COURSE DESCRIPTIONS

WATER TRAINING

Advanced Water Treatment I & II (48 contact hours)

This course is conducted in two 24-hour segments (**Advanced Water I and Advanced Water II**) and is designed for experienced operators preparing to take the Class II and Class I Certification Exams. Conventional water treatment, groundwater plant operations, advanced math, rules and regulations, laboratory procedures, supervisory practices, etc. will be emphasized. ***See page 4 for more information on these courses***

Basic Water Treatment (40 contact hours)

This training helps prepare new operators for the Class III Certification Exam. Topics include rules and regulations, surface and groundwater sources, unit process control, basic math, simple laboratory control tests, safety and maintenance.

Small Water System Class IV Training (6 contact hours)

The Georgia Board of Examiners for Certification of Water and Wastewater Treatment Plant Operators and Laboratory Analysts has developed training and certification requirements for public ground water systems serving populations less than 1000. This training helps prepare operators for the Class IV Certification Exam.

Water Distribution Systems (27 contact hours)

This training helps prepare students for the certification exam focusing on a variety of subjects including piping material and specifications, construction procedures, storage facilities, disinfection, repairs, backflow prevention, meters, pumps, valves, basic math, safety, etc.

Water Laboratory for Analysts and Operators (27 contact hours)

This laboratory course is an in depth study of the basic introduction and theory of the chemistry and microbiological analysis of water. The twenty seven (27) hour course is designed to train the personnel in the proper and safe use of laboratory apparatus and equipment necessary to perform tests required to provide safe drinking water. The course will cover all need to know material required to prepare reagents, take samples, and perform process, quality control, and compliance testing.

BACKFLOW TRAINING

Backflow Prevention Assembly Testers' Certification Training (32 contact hours)

This training session meets all State of Georgia and American Backflow Prevention Association (ABPA) Standards and *prepares* students with information, training and hands-on practice opportunities to become a Certified Backflow Prevention Assembly Tester. The Manual of Cross Connection Control, Ninth Edition, handout supplements and visual aids are used. The course focuses on the hazards of cross-connections, operating fundamentals of tested devices, basics of cross-connection inspections, customer relations and legal aspects of backflow assembly testing. **The certification and renewal is administered for EPD by GAWP. To be eligible to take the backflow exam on the last day of the course, you must register and pay for the exam with GAWP in advance. Go to www.gawp.org and click the Backflow Certification Link, print the exam form, complete form and mail with payment to GAWP.**

Backflow Testers' Review and Update (6 contact hours) This session is provided to provide testers' knowledge in the most current approved testing procedures, regulatory concerns, while fulfilling backflow specific recertification training requirements for Backflow Testers' Certification Renewals.

WASTEWATER TRAINING

Our "Advanced Courses" have been modified into 24 hour modules, in effort to better accommodate your requests. This will allow your course selections, as you prepare for Certifications, to more effectively reflect your specific training needs and interests. Courses below, not designated as Basic or Advanced, are also offered for your professional enrichment and to aid in fulfilling recertification point requirements. All Course Curricula reflect latest available "Needs-to-Know," distributed through our Georgia State Certification Board.

Basic Wastewater (40 contact hours) ***Basic***

This course is designed to give the entry level operator exposure to a variety of treatment systems. Course topics include: basic math, nature of solids, collection system design and usage, biology of wastewater treatment, secondary treatment, disinfections, solids handling, basic process control, maintenance and pumps.

Wastewater Collection Systems (27 contact hours) ***Basic***

This training helps prepare operators for the certification exam. Topics include design, types of system design, types of collection systems, the nature of wastewater, maintenance of the collection system, inspection procedures (video testing, lamping testing, smoke testing, and pressure testing), pumps, lift stations and basic math.

Activated Sludge Process Optimization (24 contact hours) ***Advanced***

The rest of the story – beyond typical advanced wastewater module training; a focused program of classroom and hands-on training providing the skills necessary for you to facilitate evaluating and optimizing your specific activated sludge treatment plant operations. Based on the concepts developed by Dr, Al West (former Director of EPA's R&D Center) – settleometer, centrifuge, mass balance, microscopic examination, OUR, and expounded through the course text, Tom Hobson's, Activated Sludge, Evaluating and Controlling Your Process. Topics include Optimizing Reactor Environments, Solids Inventory Control, Loading & Nutrient Balance, Promoting Process Responses through Applied System Pressures, and Minimizing Process Inhibition. General knowledge is also pertinent to "SBR" systems.

