



September 22, 2009	Electricity, Motors and Meters
September 10, 2009	Variable Frequency Drives
September 15, 2009	DMR, RTRs and WCRs
September 16 & 17, 2009	Management Skills for Supervisors
September 18, 2009	Emergency Communications
September 21 & 22, 2009	Drinking Water Treatment Technologies
September 22, 2009	Radium Removal from Drinking Water
September 23-25, 2009	O & M of Pumps
September 29, 2009	O & M of Water Treatment Filters

Midnight Madness

September 29, 2009

Introduction to  
Electricity  
(8:30 to 11:30 am)

Operations Math -  
The Basics  
(1:00 to 4:00 pm)

Management and  
Supervision -  
An Introduction  
(6:00 pm to 9:00 pm)

Nonprofit Organization  
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New Brunswick, NJ  
Permit No. 153

Please register me for the following:

Course Code	Name	Date	Fee

**Method of Payment**

Check, money order or Purchase Order  
 Charge to my credit card  Visa  Mastercard  AMEX

Cardholder's Name (printed)

Signature of Cardholder

Card #

Exp. Date Billing Zip

**YES**, I want to be informed about courses and related information through periodic messages from Rutgers via: (check all that apply)  email  fax

**We will never sell, rent or exchange your contact information with a 3rd party.**

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**NJAES Office of Continuing Professional Education**

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September 30, 2009 is fast approaching – do you have all the Training Contact Hours (TCHs) you will need to renew your New Jersey drinking water and/or wastewater operator's license? Level 1 and 2 licenses require 18, holders of level 3 and 4 licenses must have 36 and VSWS license holders require 12. We have put together a "September Series" of some of our most popular programs - and several new offerings - to help you get the credits you need before the deadline. These courses are interesting, useful, practical and will provide you with information you can and will use every day in the workplace.

All courses will be held on Rutgers University's George H. Cook campus in New Brunswick, New Jersey. A map with written directions to the course location and parking information will be included with your confirmation of registration. Sign-in and registration begins at 8:00 a.m. with the majority of classes starting at 8:30 a.m. and ending at approximately 3:45 p.m. If you have NOT received confirmation of your registration one week prior to the course date, please contact our Registration Unit at (732) 932-9271.

**Discounts for Licensed NJ Drinking Water Operators**

Holders of current New Jersey drinking water operator licenses (T, W and VSWS – all levels) are eligible for a 50% discount on the single registrant rate. Proof of licensure is required with registration and for class sign-in. Thanks to NJDEP for their continuing support!

**An Important Note on OCPE's TCH Information and the NJDEP**

Please be aware that our office sends course attendee/TCH information directly to NJDEP's Office of Examinations and Licensing. Our process has worked well throughout the current TCH cycle and we will ensure that course information for all attendees who sign-in as New Jersey licensed drinking water and/or wastewater operators will be transmitted to NJDEP before the close of business on September 30, 2009.

**Note:** We do not have access to information on courses taken through other providers, such as NJWEA, NJAWWA or the NJWA. If you have misplaced certificates or other documentation of attendance at OCPE - sponsored programs, an official transcript (accepted by NJDEP) is available from our office for a charge of \$5.00. For additional information, please contact Carol Broccoli at (732) 932-9271 x618 or via e-mail at [broccoli@njaes.rutgers.edu](mailto:broccoli@njaes.rutgers.edu).





### **Electricity, Motors and Meters**

**September 22, 2009**

**Course Code: E00707CB10**

**Instructor: Sheldon Kay**

**Registration fee: \$260**

**Multi fee: \$230**

**NJ licensed water operators \$130 (T, W or VSWS only)  
0.6 CEUs/6 TCHs for water and wastewater license holders  
Approval #01-090002-30**

This course has been designed to introduce attendees to the basics of electrical technology, including electrical terminology, theory, common circuits, test equipment, safety concerns and motor name plate data. The material covered is easily understood through the use of simple terms and the use of real-life experiences as examples. A great introduction or refresher! Topics include:

- Fundamentals of voltage, current and resistance
- Basic circuits and motor name plate data
- Multimeter functions and meggar use ▪ Clamp-on amp probe use and circuit protection.

