

How to register for an Operator Certification Exam

[GateWay Community College](#) is where you need to go to take your exam. Decide which classification you are going to test in: Water Distribution, Water Treatment, Wastewater Collections, or Wastewater Treatment. After receiving a 70 percent or higher on your exam, you may apply for an Operator Certificate. Once you receive your certificate, you must complete 30 or more Professional Development Hours (PDHs) every three years. Operators are responsible for keeping a complete record of PDHs, and must provide copies to ADEQ upon request.

Step 1: Decide which Operator Certification you will test for – Grade 1 exams require a high school diploma or GED. Contact ADEQ’s Operator Certification Program for approval to skip one grade if you have less than one year with a previous grade.

Step 2: Review [GateWay’s](#) exam dates & locations.

Step 3: Pre-order your exam using the NEW Purplepass System – You no longer need to create a Maricopa Student Account. (Purplepass only accepts credit cards as payment).

Step 4: After passing your exam – Apply for your new or upgraded certificate with ADEQ. As of July 1, 2016, ADEQ requires everyone to complete a [New Certificate Application](#), provide a copy of your test results, and pay a \$65 fee. Allow 30 days for processing.

Information you need to know for the exams:

The exam creator is [Association of Board of Certification \(ABC\)](#). They have the 2012 need to know criteria for each classification of exam: Water Distribution, Water Treatment, Wastewater Treatment and Wastewater Collection.

- Water distribution | [View >](#)
- Water treatment | [View >](#)
- Wastewater treatment | [View >](#)
- Wastewater collections | [View >](#)

Attachments:

The first word document are to helpful websites for study information. The ABC breakdown shows the breakdown of the 100 question exam. The Math word document has links to you tube. If you wanted to purchase a book the final word document has a list of many different study/reference books. The ones the University of California Sacramento are probably the most popular. The Water Distribution O&M is the one for the distribution exams.

Practice Exams:

Once you have studied for a day/week/month and want to test the waters before you pay for an actual exam setup an appointment with me to take a practice exam. We have our old certification exams people can use as practice. They are not a photocopy of the actual ABC exams but there are only so many ways to ask a pump or motor question.

Visit our [Operator Certification](#) page for current fees; download available forms; sign up for free trainings and workshops; exam registration [LINK](#), and additional resources.

Operator Certification Exam Information & Resources

ADEQ's Operator Certification homepage outlines the operator certification program <http://www.azdeg.gov/OperatorCertification> includes information about the program, renewal applications, helpful links and other forms.

GateWay Community College: <https://sites.google.com/a/maricopa.edu/adeq-operator-certification/> this is where you register for exams.

Association of Boards Certification (ABC): the exam creator. www.abccert.org/testing_services/need_to_know_criteria.asp print off the 2012 Need-to-Know Criteria for the appropriate classification.

Rural Water Association of Arizona (RWAA): provides training and test prep www.rwaa.info

Ragsdale study manual: www.ragsdaleandassociates.com See training materials, they are excellent study guides.

American Water College: an online company who guarantees a passing score on your operator certification exam www.americanwatercollege.org/

Sewer Geek: They offer free Wastewater Collection study information www.sewergeek.com

The Arkansas department on health has put together a reference sheet for each area of their water treatment and water distribution exams. Arkansas uses a modified version of the ABC exams. <http://www.healthy.arkansas.gov/programsServices/environmentalHealth/Engineering/Pages/ReportsandForms.aspx#5>

- Free podcasts for water distribution and water treatment www.thewatersifu.com/
- Free site for water and wastewater information <http://www.indigowatergroup.com/index.htm> they have an excellent math book called Sidney's Big Book of Math. Go to downloads then math workbook.
- Free and paid practice exams <https://www.waterqualityinc.com/>

Montana training CDs: www.nesc.wvu.edu/subpages/operator_certification.cfm

Arizona Core Competencies: www.waterhelp.org/index.php/client/arizona

Small Water Supply: offers many different types of assistance. They have a wealth of web links to online tutorials. <http://www.smallwatersupply.org/Home/tabid/62/Default.aspx> look under documents and then videos. Several helpful math videos on you tube.

Water Jobs across the USA <http://bcwaterjobs.com/>

The Kentucky Department of Environmental Protection: has great information. Disregard anything Kentucky specific but the rest of the information is great and FREE <http://dca.ky.gov/certification/Pages/TestPreparationMaterials.aspx>

Zarathom: an online training based company, designed to provide professional water operators a 'classroom environment' to improve their general knowledge of water industry standards, and at the same time satisfy the continuing education and contact hour requirements associated with the certified water operator license renewal. <http://zarathom.com>

SafePersonnel: suite of safety and compliance programs that includes staff training, safety incident reporting and tracking and SDS management. Municipalities, hospitals, businesses, and other non-education related organizations to increase safety and compliance can use customizable programs. www.safepersonnel.com

Flashcards for operator exams:

- www.cram.com

New Mexico Study Manual for Water:

<https://www.env.nm.gov/swqb/UOCP/WaterSystemOperatorCertificationStudyManual/>

New Mexico Study Manual for Wastewater:

<https://www.env.nm.gov/swqb/UOCP/WastewaterStudyManual/index.html>

CEU Plan: provides affordable state approved online training solutions for the purpose of water, wastewater, environmental health, and engineering professional license renewal - recertification throughout the United States. www.ceuplan.com

ABC Distribution Grade/Class I Standardized Exam Breakdown

Perform Administrative Duties	7 Questions
<i>Perform administrative duties, such as complying with regulatory and recording keeping requirements.</i>	
Perform Administrative Duties-Math	1 Question
<i>Perform mathematical calculations related to administrative duties, such as budgeting.</i>	
Install Equipment-Math	2 Questions
<i>Perform mathematical calculations related to installing equipment.</i>	
Install Equipment	3 Questions
<i>Install hydrants, meters, piping, shoring, taps, valves, water mains, etc.</i>	
Maintain Equipment-Math	7 Questions
<i>Perform mathematical calculations such as area and volume.</i>	
Maintain Equipment	13 Questions
<i>Maintain chemical feeders, motors, pumps, valves, etc.</i>	
Disinfection	11 Questions
<i>Monitor, evaluate and adjust the disinfection process.</i>	
Operate Equipment-Math	2 Questions
<i>Perform mathematical calculations for operating equipment, such as detention time, dosage, efficiency, feed rate and pumping rate.</i>	
Operate Equipment	16 Questions
<i>Operate support equipment, such as blowers, chemical feeders, motors, pumps and valves.</i>	
Perform Security & Safety Procedures	6 Questions
<i>Perform security and safety procedures, such as confined space entry, lock-out/tag-out, PPE.</i>	
Perform Security Procedures	2 Questions
<i>Perform security procedures related to emergency preparedness.</i>	
System Design	6 Questions
<i>Assess system demand, perform pressure readings, select materials, design shoring, etc.</i>	
System Design-Math	2 Questions
<i>Perform mathematical calculations related to system design.</i>	
System Inspection	1 Question
<i>Perform cross connection surveys, sanitary surveys, well inspections, etc.</i>	
Water Quality-Math	1 Question
<i>Perform mathematical calculations related to water quality parameters and sampling.</i>	
Water Quality	20 Questions
<i>Monitor water quality parameters and perform sampling, such as chlorine demand, coliforms, pH, turbidity, etc.</i>	