Wastewater Laboratory for Operators and Analysts (24 & 27 contact hours) ***Advanced & Laboratory Analysts***

This comprehensive combination of classroom instruction and hands-on training, utilizes an active, functional, analytical laboratory environment. Knowledge encompasses general chemistry, microbiology, sampling & preservation techniques, standardization and instrument calibration, analytical procedures, record keeping, quality assurance & control, and safety.

Wastewater Treatment Facility Optimization (24 contact hours) ***Advanced***

This course is a developmental continuation of the "Basic Wastewater," curriculum foundation. In the basic course, the student learns the terminology and process relationships of wastewater treatment. In this course, individuals progress through an inclusive treatment system; determining unit loadings, performing applicable laboratory calculations, using process control formulae, and facilitating the optimization of each operational component found within typical preliminary, primary, secondary, and solids handling systems.

Water and Wastewater Utilities Supervision and Management (24 contact hours) ***Advanced***

A practical approach to management, the student learns the basics of management, planning and time management, organizing, staffing and directing personnel. The course consists of lecture, group activities and group interaction. This course may be taken by either water or wastewater treatment plant operators.

WASTEWATER TRAINING CONTINUED

Activated Sludge Workshop Performing Microscopics - Two Day Course 12 Hours
This course is designed to provide information regarding the selection, set-up and use of a phase-contrast microscope, the evaluation of MLSS, diagnostic evaluation of the conditions promoting good system biology, floc characteristics, and settling.

Part I 3 hours-
This portion focuses on basic design and operational features of the Activated Sludge system. A review of the control points and dynamics of system design as it relates to the system biology.

Part II 3 hours
This portion focuses on the proper selection of a microscope and camera and control features, wet mounts and dry mounts, floc characteristics, and basic identification of common filament species and environments they thrive in.

Part III 6 hours
This portion of the course is designed for the student to prepare a dry mount, perform basic counter stains (Gram and Neisser) on actual samples. The individual groups will observe plain field and phase contrast optics while observing protozoans present in the sample matrix.

Basic Industrial Wastewater Treatment (27 contact hours) 12 CE Points

Small Wastewater Operator Class IV Certification Training (6 contact hours)

This course was developed to prepare small pond system operators to make competent process control decisions and research problems affecting treatment. Topics include: pond system design, basic biology of treatment, troubleshooting vs. process optimization, group activities, troubleshooting system problems using case studies and group discussions.

SPECIALIZED TRAINING

(For Enrichment/Recertification Only)

Pump Maintenance, Troubleshooting, and Efficiency (6 contact hours)

This one day course is an overview of preventive and predictive maintenance techniques promoting unit dependability; such as lubrication, alignment, amperage & temperature monitoring, circuit "megging." Applied hydraulics, useful in identifying and resolving unit malfunctions, as well as methods of maximizing unit efficiency and evaluating symptomatic bearing "failures," provide tools for equipment failure reduction.

MATH TRAINING

Applied Math (12 contact hours) ***Advanced***

Basic Math (8 Contact Hours)

This course is designed to provide practical set-up and execution of a variety of math problems including, basic geometry, velocity and flow rates, pressure, force and head and conversion factors.

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Advanced Water I Course Outline (24 contact hours)

Day One

Water treatment operator need-to-know; public water system rules and regulations; characteristics and development of ground water sources; characteristics and development of surface water sources; control of algae; advanced water treatment math.

Day Two

Advanced surface water treatment processes, including enhanced coagulation, flocculation and sedimentation; advanced water treatment math.

Day Three

Types of water filtration, including granular media, diatomaceous earth and membranes. Water disinfection, including chlorine, ozone, chlorine dioxide, chloramines and UV; advanced water treatment math.

Advanced Water II Course Outline (24 Contact Hours)

Day One

Various water treatment processes, including softening, iron and manganese removal, aeration, ion exchange, carbon adsorption, fluoridation and corrosion control; advanced water treatment math.

Day Two

Water system safety and security (vulnerability assessments and emergency response planning); process control and SCADA; pumps and motors; advanced water treatment math.

Day Three

Water system management topics; water treatment laboratory equipment and test methods including coliform analysis; cross-connection control and backflow prevention; advanced water treatment math.