### **Variable Frequency Drives**

**September 10, 2009**

**Course Code: E00706CA10**

**Instructor: Philip Radin**

**Registration fee: \$260**

**Multi fee: \$240**

**NJ licensed water operators: \$130 (T, W or VSWS only)  
0.6 CEUs/6 TCHs for water and wastewater license holders  
Approval #01-090008-30**

This class will introduce you to variable frequency drives (VFDs) and the reasons for their application in controlling the rotational speed of motors and other electrical equipment. While most control circuits used in industrial or commercial applications still use mechanical operating systems, the application of VFD's is increasing as a way to reduce power consumption and other operating costs. Topics will include:

- VFD theory operation and application
- New installations, startup/feedback controls
- Control status, monitoring and troubleshooting of VFDs
- Maintaining, servicing and operating VFDs.

### **DMR, RTRs and WCRs - The How and Why**

**September 15, 2009**

**Course Code: E00303CA10**

**Instructor: Scott Mikaelian**

**Registration fee: \$295**

**Multi fee: \$275**

**NJ licensed water operators \$147.50 (T, W or VSWS only)  
0.6 CEUs/6 TCHs for water and wastewater license holders  
Approval #01-090001-30**

Discharge Monitoring Reports (DMRs), Residual Transfer Reports (RTRs) and Waste Characterization Reports (WCRs) are the primary mechanisms for measuring and recording a facility's performance and compliance with NJPDES permit limitations. More importantly, the information reported can serve as the basis for penalty assessments. This course is designed to explore the regulatory information needed to complete these forms in an accurate and efficient manner. Topics include:

- The NJDEP Monitoring Report Forms and Manual
- Sludge Quality Assurance Reporting (SQAR)
- A discussion of NJDEP's annual inspection program
- Strategies for designing and implementing appropriate sampling/analytical programs.

### **Management Skills for Supervisors**

**September 16 & 17, 2009**

**Course Code: E00103CA10**

**Instructors: Edward V. Lipman, Jr. and Terry Tomsy**

**Registration fee: \$455**

**Multi fee: \$430**

**NJ licensed water operators \$227.50 (T, W or VSWS only)  
1.2 CEUs/12 TCHs for water and wastewater license holders  
Approval #01-010111-30**

Managing employees is a challenging process of learning how their behavior and the work environment affects outcomes. If you want to improve your management skills, however, the best place to start is to know yourself and be willing to change. In this course, you will explore the essential characteristics of a respected leader and will evaluate your own management style.

Do your employees clearly understand what is expected of them? Are they treated fairly and consistently? Is there open and honest communication? Do employees participate in decisions that affect their work? Are there opportunities for them to improve their own skills? These are very important questions to consider as a supervisor. Through small group discussions and entertaining interactive exercises, you will develop a better understanding of what you can do to improve your work group's effectiveness. In addition, you will acquire new "people" skills to more successfully manage the everyday challenges in your workplace.



### Effective Emergency Communications

**September 18, 2009**

**Course Code: E00109CA10**

**Instructor: William Jamison**

**Registration fee: \$260**

**Multi fee: \$240**

**NJ licensed water operators \$130 (T, W or VSWS only)  
0.6 CEUs/6 TCHs for water and wastewater license holders  
Approval #01-090603-30**

Effectively communicating with co-workers, employees, supervisors and the public is critical to successfully operate in any business or organization. This is especially so in times of emergencies, such as power outages, floods, hurricanes or other natural disasters. Today we also face the very real possibility of biological or chemical terrorism, which can interrupt services to thousands of homes and affect the very large population areas for extended periods of time.

This course provides awareness level training in developing and delivering communications to the public, partners and the media. The program presents methods to improve internal communications, how to develop partnerships and skills for communicating with the public or media during a crisis and employ case study activities to put the information presented to use.