ABC Distribution Grade/Class II Standardized Exam Breakdown

Perform Administrative Duties <i>Perform administrative duties, such as complying with regulatory and recording keeping requirements.</i>	8 Questions
Perform Administrative Duties-Math <i>Perform mathematical calculations related to administrative duties, such as budgeting..</i>	1 Question
Install Equipment <i>Install hydrants, meters, piping, shoring, taps, valves, water mains, etc.</i>	5 Questions
Maintain Equipment-Math <i>Perform mathematical calculations such as area and volume.</i>	3 Questions
Maintain Equipment <i>Maintain chemical feeders, motors, pumps, valves, etc.</i>	17 Questions
Disinfection <i>Monitor, evaluate and adjust the disinfection process.</i>	11 Questions
Operate Equipment-Math <i>Perform mathematical calculations for operating equipment, such as detention time, dosage, efficiency, feed rate and pumping rate.</i>	4 Questions
Operate Equipment <i>Operate support equipment, such as blowers, chemical feeders, motors, pumps and valves.</i>	14 Questions
Perform Security & Safety Procedures <i>Perform security and safety procedures, such as confined space entry, lock-out/tag-out, PPE.</i>	5 Questions
Perform Security Procedures <i>Perform security procedures related to emergency preparedness.</i>	2 Questions
System Design <i>Assess system demand, perform pressure readings, select materials, design shoring, etc.</i>	5 Questions
System Design-Math <i>Perform mathematical calculations related to system design.</i>	2 Questions
System Inspection <i>Perform cross connection surveys, sanitary surveys, well inspections, etc.</i>	2 Questions
Water Quality-Math <i>Perform mathematical calculations related to water quality parameters and sampling.</i>	1 Question
Water Quality <i>Monitor water quality parameters and perform sampling, such as chlorine demand, coliforms, pH, turbidity, etc.</i>	20 Questions

ABC Distribution Grade/Class III Standardized Exam Breakdown

Perform Administrative Duties	9 Questions
<i>Perform administrative duties, such as complying with regulatory and recording keeping requirements.</i>	
Perform Administrative Duties-Math	1 Question
<i>Perform mathematical calculations related to administrative duties, such as budgeting..</i>	
Install Equipment-Math	2 Questions
<i>Perform mathematical calculations related to installing equipment.</i>	
Install Equipment	3 Questions
<i>Install hydrants, meters, piping, shoring, taps, valves, water mains, etc.</i>	
Maintain Equipment-Math	5 Questions
<i>Perform mathematical calculations such as area and volume.</i>	
Maintain Equipment	15 Questions
<i>Maintain chemical feeders, motors, pumps, valves, etc.</i>	
Disinfection	10 Questions
<i>Monitor, evaluate and adjust the disinfection process.</i>	
Operate Equipment-Math	4 Questions
<i>Perform mathematical calculations for operating equipment, such as detention time, dosage, efficiency, feed rate and pumping rate.</i>	
Operate Equipment	14 Questions
<i>Operate support equipment, such as blowers, chemical feeders, motors, pumps and valves.</i>	
Perform Security & Safety Procedures	3 Questions
<i>Perform security and safety procedures, such as confined space entry, lock-out/tag-out, PPE.</i>	
Perform Security Procedures	4 Questions
<i>Perform security procedures related to emergency preparedness.</i>	
System Design	6 Questions
<i>Assess system demand, perform pressure readings, select materials, design shoring, etc.</i>	
System Design-Math	1 Question
<i>Perform mathematical calculations related to system design.</i>	
System Inspection	2 Questions
<i>Perform cross connection surveys, sanitary surveys, well inspections, etc.</i>	
Water Quality-Math	2 Questions
<i>Perform mathematical calculations related to water quality parameters and sampling.</i>	
Water Quality	19 Questions
<i>Monitor water quality parameters and perform sampling, such as chlorine demand, coliforms, pH, turbidity, etc.</i>	

ABC Distribution Grade/Class IV Standardized Exam Breakdown

Perform Administrative Duties	9 Questions
<i>Perform administrative duties, such as complying with regulatory and recording keeping requirements.</i>	
Install Equipment	5 Questions
<i>Install hydrants, meters, piping, shoring, taps, valves, water mains, etc.</i>	
Maintain Equipment-Math	2 Questions
<i>Perform mathematical calculations such as area and volume.</i>	
Maintain Equipment	19 Questions
<i>Maintain chemical feeders, motors, pumps, valves, etc.</i>	
Disinfection	10 Questions
<i>Monitor, evaluate and adjust the disinfection process.</i>	
Operate Equipment-Math	2 Questions
<i>Perform mathematical calculations for operating equipment, such as detention time, dosage, efficiency, feed rate and pumping rate.</i>	
Operate Equipment	16 Questions
<i>Operate support equipment, such as blowers, chemical feeders, motors, pumps and valves.</i>	
Perform Security & Safety Procedures	5 Questions
<i>Perform security and safety procedures, such as confined space entry, lock-out/tag-out, PPE.</i>	
Perform Security Procedures	3 Questions
<i>Perform security procedures related to emergency preparedness.</i>	
System Design	7 Questions
<i>Assess system demand, perform pressure readings, select materials, design shoring, etc.</i>	
System Design-Math	1 Question
<i>Perform mathematical calculations related to system design.</i>	
System Inspection	1 Question
<i>Perform cross connection surveys, sanitary surveys, well inspections, etc.</i>	
Water Quality	20 Questions
<i>Monitor water quality parameters and perform sampling, such as chlorine demand, coliforms, pH, turbidity, etc.</i>	

