-day math or review classes, we will automatically register you for the zoom math review on October 30. You will receive a separate email for that registration. Your choice to attend or not. If you want to come in person on October 30, class fee applies.

Circle the class you want to register for.

Members \$340 per attendee Non-Members \$440 per attendee

Attendee cell phone and email address are required for all attendees. Registration will not be processed without these.

ATTENDEE Name:
Employer:
Address:
City/State/ZIP:
ATTENDEE CELL Phone:
ATTENDEE Email:
If attending in person, do you have any special dietary requirements?
Name & phone of person completing form:
Send and invoice: Charge my credit card info below:
Visa Mastercard Discover
Card number:
Expiration date: CSC code:
Name on card:
Card Billing address:
Email address to send receipt to:

### **Distribution S3 & S4**

Comstock Park MI 49321

October 3-4, 2023 Doherty Hotel	October 10-11, 2023 City of Warren DPW	October 18-19, 2023 Bakers of Milford
604 N McEwan St	12821 Stephens Rd.	2025 S Milford Rd
Clare, MI 48617	Warren, MI 48089	Milford MI 48381
October 25-26, 2023 English Hills Terrace 5179 West River Drive NE	October 25-26, 2023 Online via zoom	Circle the class you

Need last-minute help? If you attend one of the two-day math or review classes, we will automatically register you for the zoom math review on October 30. You will receive a separate email for that registration. Your choice to attend or not. If you want to come in person on October 30, class fee applies.

Circle the class you want to register for.

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### Limited Treatment (D Certification) (Can be helpful for F3 and F4 Testing)

October 3-4, 2023 Marshall Public Services Bld. 900 S. Marshall Ave. Marshall MI 49068

October 10-11, 2023 **Doherty Hotel** 604 North McEwan Clare MI

October 10-11, 2023

Online via zoom

Need last-minute help? If you attend one of the twoday math or review classes, we will automatically register you for the zoom math review on October 30. You will receive a separate email for that registration. Your choice to attend or not. If you want to come in person on October 30, class fee applies.

Circle the class you want to register for.

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Email address to send receipt to:

### UP Water Review (Distribution & Limited Treatment)

### 1.2 CECs, Water Technical

Email address to send receipt to:

You must attend the entire class to earn the CECs



Michigan Rural Water Association has compiled review courses for those planning to take the Distribution Certification Test. The course will be instructed by an experienced water operator. The course content has been structured based on the EGLE study guide for waterworks operator certification exams. Concentration will be placed on reviewing math skills, system maintenance, chlorination, sampling, and other areas necessary to help you study for your certification exam.

TOPICS WILL Chlorination Hardness/Softer Management Pumps & Motor Taste & Odor	ning H N rs R	Contingencies & Emergencies Tydrants Meters ecord Keeping Yalves	Corrosion Hydraulics Microbiolog Safety Wells	Cross Connections Instrumentation y O&M Sampling Water Quality	Customer Relations Iron Removal Phosphate SDWA	Fluoridation Main Installatior Pipes & Joints Storage
AGENDA 8:30 a.m. Class Begins Noon Lunch Break (Lunch will be provided) 1:00 p.m. Class Resumes 4:00 p.m. Class Adjourns  Need last-minute help? If you attend one of the two-day math or review classes, we will automatically register you for the zoom math review on October 30. You will receive a separate email for that registration. Your choice to attend or not. If you want to come in person on October 30, class fee applies.		Regi Ema the a (the	istration will not be proce iil address does not need attendee has access to. A	ail address are required for a sessed without these. to be a work address. Just a ttendee will be asked to set ou use your actual name and	n email address that up a zoom account d company so we car	
ATTENDEE Na	me:				Ishpeming Towns	-
Employer:					1575 US Highwa	-
Address:					Ishpeming, MI 4	49849
City/State/Z	IP:				Members \$340 per o Non-Members \$44	
ATTENDEE C	ELL Phor	i <mark>e:</mark>			attendee	
ATTENDEE E	<mark>mail:</mark>					
If attending	in persor	, do you have any spec	ial dietary r	equirements?		
Name & pho	one of pe	rson completing form:				
Send and inv	voice:	Charge my credit	card info be	elow:		
Visa N	lastercar	d Discover				
Card numbe	r:					
Expiration da	ate:	CSC	Ccode:			
Name on car	rd:					
Card Billing a	address:					

Register: www.mrwa.net | Email: training@mrwa.net | 2127 University Park Dr Ste 340 Okemos MI 48864

### 2 Day Math

#### 1.1 CECs, Water Technical

You must attend the entire class to earn the CECs



This class starts off with basic mathematical concepts such as "how to use a calculator", "how to solve for X", and "how to use and apply mathematical formulas". We then go into practical mathematics for water operators, starting with basic concepts on day one and advancing to mathematics needed for the seasoned operator, such as the allowable leakage calculation for new water mains and the basic Bernoulli equation.