### Drinking Water Treatment Technologies

**September 21 & 22, 2009**

**Course Code: E00205CA10**

**Coordinator: Russell Ford, Ph.D**

**Registration fee: \$320**

**Multi fee: \$290**

**NJ licensed water operators \$160 (T, W or VSWS only)  
0.6 CEUs/6 TCHs for water license holders only!  
Approval #01-010102-10**

One of our most popular classes - expanded to two days! Join the experts as they present information on how to improve your current processes or implement new cutting edge treatment techniques. As drinking water regulations become more complex and customers demand higher quality water, it is crucial that supplier and operations personnel keep their treatment knowledge current. Featured course topics will include:

- Overview of Treatment Processes - Trends in New Technologies and How to Select Them
- Conventional Treatment
- Process Control and Instrumentation
- Groundwater Treatment for Inorganics and Organics
- Disinfection By Product Control Strategies
- Low / High Pressure Membrane Technologies
- Case Studies of Surface Water Plants, Groundwater Systems and Desalinization Projects
- Disinfection Technologies
- Water Treatment Residuals
- Water Chemistry 101
- Chemical Dosing & Design of Chemical Feed Systems.

### Radium Removal from Drinking Water

**September 22, 2009**

**Course Code: E00212CA10**

**Instructor: Edward Christman**

**Registration fee: \$230**

**Multi fee: \$205**

**NJ licensed water operators \$115 (T, W or VSWS only)  
0.6 CEUs/6 TCHs for water license holders only!  
Approval #01-010902-10**

This course has been developed in response to a growing need for drinking water personnel to have a basic understanding of the concepts/issues related to the removal of radium and other radioactive elements from drinking water supplies. Specific topics will include: the nature of radioactive elements, natural sources of radioactivity, health hazards related to these sources, technology currently available for the removal of radium and other naturally occurring radioactive elements from drinking water, and the regulatory requirements in New Jersey for the operation of these removal systems.

#### Who should attend ?

Water treatment plant engineers, operators and managers; municipal and consulting engineers; representatives of public utilities; regulatory compliance officers and health officers. A general knowledge of the science and technology of water treatment plants is assumed. Some exposure to science would be helpful, but is not required.

### O & M of Pumps

**September 23-25, 2009**

**Course Code: E00710CB10**

**Instructors: Terry Tomsy and Robert Waldron**

**Registration fee: \$485**

**Multi fee: \$465**

**NJ licensed water operators: \$242.50 (T, W or VSWS only)  
1.8 CEUs/18 TCHs for water and wastewater license holders  
Approval #01-090010-30**

Our most popular hands-on course! You will learn and practice accepted procedures for both daily and long term maintenance of pumps and related equipment. Proactive maintenance and a thorough understanding of the inner workings of a pump can save time and increase the efficiency of your operation. Topics will include:

- Types and uses of pumps, terms and classifications
- Mechanical seals
- Pump head calculations and performance curves.



**O & M of Water of Treatment Filters**

**September 29, 2009**

**Course Code: E00204CA10**

**Instructor: Thomas Getting**

**Registration fee: \$250**

**Multi fee: \$220**

**NJ licensed water operators \$125 (T, W or VSWS only)  
0.6 CEUs/6 TCHs for water and wastewater license holders  
Approval #01-070703-30**

Optimum filter performance is a requirement of optimum operation. This one-day workshop presents a broad overview of all aspects of granular media and gravity filtration. From engineers to operators - learn what you need to know. Topics include:

- Design and rehabilitation of new and existing granular media and gravity filters
- Media selection and design for particle removal
- Different types of filter operation, instrumentation and control
- Filter maintenance and troubleshooting for optimum performance
- Observation of pilot filters in different modes of backwash
- Examination of various types of underdrain media.