ABC Water Treatment Grade/Class I Standardized Exam Breakdown

Perform Administrative Duties <i>Perform administrative duties, such as complying with regulatory and recording keeping requirements.</i>	6 Questions
Collect Samples & Interpret Analysis <i>Collect samples and interpret analysis for alkalinity, chlorine demand, chlorine residual, fluoride concentration, pH, turbidity, etc.</i>	6 Questions
Drinking Water Regulations <i>Comply with Code of Federal Regulations, Title 40, Part 141-National Primary Drinking Water Regulations.</i>	12 Questions
Evaluate Equipment-Math <i>Perform mathematical calculations related to evaluating equipment, such as calculating pressure head.</i>	3 Questions
Evaluate Operation of Equipment <i>Inspect equipment and read charts, meters and pressure gauges.</i>	7 Questions
Characteristics of Source Water <i>Evaluate bacteriological, biological, chemical and physical characteristics of source water.</i>	6 Questions
Process Control Laboratory Analysis <i>Perform plant process control laboratory analysis for chlorine demand, chlorine residual, fluoride concentration, pH, settleable solids, etc.</i>	6 Questions
Maintain Equipment-Math <i>Perform mathematical calculations such as area and volume.</i>	1 Question
Maintain Equipment <i>Maintain chemical feeders, motors, pumps, valves, etc.</i>	9 Questions
Chemical Treatment-Math <i>Perform mathematical calculations related to fluoridation, disinfection, pH adjustment and corrosion control.</i>	2 Questions
Chemical Treatment <i>Monitor, evaluate and adjust fluoridation, disinfection, and pH adjustment and corrosion control.</i>	10 Questions
Filtration <i>Monitor, evaluate and adjust gravity/rapid sand filtration, membrane filtration, direct filtration, slow sand filtration, etc.</i>	4 Questions
Other Treatment Processes <i>Monitor, evaluate and adjust aeration, ion exchange softening, copper sulfate treatment, granular activated carbon, etc.</i>	6 Questions
Residuals Disposal-Math <i>Perform mathematical calculations related to discharge to lagoons, on-site disposal, solids composting, etc.</i>	1 Question
Residuals Disposal <i>Monitor, evaluate and adjust discharge to lagoons, on-site disposal, solids composting, etc.</i>	2 Question
General Math <i>Perform mathematical calculations such as flow measurement.</i>	5 Questions
Operate Equipment <i>Operate support equipment, such as blowers, chemical feeders, motors, pumps and valves.</i>	7 Questions

Perform Security & Safety Procedures	6 Questions
<i>Perform security and safety procedures, such as confined space entry, lock-out/tag-out, PPE.</i>	
Perform Security Procedures	1 Question
<i>Perform security procedures related to emergency preparedness.</i>	

ABC Water Treatment Grade/Class II Standardized Exam Breakdown

Perform Administrative Duties	7 Questions
<i>Perform administrative duties, such as complying with regulatory and recording keeping requirements.</i>	
Collect Samples & Interpret Analysis	6 Questions
<i>Collect samples and interpret analysis for alkalinity, chlorine demand, chlorine residual, fluoride concentration, pH, turbidity, etc.</i>	
Drinking Water Regulations	12 Questions
<i>Comply with Code of Federal Regulations, Title 40, Part 141-National Primary Drinking Water Regulations.</i>	
Evaluate Equipment-Math	1 Question
<i>Perform mathematical calculations related to evaluating equipment, such as calculating pressure head.</i>	
Evaluate Operation of Equipment	9 Questions
<i>Inspect equipment and read charts, meters and pressure gauges.</i>	
Characteristics of Source Water	5 Questions
<i>Evaluate bacteriological, biological, chemical and physical characteristics of source water.</i>	
Process Control Laboratory Analysis	7 Questions
<i>Perform plant process control laboratory analysis for chlorine demand, chlorine residual, fluoride concentration, pH, settleable solids, etc.</i>	
Maintain Equipment	12 Questions
<i>Maintain chemical feeders, motors, pumps, valves, etc.</i>	
Chemical Treatment-Math	4 Questions
<i>Perform mathematical calculations related to fluoridation, disinfection, pH adjustment and corrosion control.</i>	
Chemical Treatment	6 Questions
<i>Monitor, evaluate and adjust fluoridation, disinfection, and pH adjustment and corrosion control.</i>	
Clarification/Sedimentation	6 Questions
<i>Monitor, evaluate and adjust sedimentation basins, dissolved air flotation, etc.</i>	
Coagulation and Flocculation	5 Questions
<i>Monitor, evaluate and adjust chemical coagulants, rapid mix units and flocculation tanks.</i>	
Filtration	3 Questions
<i>Monitor, evaluate and adjust gravity/rapid sand filtration, membrane filtration, direct filtration, slow sand filtration, etc.</i>	
Other Treatment Processes	3 Questions
<i>Monitor, evaluate and adjust aeration, ion exchange softening, copper sulfate treatment, granular activated carbon, etc.</i>	
Residuals Disposal	1 Question
<i>Monitor, evaluate and adjust discharge to lagoons, on-site disposal, solids composting, etc.</i>	
Operator Equipment-Math	1 Question
<i>Perform mathematical calculations for operating equipment, such as detention time, dosage, efficiency, feed rate and pumping.</i>	

Operate Equipment	3 Questions
<i>Operate support equipment, such as blowers, chemical feeders, motors, pumps and valves.</i>	
Perform Security & Safety Procedures	6 Questions
<i>Perform security and safety procedures, such as confined space entry, lock-out/tag-out, PPE.</i>	
Perform Security Procedures	3 Questions
<i>Perform security procedures related to emergency preparedness.</i>	

ABC Water Treatment Grade/Class III Standardized Exam Breakdown

Perform Administrative Duties	8 Questions
<i>Perform administrative duties, such as complying with regulatory and recording keeping requirements.</i>	
Collect Samples & Interpret Analysis	6 Questions
<i>Collect samples and interpret analysis for alkalinity, chlorine demand, chlorine residual, fluoride concentration, pH, turbidity, etc.</i>	
Drinking Water Regulations	11 Questions
<i>Comply with Code of Federal Regulations, Title 40, Part 141-National Primary Drinking Water Regulations.</i>	
Evaluate Equipment-Math	1 Question
<i>Perform mathematical calculations related to evaluating equipment, such as calculating pressure head.</i>	
Evaluate Operation of Equipment	7 Questions
<i>Inspect equipment and read charts, meters and pressure gauges.</i>	
Characteristics of Source Water	5 Questions
<i>Evaluate bacteriological, biological, chemical and physical characteristics of source water.</i>	
Process Control Laboratory Analysis	5 Questions
<i>Perform plant process control laboratory analysis for chlorine demand, chlorine residual, fluoride concentration, pH, settleable solids, etc.</i>	
Maintain Equipment-Math	1 Question
<i>Perform mathematical calculations such as area and volume.</i>	
Maintain Equipment	9 Questions
<i>Maintain chemical feeders, motors, pumps, valves, etc.</i>	
Chemical Treatment-Math	5 Questions
<i>Perform mathematical calculations related to fluoridation, disinfection, pH adjustment and corrosion control.</i>	
Chemical Treatment	4 Questions
<i>Monitor, evaluate and adjust fluoridation, disinfection, and pH adjustment and corrosion control.</i>	
Clarification/Sedimentation	8 Questions
<i>Monitor, evaluate and adjust sedimentation basins, dissolved air flotation, etc.</i>	
Coagulation and Flocculation	4 Questions
<i>Monitor, evaluate and adjust chemical coagulants, rapid mix units and flocculation tanks.</i>	
Coagulation and Flocculation-Math	1 Question
<i>Perform mathematical calculations related to chemical coagulants, rapid mix units and flocculation tanks.</i>	
Filtration	3 Questions
<i>Monitor, evaluate and adjust gravity/rapid sand filtration, membrane filtration, direct filtration, slow sand filtration, etc.</i>	
Other Treatment Processes	4 Questions
<i>Monitor, evaluate and adjust aeration, ion exchange softening, copper sulfate treatment, granular activated carbon, etc.</i>	