Our Goals: To give water operators a basic mathematical foundation that will allow them to approach any math problem with confidence and advance their career. To inspire students to believe that a math problem is "just a problem" that can be approached and solved like any problem they encounter.

AGENDA Day 1	
8.30am – 10.00am	Basic Math Concepts
10.15 am - 12.00pm	Areas & Volumes
Noon	Lunch (provided)
12:45pm – 2pm	Chemical feed and disinfection
2.15pm – 3.30pm	Calculating pounds & ppm chlorine
3:30pm	Adjourn
AGENDA Day 2	
8:30am – 10am	Hydraulic Calculations
10:15am – Noon	Horsepower, Continuity Equation, etc.
Noon	Lunch (provided)
12:45pm – 2pm	Bernoulli Equation
2:15pm – 3:30pm	Allowable leakage & other calculations
3:30pm	Adjourn

**About your instructor:** Mike Engels provides mathematics instruction to water and wastewater operators across Michigan. Time after time, students in those courses express their gratitude to Mike for his ability to convey mathematics in a way they can understand.

### **Two Day Math Reviews**

September 6-7, 2023 Kalamazoo WWTP 1415 N. Harrison St. Kalamazoo, MI 49009	September 12-13, 2023 Northville Township Hall 44405 Six Mile Rd. Northville MI 48168
September 19-20, 2023 Doherty Hotel 604 North McEwan Clare MI	September 19-20, 2023 Online via zoom

Need last-minute help? If you attend one of the two-day math or review classes, we will automatically register you for the zoom math review on October 30. You will receive a separate email for that registration. Your choice to attend or not. If you want to come in person on October 30, class fee applies.

Circle the class you want to register for.
Two Day Classes

Members \$340 per attendee Non-Members \$440 per attendee

Attendee cell phone and email address are required for all attendees. Registration will not be processed without these.

ATTENDEE Name:
Employer:
Address:
City/State/ZIP:
REQUIRED ATTENDEE CELL Phone:
REQUIRED ATTENDEE Email:
If attending in person, do you have any special dietary requirements?
Name & phone of person completing form:
Send and invoice: Charge my credit card info below:
Visa Mastercard Discover
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Expiration date: CSC code:
Name on card:
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Email address to send receipt to:

### **One Day Math Review**

## October 30, 2023 2123 University Park Dr Ste 150 Okemos MI 48864 October 30, 2023 Online via zoom

#### Course topics include:

- -Basic Arithmetic (Basic course)
  -Areas and Volumes
- -Velocity and Flow Rates
- -Pressure, Force and Head
- -Including The Picnic Table Formula
- -Typical Water Problems
- -Conversions and Formulas
- -Calculating Horsepower
- -Chemical Feed Rates (Chlorine)

## Circle the class you want to register for.

Members \$185 per attendee Non-Members \$235 per attendee

#### Agenda

8:00 a.m. Registration

8:30 a.m. Mathematics for water personnel

Noon Lunch (provided) 1:00 p.m. Mathematics continues

3:30 p.m. Class adjourns

#### Attendee cell phone and email address are required for all attendees. Registration will not be processed without these.

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Email address to send receipt to:

### **Entry Level Math for Water and Wastewater**

### **Online Only via Zoom**

August 29-30, 202	3	Agenda (Day 1 and Day 2)
Online via zoom		8:45 a.m. Begin logging in to zoom
		9:00 a.m. Class Begins
		11 a.m Class adjourns

THIS IS A TWO-HOUR ONLINE CLASS. This class is designed for those who are new to the industry or who struggle with math. It is intended to prepare attendees for MRWA's upcoming full day water math classes

Day 1 Topics: How to solve a math problem, Math terms & definitions, Rounding numbers, Calculator Use, Working with formulas and solving story problems, Conversions - Algebra & "T" formula, Box chart conversions

Day 2 Topics: Solving percentage problems, Areas & Volumes

Register: www.mrwa.net

Members \$85 per attendee Non-Members \$110 per attendee

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### **Wastewater Plant Operations Review**



#### 1.2 CECs, Wastewater Technical

You must attend the entire class to earn the CECs

Class qualifies for 1.2 SHE Engineering. Must take and pass an additional written exam administered at the end of the class to earn SHE credits.

Instructor: John Holland, MRWA

**Course Outline:** This is a two-day, course will cover the proper operation, maintenance, and procedures for the following wastewater topics. Mathematical calculations associated with each topic will also be covered.