**TCH MIDNIGHT MADNESS – SCORE YOUR TCHS!!**

**September 29, 2009**

OK – the deadline is here – are you ready? Do you find yourself just a couple of credits (or more - gasp!) short of the 12, 18 or 36 you need to renew your New Jersey drinking water or wastewater operators license? Well, do we have an event for you! In the tradition of the NCAA's "midnight madness" that celebrates the first day of college basketball workouts, OCPE's version will be celebrating the end of the current TCH cycle! Starting in the morning and running through the evening, we have scheduled three separate three-hour sessions that will each get you three (3) TCHs. The TCHs associated with each session are applicable to **all** NJ licenses (drinking water and wastewater). So come join us on the 29th – morning, noon or night.

**Introduction to Electricity**

**Registration fee: \$125**

**Multi Fee: \$99**

**NJ licensed water operators \$62.50 (T, W or VSWS only)**

**Course code: E00109CB10/ELECT**

**3 TCHs for W/WW**

**Approval #01-050901-30**

Registration: 8:00 am; Course time: 8:30 – 11:30 am

Have a question on the basics of electricity? Have a question on how electricity is generated, used or measured? Need a quick review of electrical safety techniques? This course has been designed to give a general overview of the topic using simple terms and real-life examples. A great introduction or refresher!

**Instructor: Sheldon Kay – part of our Electrical Series instructional team, Sheldon teaches full day programs on electricity, instrumentation and print reading.**

**Operations Math - The Basics**

**Registration fee: \$125**

**Multi Fee: \$99**

**NJ licensed water operators \$62.50 (T, W or VSWS only)**

**Course code: E00109CB10/MATH**

**3 TCHs for W/WW**

**Approval #01-050902-30**

Registration 12:30 pm; Course time: 1:00 - 4:00 pm

Water and wastewater operations personnel face math problems on the job every day. This course will give brief overviews of some of the more common mathematical operations, formulas, problem solving and applications found in water, wastewater or utility workplaces. Build your confidence and understanding - or take it as a review tool for an upcoming licensing exam. Math is fun!

**Instructor: William Mitchell – Bill's instructional skills in math have played a big part in our highly successful "Licensed Water Operator Review Course."**

***PLEASE BRING A CALCULATOR!***

**Management and Supervision - An Introduction**

**Registration fee: \$125**

**Multi Fee: \$99**

**NJ licensed water operators \$62.50 (T, W or VSWS only)**

**Course code: E00109CB10/MGMT**

**3 TCHs for W/WW**

**Approval #01-050903-30**

Registration: 5:30 pm; Course time: 6:00 – 9:00 pm

Managing employees is a constant process of learning how our behavior and the work environment impacts others. You must have a clear vision and a set of goals in order to get your employees' cooperation and buy in. Through interactive exercises and breakout sessions, this workshop will introduce ideas and strategies to help you do just that. You will leave with a better understanding of yourself and how to communicate effectively to improve the efficiency and effectiveness of your workplace.

**Instructor: Terry Tomsy – Terry is part of the instructional team for our two-day "Improving Your Management and Leadership Skills" course and also teaches in several of our Electrical Series programs.**

**4 CONVENIENT WAYS TO REGISTER**



**Fax:** 732.932.8726, 24 Hours.

Please include credit card information or copy of check, money order or purchase order with your fax.



**Phone:** 732.932.9271, M-F 8:00 AM - 4:30 PM. Please have your Visa, Mastercard or AMEX number ready.



**Mail:** Registration Desk, NJAES Office of Continuing Professional Education, Rutgers University, 102 Ryders Lane, New Brunswick, NJ 08901-8519. Please make checks payable to: **Rutgers University**



**Web:** Please visit our website at: [www.cpe.rutgers.edu](http://www.cpe.rutgers.edu) for information.

**Payment Policy** - All students must have prearranged for payment to be admitted to the class (purchase order, check, VISA, Mastercard, American Express or money order).

**Refunds** - You may withdraw from this course with a full refund (minus a \$50 per course processing fee) provided our office is notified at least three (3) full working days prior to the start of the course. Beyond that time, registrants may be responsible for the full registration fee.

**Substitutions are welcomed.**