Residuals Disposal	1 Question
<i>Monitor, evaluate and adjust discharge to lagoons, on-site disposal, solids composting, etc.</i>	
General Math	1 Question
<i>Perform mathematical calculations such as flow measurement.</i>	
Operator Equipment-Math	3 Question
<i>Perform mathematical calculations for operating equipment, such as detention time, dosage, efficiency, feed rate and pumping.</i>	
Operate Equipment	3 Questions
<i>Operate support equipment, such as blowers, chemical feeders, motors, pumps and valves.</i>	
Perform Security & Safety Procedures	9 Questions
<i>Perform security and safety procedures, such as confined space entry, lock-out/tag-out, PPE.</i>	
Perform Security Procedures	1 Question
<i>Perform security procedures related to emergency preparedness.</i>	

ABC Water Treatment Grade/Class IV Standardized Exam Breakdown

Perform Administrative Duties <i>Perform administrative duties, such as complying with regulatory and recording keeping requirements.</i>	9 Questions
Perform Administrative Duties-Math <i>Perform mathematical calculations related to administrative duties, such as budgeting.</i>	1 Question
Collect Samples & Interpret Analysis <i>Collect samples and interpret analysis for alkalinity, chlorine demand, chlorine residual, fluoride concentration, pH, turbidity, etc.</i>	7 Questions
Drinking Water Regulations <i>Comply with Code of Federal Regulations, Title 40, Part 141-National Primary Drinking Water Regulations.</i>	10 Questions
Evaluate Equipment-Math <i>Perform mathematical calculations related to evaluating equipment, such as calculating pressure head.</i>	2 Questions
Evaluate Operation of Equipment <i>Inspect equipment and read charts, meters and pressure gauges.</i>	6 Questions
Characteristics of Source Water <i>Evaluate bacteriological, biological, chemical and physical characteristics of source water.</i>	5 Questions
Process Control Laboratory Analysis <i>Perform plant process control laboratory analysis for chlorine demand, chlorine residual, fluoride concentration, pH, settleable solids, etc.</i>	4 Questions
Maintain Equipment-Math <i>Perform mathematical calculations such as area and volume.</i>	1 Questions
Maintain Equipment <i>Maintain chemical feeders, motors, pumps, valves, etc.</i>	9 Questions
Chemical Treatment-Math <i>Perform mathematical calculations related to fluoridation, disinfection, pH adjustment and corrosion control.</i>	1 Question
Chemical Treatment <i>Monitor, evaluate and adjust fluoridation, disinfection, and pH adjustment and corrosion control.</i>	1 Questions
Clarification/Sedimentation <i>Monitor, evaluate and adjust sedimentation basins, dissolved air flotation, etc.</i>	2 Questions
Coagulation and Flocculation <i>Monitor, evaluate and adjust chemical coagulants, rapid mix units and flocculation tanks.</i>	4 Questions
Coagulation and Flocculation-Math <i>Perform mathematical calculations related to chemical coagulants, rapid mix units and flocculation tanks.</i>	2 Questions
Filtration <i>Monitor, evaluate and adjust gravity/rapid sand filtration, membrane filtration, direct filtration, slow sand filtration, etc.</i>	4 Questions

Filtration-Math	4 Questions
<i>Perform mathematical calculations related to gravity/rapid sand filtration, membrane filtration, direct filtration, slow sand filtration, etc.</i>	
Other Treatment Processes	4 Questions
<i>Monitor, evaluate and adjust aeration, ion exchange softening, copper sulfate treatment, granular activated carbon, etc.</i>	
Other Treatment Processes-Math	3 Questions
<i>Perform mathematical calculations related to aeration, ion exchange softening, copper sulfate treatment, granular activated carbon, etc.</i>	
Residuals Disposal-Math	2 Questions
<i>Perform mathematical calculations related to discharge to lagoons, on-site disposal, solids composting, etc.</i>	
Residuals Disposal	3 Questions
<i>Monitor, evaluate and adjust discharge to lagoons, on-site disposal, solids composting, etc.</i>	
General Math	1 Question
<i>Perform mathematical calculations such as flow measurement.</i>	
Operator Equipment-Math	4 Questions
<i>Perform mathematical calculations for operating equipment, such as detention time, dosage, efficiency, feed rate and pumping.</i>	
Operate Equipment	3 Questions
<i>Operate support equipment, such as blowers, chemical feeders, motors, pumps and valves.</i>	
Perform Security & Safety Procedures	8 Questions
<i>Perform security and safety procedures, such as confined space entry, lock-out/tag-out, PPE.</i>	

ABC Collections Grade/Class I Standardized Exam Breakdown

Perform Administrative Duties <i>Perform administrative duties, such as complying with regulatory and recording keeping requirements.</i>	10 Questions
Perform Administrative Duties-Math <i>Perform mathematical calculations related to administrative duties, such as budgeting.</i>	1 Question
Evaluate Operation of Equipment <i>Inspect equipment and read charts, meters and pressure gauges.</i>	10 Questions
Maintain and Restore System <i>Clean, inspect, rehabilitate and repair system.</i>	10 Questions
Maintain Equipment <i>Maintain chemical feeders, motors, pumps, valves, etc.</i>	15 Questions
Maintain Lift Stations <i>Maintain electrical, electronic and mechanical aspects of lift stations.</i>	14 Questions
Collection System <i>Monitor, evaluate and adjust force mains, sewers, lift stations, manholes, measuring and control systems, etc.</i>	8 Questions
Collection System-Math <i>Perform mathematical calculations related to maintaining collection system.</i>	1 Question
Operate Equipment-Math <i>Perform mathematical calculations for operating equipment, such as detention time, dosage, efficiency, feed rate and pumping.</i>	3 Questions
Operate Equipment <i>Operate support equipment, such as blowers, chemical feeders, motors, pumps and valves.</i>	18 Questions
Perform Security & Safety Procedures <i>Perform security and safety procedures, such as confined space entry, lock-out/tag-out, PPE.</i>	10 Questions