Preliminary treatment: Grit & Rag removal

Primary treatment: Primary clarifier operation, settling rates,

sludge pumping, and detention times

Secondary Treatment: Activated Sludge, RBC's, Trickling Filters,

Oxidation Ditches, and Secondary Clarifiers

Solids Treatment & Disposal: Aerobic Digesters, Anaerobic Digesters,

and Land Application of Sludge

Laboratory Operations: Suspended Solids, BOD, Phosphorous, pH,

Dissolved Oxygen, QAQC

#### Agenda: Day One

8:30am – Noon Wastewater Math Noon – 1pm Lunch (provided)

1pm – 4pm Wastewater Math

#### Agenda: Day Two

8:30am – 9:15am: Preliminary Treatment

9:30am - 10:30am: Primary Treatment

10:30am-Noon: Secondary Treatment

Noon – 1:00 pm Lunch (provided)

1pm – 2:15pm: Secondary Treatment Activated Sludge, RBC's and Trickling Filters

2:30pm – 3:15pm: Solids Treatment & Disposal

3:15pm – 4pm: Laboratory Operations

### **Wastewater Plant Operations Review**

September 6-7, 2023 Saginaw Chippewa WWTP 7375 E. Tomah Rd. Mt. Pleasant, MI 48858 September 6-7, 2023 Online via zoom

Class qualifies for 1.2 SHE Engineering. Must take and pass an additional written exam administered at the end of the class to earn SHE credits.

Circle the class you want to register for.

Members \$340 per attendee Non-Members \$440 per attendee

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### **Advanced Wastewater Plant Operations**



#### 1.2 CECs, Wastewater Technical

You must attend the entire class to earn the CECs

Class qualifies for 1.2 SHE Engineering. Must take and pass an additional written exam administered at the end of the class to earn SHE credits.

### Agenda - Day 1 8:00-8:20 Registration 8:20 – 8:30 Housekeeping / Introduction 8:30 – 10:00 General Review (Pretreatment, Clarification, Trickling Filters, RBC's) 10:00 – 10:10 Break 10:10 – 12:00 Activated Sludge Review (Microorganisms, F:M, MCRT, Sludge age) Wasting Rates 12:00 – 12:30 Lunch (provided) 12:30 – 1:50 Nitrogen Removal Nitrogen Cycle & Microorganisms **Operational Controls** 1:50-2:00Break 2:00 – 3:30 Phosphorus Removal (Chemicals, Math) 3:30 – 4:00 Day End Review and Practice Problems Agenda - Day 2 8:00 - 8:20 Registration 8:20 – 10:20 Residual Solids Management Thickening (Gravity, DFAS, Belt Filter, Vacuum Filter) Lime Stabilization Composting Land Application 10:20 – 10:30 Break 10:30 – 12:00 Mechanical and Instrumentation Review of HP and TDH Pump Curves 4-20 milliamps 12:00 – 12:30 Lunch (provided) 12:30 – 1:30 Mechanical and Instrumentation Continued 1:30 - 2:30Laboratory Laboratory Review (TSS and BOD, GEO MEAN and Fecal Coliform) **Basic Chemistry** QA/QC QA/QC Math ( Mean, STD DEV) 2:30 – 3:00 Day End Review and Practice Problems End of Class Exam for SHE's (optional) 3:00-5:00

### **Advanced Wastewater Plant Operations**

September 19-20, 2023
2123 University Park Dr Ste 150
Okemos MI 48864

September 19-20, 2023
Online via zoom

Class qualifies for 1.2 SHE Engineering. Must take and pass an additional written exam administered at the end of the class to earn SHE credits.

Circle the class you want to register for.

Members \$340 per attendee Non-Members \$440 per attendee

Attendee cell phone and email address are required for all attendees. Registration will not be processed without these.

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### **Activated Sludge Process and Control**



### 1.1 CECs, Wastewater Technical

You must attend the entire class to earn the CECs

Class qualifies for 1.1 SHE Engineering. Must take and pass an additional written exam administered at the end of the class to earn SHE credits.

Instructor: John Holland, MRWA

AGENDA Day 1 – Activated Sludge Process and Control				
8:30 - 8:40	Introduction			
8:40 - 9:30	Introduction to the Activated Sludge Process  • The Basic Process  • Modifications of the Activated Sludge Process  • Keywords and Definitions  • Process Description			
9:30 - 10:30	Operation  • Normal Operation Process Equipment; Operation Strategy; Microorganisms  • Abnormal Operation Trouble shooting; Making Corrections			
10:30 - 10:45	Break			
10:45 - 12:00	Activated Sludge Math  Tank Volumes  MLSS & MLVSS  MCRT & Sludge Age  Wasting Rates  BOD Loading  F/M Ratio  Return Rate Estimated			
12:00 - 12:45	Lunch (provided)			
12:45 - 2:00	Plant Tour and Process Familiarization			
2:00 - 3:00	Math Continued			
AGENDA Day 2				
8:30 - 10:30	Math Continued			
10:30 - 10:45	Break			
10:45 - 12:00	Math Continued			
12:00 - 12:45	Lunch (provided)			
12:45 - 2:30	Laboratory • Microorganisms • SVI / SDI			
2:30 - 3:00	Review & Questions			

