

Water Sources

Lesson	Contact Hours
Water Supply Hydrology	3.00
Groundwater Sources	3.25
Surface Water Sources	3.25
Emergency and Alternative Water Sources	2.50
Use and Conservation of Water	2.50
Water Quality	3.25
Water Source Protection	3.00
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	20.75

Introduction to Water Treatment

Lesson	Contact Hours
Water Treatment Processes	3.50
Treatment of Water at the Source	4.00
Preliminary Treatment	3.25
Coagulation and Flocculation	6.50
Sedimentation Basins and Clarifiers	4.50
Filtration	8.50
Disinfection	9.00
Fluoridation	4.00
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	43.25

Advanced Water Treatment

Lesson	Contact Hours
Control of Corrosion and Scaling	5.75
Iron and Manganese Control	3.75
Lime Softening	6.75
Ion Exchange	3.71
Adsorption	6.00
Aeration	4.25
Membrane Processes	4.75
Water Treatment Plant Residuals	4.75
Treatment Plant Instrumentation and Control	3.25

Water Transmission and Distribution I

Lesson	Contact Hours
Introduction to Water Distribution Systems	3.50
Pipe Systems and Piping	7.00
Water Storage	5.00
Pumping Stations and Pumps	6.00
Hydraulics of Water Distribution Systems	4.50
Valves	7.00
Fire Hydrants	5.50
Motors and Engines	4.50
Instrumentation and Control	5.00
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	48.00

Water Transmission and Distribution II

Lesson	Contact Hours
Water Meters	4.50
Backflow Prevention and Cross-Connection Control	5.50
Water Main Installation	5.50
Backfilling, Main Testing, and Installation Safety	5.00
System Operations	9.25
Water Services	4.25
Information Management	5.00
System Security and Emergency Response	4.50
Public Relations	4.50
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	48.00

Water Quality

Lesson	Contact Hours
Public Water Supply Regulations	6.25
Water Quality Monitoring	5.00
Water Laboratory Equipment and Instruments	4.75
Microbiological Contaminants	4.00
Physical Tests	6.00
Inorganic Chemicals	4.75
Organic Chemicals	3.25
Radiological Contaminants	3.50
Customer Complaint Investigation	3.75
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	41.25

Water Treatment Math

Lesson	Contact Hours
Powers and Scientific Notation	1.50
Dimensional Analysis	1.50
Rounding and Estimating	2.25
Solving for the Unknown Value	1.50
Ratios and Proportions	1.50
Averages	1.50
Percent	1.50
Linear Measurements	1.25
Area Measurements	1.50
Volume Measurements	1.50
Conversions	3.50
Graphs and Tables	2.75
Per Capita Water Use	1.25
Domestic Water Use Based on Household Fixture Rate:	1.50
Water Use per Unit of Industrial Product Produced	1.25
Average Daily Flow	1.25
Surface Overflow Rate	1.25
Weir Overflow Rate	1.25
Filter Loading Rate	1.25
Filter Backwash Rate	1.25
Mudball Calculation	1.25
Detention Time	1.25
Well Problems	1.50
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	36.00

Applied Hydraulics

Lesson	Contact Hours
Density and Specific Gravity	1.75
Pressure and Force	2.00
Piezometric Surface and Hydraulic Grade Line	2.50
Head	1.75
Head Loss	1.75
Pumping Problems	5.75
Flow Rat Problems	3.25
Thrust Control	1.50
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	20.25

Applied Chemistry

Lesson	Contact Hours
The Structure of Matter	1.50
The Classification of Matter	1.25
Valence, Chemical Formulas, and Chemical Equations	3.75
Solutions	5.25
Acids, Bases, and Salts	2.25
Chemistry of Treatment Processes	6.00
Chemical Dosage Problems	9.75

Electricity for the Water Industry

Lesson	Contact Hours
Electricity, Magnetism, and Electrical Measurements	2.00
Electrical Quantities and Terms	5.25
Functions and Ratings of Electrical Equipment	6.25
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	13.50