ABC Collections Grade/Class II Standardized Exam Breakdown

Perform Administrative Duties <i>Perform administrative duties, such as complying with regulatory and recording keeping requirements.</i>	9 Questions
Evaluate Operation of Equipment <i>Inspect equipment and read charts, meters and pressure gauges.</i>	10 Questions
Maintain and Restore System <i>Clean, inspect, rehabilitate and repair system.</i>	10 Questions
Maintain Equipment-Math <i>Perform mathematical calculations such as area and volume.</i>	1 Question
Maintain Equipment <i>Maintain chemical feeders, motors, pumps, valves, etc.</i>	15 Questions
Maintain Lift Stations <i>Maintain electrical, electronic and mechanical aspects of lift stations.</i>	11 Questions
Maintain Lift Station-Math <i>Perform mathematical calculations related to maintaining lift stations.</i>	2 Questions
Collection System <i>Monitor, evaluate and adjust force mains, sewers, lift stations, manholes, measuring and control systems, etc.</i>	9 Questions
Collection System-Math <i>Perform mathematical calculations related to maintaining collection system.</i>	1 Question
Operate Equipment-Math <i>Perform mathematical calculations for operating equipment, such as detention time, dosage, efficiency, feed rate and pumping.</i>	7 Questions
Operate Equipment <i>Operate support equipment, such as blowers, chemical feeders, motors, pumps and valves.</i>	13 Questions
Perform Security & Safety Procedures <i>Perform security and safety procedures, such as confined space entry, lock-out/tag-out, PPE.</i>	12 Questions

ABC Collections Grade/Class III Standardized Exam Breakdown

Perform Administrative Duties <i>Perform administrative duties, such as complying with regulatory and recording keeping requirements.</i>	9 Questions
Evaluate Operation of Equipment <i>Inspect equipment and read charts, meters and pressure gauges.</i>	9 Questions
Maintain and Restore System <i>Clean, inspect, rehabilitate and repair system.</i>	9 Questions
Maintain and Restore System-Math <i>Perform mathematical calculations related to maintaining and restoring the collections systems.</i>	1 Question
Maintain Equipment-Math <i>Perform mathematical calculations such as area and volume.</i>	1 Question
Maintain Equipment <i>Maintain chemical feeders, motors, pumps, valves, etc.</i>	15 Questions
Maintain Lift Stations <i>Maintain electrical, electronic and mechanical aspects of lift stations.</i>	12 Questions
Maintain Lift Station-Math <i>Perform mathematical calculations related to maintaining lift stations.</i>	2 Questions
Collection System <i>Monitor, evaluate and adjust force mains, sewers, lift stations, manholes, measuring and control systems, etc.</i>	11 Questions
Operate Equipment-Math <i>Perform mathematical calculations for operating equipment, such as detention time, dosage, efficiency, feed rate and pumping.</i>	4 Questions
Operate Equipment <i>Operate support equipment, such as blowers, chemical feeders, motors, pumps and valves.</i>	16 Questions
Perform Security & Safety Procedures <i>Perform security and safety procedures, such as confined space entry, lock-out/tag-out, PPE.</i>	11 Questions

ABC Collections Grade/Class IV Standardized Exam Breakdown

Perform Administrative Duties <i>Perform administrative duties, such as complying with regulatory and recording keeping requirements.</i>	15 Questions
Evaluate Operation of Equipment <i>Inspect equipment and read charts, meters and pressure gauges.</i>	7 Questions
Maintain and Restore System <i>Clean, inspect, rehabilitate and repair system.</i>	10 Questions
Maintain and Restore System-Math <i>Perform mathematical calculations related to maintaining and restoring the collections systems.</i>	1 Question
Maintain Equipment-Math <i>Perform mathematical calculations such as area and volume.</i>	1 Question
Maintain Equipment <i>Maintain chemical feeders, motors, pumps, valves, etc.</i>	16 Questions
Maintain Lift Stations <i>Maintain electrical, electronic and mechanical aspects of lift stations.</i>	8 Questions
Maintain Lift Station-Math <i>Perform mathematical calculations related to maintaining lift stations.</i>	5 Questions
Collection System <i>Monitor, evaluate and adjust force mains, sewers, lift stations, manholes, measuring and control systems, etc.</i>	10 Questions
Operate Equipment-Math <i>Perform mathematical calculations for operating equipment, such as detention time, dosage, efficiency, feed rate and pumping.</i>	5 Questions
Operate Equipment <i>Operate support equipment, such as blowers, chemical feeders, motors, pumps and valves.</i>	15 Questions
Perform Security & Safety Procedures <i>Perform security and safety procedures, such as confined space entry, lock-out/tag-out, PPE.</i>	7 Questions

ABC Wastewater Treatment Grade/Class I Standardized Exam Breakdown

Perform Administrative Duties	6 Questions
<i>Perform administrative duties, such as complying with regulatory and recording keeping requirements.</i>	
Collect Samples & Interpret Analysis	2 Questions
<i>Collect samples and interpret analysis for alkalinity, chlorine demand, chlorine residual, fluoride concentration, pH, turbidity, etc.</i>	
Evaluate Wastestream-Math	2 Questions
<i>Perform mathematical calculations related to color, flow pattern, foam, odor, temperature, volume, solids concentration and mixing pattern of wastestream.</i>	
Evaluate Equipment-Math	6 Questions
<i>Perform mathematical calculations related to evaluating equipment, such as calculating pressure head.</i>	
Evaluate Operation of Equipment	8 Questions
<i>Inspect equipment and read charts, meters and pressure gauges.</i>	
Evaluate Wastestream Characteristic	3 Questions
<i>Evaluate color, flow pattern, foam, odor, temperature, volume, solids concentration and mixing pattern of wastestream.</i>	
Interpret laboratory Analysis	2 Questions
<i>Interpret results for BOD, chlorine residual, dissolved oxygen, pH, solids, etc.</i>	
Chemical Addition	4 Questions
<i>Monitor, evaluate and adjust dry, gaseous and liquid chemicals.</i>	
Disinfection-Math	3 Questions
<i>Perform mathematical calculations related to chlorination, dechlorination, ultraviolet irradiation and ozonation.</i>	
Disinfection	4 Questions
<i>Monitor, evaluate and adjust the disinfection process.</i>	
Preliminary Treatment	7 Questions
<i>Monitor, evaluate and adjust plant pumping of main flow, screening, grit removal and flow equalization.</i>	
Primary Treatment	5 Questions
<i>Monitor, evaluate and adjust clarifiers.</i>	
Secondary Treatment	5 Questions
<i>Monitor, evaluate and adjust fixed-film reactors, activated sludge and stabilization ponds.</i>	
Solids Handling	2 Questions
<i>Monitor, evaluate and adjust conditioning, dewatering, stabilization, thickening and volume reduction.</i>	
Advanced (Tertiary) Treatment	1 Question
<i>Monitor, evaluate and adjust carbon adsorption, air stripping, chemical coagulation, precipitation, nitrification, denitrification, phosphorus removal, etc.</i>	
General Math	2 Questions
<i>Perform mathematical calculations such as flow measurement.</i>	