### **Activated Sludge**

August 30-31, 2023 Saginaw Chippewa WWTP 7375 E. Tomah Rd. Mt. Pleasant, MI 48858 August 30-31, 2023 Online via zoom

Class qualifies for 1.1 SHE Engineering. Must take and pass an additional written exam administered at the end of the class to earn SHE credits.

Circle the class you want to register for.

Members \$340 per attendee Non-Members \$440 per attendee

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### **Lagoon Operations**



### 1.2 CECs, Wastewater Technical

You must attend the entire class to earn the CECs

Class qualifies for 1.2 SHE Engineering. Must take and pass an additional written exam administered at the end of the class to earn SHE credits.

AGENDA Day 1		
8am – 8:15am	Class Begins (Introductions / housekeeping)	
8:15am – 9am	Introduction	
9am – 10am	Basic Math	
10am – 10:15am	Break	
10:15am – Noon	Math continued	
Noon - 12:45pm	Lunch (provided)	
12:45pm – 1:45pm	Treatment Process	
1:45pm – 2pm	Break	
2pm – 3:30pm	Design Criteria	
AGENDA Day 2		
8am – 9am	Sampling and Lab Analysis	
9am – 10am	Management Practices	
10am – 10:15am	Break	
10:15am – 11am	Permits, Records and Reports	
11am – Noon	Collection Systems	
Noon – 12:45pm	Lunch (provided)	
12:45pm – 1:45pm	Collection Systems Continued	
1:45pm – 2pm	Break	
2pm – 3:30pm	Safety	

### **Lagoon Operations**

**1.2 CECs, Wastewater Technical -** You must attend the entire class to earn the CECs

October 25-26, 2023	October 25-26, 2023
Quality Inn	Online via zoom
2980 Cooks Rd	
West Branch MI	

Circle the class you want to register for.

Members \$340 per attendee Non-Members \$440 per attendee

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#### MRWA SAFETY TRAINING SERIES

MRWA has partnered with G & S Safety Consultants to provide you with a live (via zoom) Safety Training Series.

### Future episodes via zoom include:

July 25, 2023 Heat Stress

The dangers and safeguards of working in HOT environments

August 22, 2023 Chainsaw/Tree Felling Safety

MIOSHA Part 53 Rule 5311

September 26, 2023 Aerial Bucket Truck Safety

This class will review safe operating practices and procedures for aerial lift bucket trucks in relation to MIOSHA Part 32 Aerial Lift Trucks

October 24, 2023 Fire Extinguishers

MIOSHA Part 8 Fire Extinguishers: Initial Training / Annual Refresher

November 28, 2023 Cold Weather Safety

Safety precautions to take when working in cold weather, recognizing hypothermia

December 26, 2023 Winter Operations Safety

Snow equipment operation and safety, large trucks, trackless machines, pickups, etc.,

All classes begin at 7:30am and end at 8:30am

#### IMPORTANT INFO YOU NEED TO KNOW:

Cost is based on your community size so you will need to login to the website. If we have your community size wrong, give us a call to update it.

Most communities will only need to purchase one link/ticket.

We suggest that you watch these trainings by connecting your computer to a large screen TV so all of your staff can watch together.

If you have multiple locations that want to watch live, you will need to purchase additional links/tickets. Each zoom link is tied to an email address so be sure to register the right people to receive the links.

Participation during the live session is encouraged. You can ask questions through your camera if you have one or use the zoom chat function.

There are no CECs but you will want to track of your attendees.

Episodes will be recorded and viewable for 30 days after the live episode. (Link to recording will be emailed to those who purchased the live session.)

Please do your best to register online before contacting the office. Go to MRWA website events tab to register.

Michigan Rural Water Association 2127 University Park Dr Ste 340 Okemos MI 48864 NON-PROFIT PRSRT STD US POSTAGE PAID CLARE, MI 48617 PERMIT #2

# This brochure includes MRWA classes for the entire state of Michigan.

Attendee cell phone and attendee email address required. We will not process any registration without that information. Attendee cell and email will NOT be shared with outside parties.

MRWA Outdoor Expo August 17, 2023 Michigan International Speedway MRWA UP Conference October 18-19, 2023 Ramada, Marquette