



## Certified Water Efficiency Professional<sup>®</sup> Training Program

*This training program is designed to provide attendees with an understanding of industry best practices for effective and efficient water management. Over three days, our professional instructor will guide you through the principles and practices of greatest relevance and practical value related to improving water usage and enabling sustainable programs.*

### What Will You Learn?

- Learn how to measure, verify and evaluate water usage for a given building or facility.
- Learn the relevant terminology used by local municipalities, and federal and state governments, as well as their policies, incentives and water specific mandates.
- Learn about water billing for your company, client or facility, and what strategies to employ to reduce costs.
- Learn how to compare and contrast water supply and water balancing options.
- Learn what technologies are available to improve water efficiency.

### At-a-Glance

- » This training program prepares attendees to take the Certified Water Efficiency Professional<sup>®</sup> (CWEP<sup>®</sup>) exam.
- » This program is held over 3 days.
- » You earn 1.5 CEU | 15 PDH | 3.0 AEE Credits for completing this program.

### Key Takeaways

- » Work through practical examples to demonstrate the topics and procedures covered.
- » Review the various areas of the Body of Knowledge associated with AEE's certification exam.
- » Discuss how to apply what you have learned to your business and applications.
- » Leave with a course workbook that will become an invaluable desk reference.

### Registration

Candidates should contact their local AEE approved training provider for information about available training programs, the certification application process, exam registration, and associated fees. To find your local training provider visit

[aeecenter.org/training](http://aeecenter.org/training)

# Certified Water Efficiency Professional® Training Program

## Who Should Attend

The program is of greatest value to those undertaking or assessing water efficiency projects or individuals responsible for water supply and management for a facility or building. Obtaining AEE's CWEP® certification provides international credibility among the environmental management and sustainability communities. Attendees of this program have included existing energy engineers, energy managers, building maintenance engineers, manufacturing and facilities managers, and energy consultants.

## Course Outline

- Introduction to Alternative Energy
- Introduction to CWEP
- Terminology & Helpful Resources
- Units of Measure
- Water Policy & Standards
- Utility Analysis & Benchmarking (Economics)
- Facility Auditing and Measurement & Verification
- Water Metering
- Domestic Plumbing
- Water Treatment
- Commercial Kitchen Equipment
- Laundry Equipment
- Medical / Lab Equipment
- Cooling Towers
- Boilers & Mechanical Equipment
- Water Supply Options (Alternative Water Sourcing)
- Pool Systems
- Irrigation Systems
- Storm Water Management

## Our Instructors

Over three days, one of our professional instructors will guide you through water efficiency. Their teaching and industry experience allows them to deliver information that is of the most relevance and practical value to attendees.

## Certification Eligibility

The prerequisites to qualify for the certification process take into account the diverse education and experience applicants may have. Each candidate must meet the required criteria at

[aeecenter.org/cwep](http://aeecenter.org/cwep)

## Global Training Programs

For a complete list of AEE training programs delivered globally visit

[education.aeecenter.org/global](http://education.aeecenter.org/global)

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## Full Agenda

### Introduction to CWEP

#### Terminology & Helpful Resources

- Common Terms and Definitions
- Relevant Resources

#### Units of Measure

- Water Volumes / Properties
- Flow Rates
- Energy Conversions

#### Water Policy & Standards

- Federal Regulations
- Exemptions
- State Regulations & Issues

#### Utility Analysis & Benchmarking (Economics)

- Water / Sewer Billing
- Water & Wastewater Costs
- Benchmarking Calculations

#### Facility Auditing and Measurement & Verification

- Audit Goals
- Auditing Process (Step by Step)
- M&V for ESPC
- M&V Overview & Equipment

#### Water Metering

- Water Management Process
- Common Water Meter Technologies
- AMR / AMI
- Meter Reading Technology Progression
- Data Collection & Recording

#### Domestic Plumbing

- Fixtures
- Toilets (Configurations, Flush Curves)
- Urinals (Water Consumption)
- Faucets & Showers
- Water Efficiency Strategies
- Electronic Plumbing Controls
- Consumption Calculations

### Water Treatment

- Water Chemistry
- Treatment & Filtration
- Ion Exchange Systems
- Recommended Hardware & Process
- Filtration Calculations

### Commercial Kitchen Equipment

- Standard Equipment Overview
- Comparison Analysis
- Energy & Water Savings Calculations

### Laundry Equipment

- Residential & Light Commercial Systems
- Coin Operated Washers / Dryers
- Commercial Equipment
- Industrial Laundry
- Water Discharge Uses
- Consumption & Cost Savings Calculations

### Medical / Lab Equipment

- Hospital Water Balance
- Sterilizers & Lab Equipment (Calculations)
- Dialysis Equipment
- X-ray Equipment & Film Developers
- Vacuum & Compressed Air Systems
- Hardware & Process Recommendations

### Cooling Towers

- Types of Towers (Flow Diagram)
- Water Loss Possibilities
- Water Use Equations
- Cycles of Concentration (CoC)
- Best Practices
- Cost Savings & Water Conservation Strategies
- Cooling Tower Calculations

### Boilers & Mechanical Equipment

- Steam Engines (Boiler Considerations)
- Closed Loop Boiler Balance
- Water Cooled Mechanical Equipment
- Industrial Process Equipment
- Important Conversions & Calculations

### Water Supply Options (Alternative Water Sourcing)

- Water Type Terminology
- Water Sources (Common & Alternative)
- Water Harvesting (Methods & Calculations)

### Pool Systems

- Water Use vs. Energy Loss
- Filtration Systems & Backwashing
- Ozone Treatment
- Evaporative & Backwash Loss Calculations

### Irrigation Systems

- Irrigation Systems Audits (Preliminary & Comprehensive)
- Distribution Audits
- Smart Irrigation
- Irrigation Consumption Calculations

### Storm Water Management

- Regulations
- Impervious Area Charges
- Constructed Solutions