Operator Equipment-Math	1 Question
<i>Perform mathematical calculations for operating equipment, such as detention time, dosage, efficiency, feed rate and pumping.</i>	
Operate Equipment	15 Questions
<i>Operate support equipment, such as blowers, chemical feeders, motors, pumps and valves.</i>	
Perform Laboratory Analysis	2 Questions
<i>Perform laboratory analysis for alkalinity, chlorine residual, dissolved oxygen, pH, settleability testing, solids, temperature, turbidity, etc.</i>	
Perform Laboratory Analysis-Math	1 Question
<i>Perform mathematical calculations related to alkalinity, chlorine residual, dissolved oxygen, pH, settleability testing, solids, temperature, turbidity, etc.</i>	
Maintain Equipment	14 Questions
<i>Maintain chemical feeders, motors, pumps, valves, etc.</i>	
Perform Security & Safety Procedures	4 Questions
<i>Perform security and safety procedures, such as confined space entry, lock-out/tag-out, PPE.</i>	
Perform Security Procedures	1 Question
<i>Perform security procedures related to emergency preparedness.</i>	

ABC Wastewater Treatment Grade/Class II Standardized Exam Breakdown

Perform Administrative Duties	5 Questions
<i>Perform administrative duties, such as complying with regulatory and recording keeping requirements.</i>	
Perform Administrative Duties-Math	1 Question
<i>Perform mathematical calculations related to administrative duties, such as budgeting.</i>	
Collect Samples & Interpret Analysis	2 Questions
<i>Collect samples and interpret analysis for alkalinity, chlorine demand, chlorine residual, fluoride concentration, pH, turbidity, etc.</i>	
Evaluate Wastestream-Math	2 Questions
<i>Perform mathematical calculations related to color, flow pattern, foam, odor, temperature, volume, solids concentration and mixing pattern of wastestream.</i>	
Evaluate Equipment-Math	11 Questions
<i>Perform mathematical calculations related to evaluating equipment, such as calculating pressure head.</i>	
Evaluate Operation of Equipment	3 Questions
<i>Inspect equipment and read charts, meters and pressure gauges.</i>	
Evaluate Wastestream Characteristic	4 Questions
<i>Evaluate color, flow pattern, foam, odor, temperature, volume, solids concentration and mixing pattern of wastestream.</i>	
Interpret laboratory Analysis	3 Questions
<i>Interpret results for BOD, chlorine residual, dissolved oxygen, pH, solids, etc.</i>	
Additional Treatment	2 Questions
<i>Monitor, evaluate, and adjust treatment processes for septage, fats, oils and grease and odor control.</i>	
Chemical Addition	4 Questions
<i>Monitor, evaluate and adjust dry, gaseous and liquid chemicals.</i>	
Disinfection-Math	1 Question
<i>Perform mathematical calculations related to chlorination, dechlorination, ultraviolet irradiation and ozonation.</i>	
Disinfection	5 Questions
<i>Monitor, evaluate and adjust the disinfection process.</i>	
Preliminary Treatment	4 Questions
<i>Monitor, evaluate and adjust plant pumping of main flow, screening, grit removal and flow equalization.</i>	
Primary Treatment	3 Questions
<i>Monitor, evaluate and adjust clarifiers.</i>	
Primary Treatment-Math	1 Question
<i>Perform mathematical calculations clarifiers.</i>	
Secondary Treatment	5 Questions
<i>Monitor, evaluate and adjust fixed-film reactors, activated sludge and stabilization ponds.</i>	
Solids Handling	3 Questions
<i>Monitor, evaluate and adjust conditioning, dewatering, stabilization,</i>	

	<i>thickening and volume reduction.</i>	
Solids Handling-Math		1 Question
	<i>Perform mathematical calculations adjust conditioning, dewatering, stabilization, thickening and volume reduction.</i>	
Advanced (Tertiary) Treatment		2 Questions
	<i>Monitor, evaluate and adjust carbon adsorption, air stripping, chemical coagulation, precipitation, nitrification, denitrification, phosphorus removal, etc.</i>	
General Math		1 Question
	<i>Perform mathematical calculations such as flow measurement.</i>	
Operator Equipment-Math		3 Questions
	<i>Perform mathematical calculations for operating equipment, such as detention time, dosage, efficiency, feed rate and pumping.</i>	
Operate Equipment		13 Questions
	<i>Operate support equipment, such as blowers, chemical feeders, motors, pumps and valves.</i>	
Perform Laboratory Analysis		2 Questions
	<i>Perform laboratory analysis for alkalinity, chlorine residual, dissolved oxygen, pH, settleability testing, solids, temperature, turbidity, etc.</i>	
Maintain Equipment		14 Questions
	<i>Maintain chemical feeders, motors, pumps, valves, etc.</i>	
Perform Security & Safety Procedures		3 Questions
	<i>Perform security and safety procedures, such as confined space entry, lock-out/tag-out, PPE.</i>	
Perform Security Procedures		2 Questions
	<i>Perform security procedures related to emergency preparedness.</i>	

ABC Wastewater Treatment Grade/Class III Standardized Exam Breakdown

Perform Administrative Duties	5 Questions
<i>Perform administrative duties, such as complying with regulatory and recording keeping requirements.</i>	
Collect Samples & Interpret Analysis	2 Questions
<i>Collect samples and interpret analysis for alkalinity, chlorine demand, chlorine residual, fluoride concentration, pH, turbidity, etc.</i>	
Evaluate Wastestream-Math	1 Question
<i>Perform mathematical calculations related to color, flow pattern, foam, odor, temperature, volume, solids concentration and mixing pattern of wastestream.</i>	
Evaluate Equipment-Math	9 Questions
<i>Perform mathematical calculations related to evaluating equipment, such as calculating pressure head.</i>	
Evaluate Operation of Equipment	3 Questions
<i>Inspect equipment and read charts, meters and pressure gauges.</i>	
Evaluate Wastestream Characteristic	4 Questions
<i>Evaluate color, flow pattern, foam, odor, temperature, volume, solids concentration and mixing pattern of wastestream.</i>	
Interpret laboratory Analysis	2 Questions
<i>Interpret results for BOD, chlorine residual, dissolved oxygen, pH, solids, etc.</i>	
Additional Treatment	2 Questions
<i>Monitor, evaluate, and adjust treatment processes for septage, fats, oils and grease and odor control.</i>	
Chemical Addition	3 Questions
<i>Monitor, evaluate and adjust dry, gaseous and liquid chemicals.</i>	
Disinfection	3 Questions
<i>Monitor, evaluate and adjust the disinfection process.</i>	
Preliminary Treatment-Math	1 Question
<i>Perform mathematical calculations related to plant pumping of main flow, screening, grit removal and flow equalization.</i>	
Preliminary Treatment	3 Questions
<i>Monitor, evaluate and adjust plant pumping of main flow, screening, grit removal and flow equalization.</i>	
Primary Treatment	1 Question
<i>Monitor, evaluate and adjust clarifiers.</i>	
Primary Treatment-Math	1 Question
<i>Perform mathematical calculations clarifiers.</i>	
Secondary Treatment	8 Questions
<i>Monitor, evaluate and adjust fixed-film reactors, activated sludge and stabilization ponds.</i>	
Secondary Treatment-Math	1 Question
<i>Perform mathematical calculations related to fixed-film reactors, activated sludge and stabilization ponds.</i>	
Solids Handling	4 Questions
<i>Monitor, evaluate and adjust conditioning, dewatering, stabilization,</i>	

	<i>thickening and volume reduction.</i>	
Solids Handling-Math		2 Questions
	<i>Perform mathematical calculations adjust conditioning, dewatering, stabilization, thickening and volume reduction.</i>	
Advanced (Tertiary) Treatment		4 Questions
	<i>Monitor, evaluate and adjust carbon adsorption, air stripping, chemical coagulation, precipitation, nitrification, denitrification, phosphorus removal, etc.</i>	
General Math		2 Question
	<i>Perform mathematical calculations such as flow measurement.</i>	
Operator Equipment-Math		1 Question
	<i>Perform mathematical calculations for operating equipment, such as detention time, dosage, efficiency, feed rate and pumping.</i>	
Operate Equipment		15 Questions
	<i>Operate support equipment, such as blowers, chemical feeders, motors, pumps and valves.</i>	
Perform Laboratory Analysis		3 Questions
	<i>Perform laboratory analysis for alkalinity, chlorine residual, dissolved oxygen, pH, settleability testing, solids, temperature, turbidity, etc.</i>	
Maintain Equipment		15 Questions
	<i>Maintain chemical feeders, motors, pumps, valves, etc.</i>	
Perform Security & Safety Procedures		4 Questions
	<i>Perform security and safety procedures, such as confined space entry, lock-out/tag-out, PPE.</i>	
Perform Security Procedures		1 Question
	<i>Perform security procedures related to emergency preparedness.</i>	

ABC Wastewater Treatment Grade/Class IV Standardized Exam Breakdown

Perform Administrative Duties	4 Questions
<i>Perform administrative duties, such as complying with regulatory and recording keeping requirements.</i>	
Perform Administrative Duties-Math	2 Questions
<i>Perform mathematical calculations related to administrative duties, such as budgeting.</i>	
Collect Samples & Interpret Analysis	2 Questions
<i>Collect samples and interpret analysis for alkalinity, chlorine demand, chlorine residual, fluoride concentration, pH, turbidity, etc.</i>	
Evaluate Wastestream-Math	1 Question
<i>Perform mathematical calculations related to color, flow pattern, foam, odor, temperature, volume, solids concentration and mixing pattern of wastestream.</i>	
Evaluate Equipment-Math	7 Questions
<i>Perform mathematical calculations related to evaluating equipment, such as calculating pressure head.</i>	
Evaluate Operation of Equipment	8 Questions
<i>Inspect equipment and read charts, meters and pressure gauges.</i>	
Evaluate Wastestream Characteristic	4 Questions
<i>Evaluate color, flow pattern, foam, odor, temperature, volume, solids concentration and mixing pattern of wastestream.</i>	
Interpret laboratory Analysis	1 Question
<i>Interpret results for BOD, chlorine residual, dissolved oxygen, pH, solids, etc.</i>	
Interpret laboratory Analysis-Math	1 Question
<i>Perform mathematical calculations related to BOD, chlorine residual, dissolved oxygen, pH, solids, etc.</i>	
Additional Treatment	1 Question
<i>Monitor, evaluate, and adjust treatment processes for septage, fats, oils and grease and odor control.</i>	
Chemical Addition	1 Question
<i>Monitor, evaluate and adjust dry, gaseous and liquid chemicals.</i>	
Disinfection	4 Questions
<i>Monitor, evaluate and adjust the disinfection process.</i>	
Secondary Treatment	12 Questions
<i>Monitor, evaluate and adjust fixed-film reactors, activated sludge and stabilization ponds.</i>	
Secondary Treatment-Math	7 Question
<i>Perform mathematical calculations related to fixed-film reactors, activated sludge and stabilization ponds.</i>	
Solids Handling	5 Questions
<i>Monitor, evaluate and adjust conditioning, dewatering, stabilization, thickening and volume reduction.</i>	
Solids Handling-Math	2 Questions
<i>Perform mathematical calculations adjust conditioning, dewatering, stabilization, thickening and volume reduction.</i>	

Advanced (Tertiary) Treatment	3 Questions
<i>Monitor, evaluate and adjust carbon adsorption, air stripping, chemical coagulation, precipitation, nitrification, denitrification, phosphorus removal, etc.</i>	
Operator Equipment-Math	3 Questions
<i>Perform mathematical calculations for operating equipment, such as detention time, dosage, efficiency, feed rate and pumping.</i>	
Operate Equipment	13 Questions
<i>Operate support equipment, such as blowers, chemical feeders, motors, pumps and valves.</i>	
Perform Laboratory Analysis	2 Questions
<i>Perform laboratory analysis for alkalinity, chlorine residual, dissolved oxygen, pH, settleability testing, solids, temperature, turbidity, etc.</i>	
Perform Laboratory Analysis-Math	1 Question
<i>Perform mathematical calculations related to alkalinity, chlorine residual, dissolved oxygen, pH, settleability testing, solids, temperature, turbidity, etc.</i>	
Maintain Equipment	11 Questions
<i>Maintain chemical feeders, motors, pumps, valves, etc.</i>	
Perform Security & Safety Procedures	1 Question
<i>Perform security and safety procedures, such as confined space entry, lock-out/tag-out, PPE.</i>	
Perform Security Procedures	4 Questions
<i>Perform security procedures related to emergency preparedness.</i>	

American Water College Math Links-Water and Wastewater

[Pounds formula](#)

[Detention Time](#)

[Cubic Yards Removed](#)

[Chlorine Pounds per day](#)

[Oxygen Transfer to Water](#)

[Heat Value BTUs](#)

[MCRT-Mean Cell Residence Time](#)

[Cost Per Day](#)

[Flow Rate](#)

[Pounds of Volatile Solids Pumped](#)

[Volume of a Tank](#)

[Chlorinator Feed Rate](#)

[Solids Loading Rate](#)

[Pump Efficiency](#)

[Pond Hydraulic Loading](#)

[MLSS-Mix Liquor Suspended Solids](#)

[Flow Rate #2](#)

[BOD Removal Efficiency](#)

[Volume of Tank #2](#)

[Percent Solids Recovery](#)

[Grit Removal Rate](#)

Water Distribution System Operation and Maintenance

Designed to train operators in the safe and effective operation and maintenance of water distribution systems, this manual describes the responsibilities of being an operator for water storage and distribution systems. Material in this manual will provide an understanding of the basic operational and maintenance concepts of water distribution systems and will help operators develop the ability to analyze and solve problems when they occur.

Operation of Water Treatment Plants Vol. 1

Designed to train operators in the safe and effective operation and maintenance of water treatment plants, Volume I emphasizes the knowledge and skills needed by an operator working in a conventional water treatment plant used for treating surface waters.

Operation of Water Treatment Plants Vol. 2

Designed to train operators in the practical aspects of operating and maintaining water treatment plants, emphasizing safe practices and procedures. Information is presented on drinking water regulations (including the Safe Drinking Water Act), iron and manganese control, fluoridation, softening, trihalomethanes, demineralization, handling and disposal of process wastes, maintenance, instrumentation, and advanced laboratory procedures. Administrative procedures for dealing with budgeting, setting rates, recordkeeping, personnel administration, public relations, and emergency planning.

Operation and Maintenance of Wastewater Collection Systems Vol. 1

Designed to train operators in the practical aspects of operating and maintaining wastewater collection systems, emphasizing safe practices and procedures. Information is presented on the importance and responsibilities of a collection system operator, the need for collection system O&M, and the components and typical layouts of collection systems. Operators learn safety procedures for construction, inspection and testing of sewers, inspection of manholes, and underground construction and repair. Detailed instructions are included for using closed-circuit television, clearing stoppages, cleaning sewers, and controlling roots, grease, odors, and corrosion in collection systems. Focuses on the knowledge and skills operators need to identify actual collection system problems and select appropriate methods to solve them. Operators also learn to solve arithmetic problems relating to the operation and maintenance of wastewater collection systems.

Operation and Maintenance of Wastewater Collection Systems Vol. 2

Focuses on three areas: (1) lift stations, (2) sewer rehabilitation, and (3) administration of a collection system agency. Detailed information is provided on the components and practical operation of lift stations. Operators learn to operate and maintain a variety of types of motors, supervisory controls, pumps, valves, and other equipment. They will also learn to examine the condition of a sewer system, set up a sewer rehabilitation program, and safely use various methods to replace or repair damaged sewers. Covers critical aspects of effectively administering a wastewater collection agency or department. Administrative topics include overall organization of the agency as well as employment, training and compensation of personnel, selection and acquisition of equipment and facilities, system mapping, management information systems, report writing, and public relations. Operators learn to organize and administer all facets of a collection system agency.

Operation of Wastewater Treatment Plants Vol. 1

This widely used professional program trains operators in the safe and effective operation and maintenance of city wastewater treatment plants. Volume I emphasizes the knowledge and skills needed to operate plants

efficiently. Operators will gain and understanding of the basic operational aspects of their plant and learn how to analyze and solve problems.

Operation of Wastewater Treatment Plants Vol. 2

This widely used professional program trains operators in the safe and effective operation and maintenance of city wastewater treatment plants. Volume II shifts the focus toward larger conventional treatment plants and teaches operators in supervisory and management positions how to use best practices, including following regular maintenance programs, accurate recordkeeping, maximizing information technology, and preparing and writing meaningful reports.

Advanced Waste Treatment

This text provides advanced training for operators of wastewater treatment plants. From California State University, Sacramento, the program covers biological treatment processes and physical–chemical treatment processes.

Manual of Cross-Connection Control Tenth Edition

The Manual of Cross-Connection Control, Ninth Edition contains field test procedures for backflow prevention assemblies (with illustrations for each step), specifications for backflow prevention assemblies, sample forms for a cross-connection control program, a model ordinance for a cross-connection control program and much more information.

Manage for Success

This training manual stresses problem identification and solutions, working together as a team, communication, motivation, and evaluating and improving solutions to problems. Managers completing the training program will be confident that they have the tools and the ability to apply them to be successful managers. Utilities can help ensure that they have the needed management capacity by having their management personnel complete this training program

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Water operator training text teaches fundamentals of water sources for drinking water. Edition: 2003, Hardback, 212 pp. ISBN 1-58321-229-9; Catalog Number 1955.

Water Supply Operations II: Water Treatment, Textbook

Water operator training text teaches fundamentals of common water treatment processes and techniques. Edition: 2003, Hardback, 552 pp. ISBN 1-58321-230-2; Catalog Number 1956.

Water Supply Operations III: Water Transmission and Distribution, Textbook

Basic principles of design, construction, operation, and maintenance of water transmission and distribution systems. Edition: 2003, Hardback, 553 pp. ISBN 1-58321-231-0; Catalog Number 1957.

Water Supply Operations IV: Water Quality, Textbook

Water operator training text teaches fundamentals of water quality analysis and drinking water regulations. Edition: 2003, Hardback, 214 pp. ISBN 1-58321-232-9; Catalog Number 1958.

Water Supply Operations V: Basic Science Concepts and Applications

Water operator training text teaches fundamental mathematics, hydraulics, chemistry, and electricity as they

apply to municipal water supply. Edition: 2003, Hardback, 645 pp. ISBN 1-58321-233-7; Catalog Number 1959.

Math Problems for Water Distribution Operators: A Guide to Preparing for Distribution System Operator Certification Exam

Math study text is designed to help water distribution operators improve their math skills, pass certification exams, perform their jobs better, and advance their careers. This book is ideal study guide for the mathematics portion of certification examinations. Each book is organized into four parts consisting of material associated with the first four grade levels. Edition: 2007, Softbound, 250 pp. ISBN 1583214550; Catalog Number 20628.

Math for Water Treatment Operators: A Guide to Preparing for Water Treatment Operator Certification Exams

This book is ideal study guide for the mathematics portion of certification examinations. Each book is organized into four parts consisting of material associated with the first four grade levels. John Giorgi. Math study text is designed to help water treatment operators improve their math skills, pass certification exams, perform their jobs better, and advance their careers. Edition: 2007, Softbound, 250 pp. ISBN 1583214542; Catalog Number 20618

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