

Sustainable Development and Environmental Design

Lesson Plan Outline **Water Use Efficiency**

- I. Objective
 - A. Examine the local domestic water supply infrastructure and current/emerging industry standards and methods of conservation for domestic and commercial water use
- II. CTE Standards that will be covered
 - A. Applying appropriate technical skills and academic knowledge
 - B. Communicating clearly, effectively, and with reason
 - C. Utilizing critical thinking to make sense of problems and persevere in solving them
 - D. Acting as a responsible citizen in the workplace and the community
 - E. Modeling integrity, ethical leadership, and effective management
 - F. Working productively in teams while integrating cultural and global competence
 - G. Demonstrating creativity and innovation
 - H. Employing valid and reliable research strategies
 - I. Understanding the environmental, social, and economic impacts of decisions
- III. Student Learning Outcomes
 - A. Analyze sources for potable water in California
 - B. Examine potable water demand in California
 - C. Compare and contrast methods for reducing potable water demand, the impact of mandates and building codes
- IV. Unit name
 - A. Sustainable Development and Environmental Design - Water Use Efficiency
- V. Timing of activities
 - A. Lecture will be conducted during 10th week of ARCHT-200A Sustainable Development and Environmental Design course
 - B. Interactive activity (last 30 minutes of class period) – Students to work in groups of 3 or 4 to identify a minimum of 10 ways that they can reduce outdoor/indoor water consumption in their daily lives. Results of each groups findings to be presented to the entire class for discussion.

- VI. Class discussion questions
 - A. Examine the Water Cycle
 - B. Discuss Water Management concepts and Water Rights
 - C. Analyzing Water Supply Sources and demand management
 - D. Discuss Outdoor Water Use
 - E. Discuss Indoor Water Use

- VII. How you will assess student learning
 - A. Quiz (approximately 10 multiple-choice or fill-in the blank questions)

- VIII. Resources/ instructional materials required
 - A. Open Source textbook "Water Supply" by Stephanie Anagnoson

- IX. Video links
 - A. The Water Cycle (National Science Foundation)
 - 1. <https://www.youtube.com/watch?v=al-do-HGulk>
 - B. Outdoor Water Use (Center for Resource Conservation)
 - 1. https://www.youtube.com/watch?v=Sg_J1gi4wg0
 - C. Indoor Water Use (City of Carlsbad, CA)
 - 1. <https://www.youtube.com/watch?v=wCcDrWLjfXM>

- X. Externship Company Information
 - A. Castaic Lake Water Agency (<https://clwa.org>)
 - 1. Employer Hiring Criteria (see next page)

CLWA Job Opportunities

APPLICATION CLOSING DATE: SEPTEMBER 9, 2016 Full-Time Position *FLSA Status: Non-exempt*

The position reads water meters and records water consumption; identifies water meter equipment problems and works with other Agency personnel to resolve problems. Responds to and resolves customer requests, problems and complaints; responds to service orders generated from employees assigned to reading meters. This is the entry level position assigned to the Retail Division of the Agency. Receives immediate supervision from the Utility Maintenance Supervisor.



Examples of Duties:

- Reads water meters on assigned routes and records readings.
- Checks consistency and proper registering of meter readings and reports unusual cases to supervisor.
- Replaces meter lids and performs other minor maintenance work.
- Turns meters on and off.
- Installs meters in new tracts; programs meters; verifies that meters are working properly; conducts meter flow tests.
- Inspects construction sites for incorrect services or obstructions to meter outlets.
- Performs related duties as assigned.

Minimum Qualifications: **Knowledge of:**

- Basic working principles of water meters.
- Basic mathematics.
- Recordkeeping.
- Local street names, locations and geography.
- Standard safety practices in the workplace.

Ability to:

- Resolve customer problems and complaints courteously and tactfully.
- Understand and follow instructions.
- Learn billing policies and procedures.
- Learn to use meter reading equipment.
- Read a map and learn routes.
- Perform manual work and use tools and equipment appropriate to the assignment.
- Communicate effectively.

- Establish and maintain effective working relationships with Agency staff, outside organizations, and the public.
- Follow safety practices and procedures in the workplace.

EXPERIENCE AND TRAINING:

Any combination of experience and training that would provide the required knowledge and abilities is qualifying. A typical way to obtain the required knowledge and abilities would be:

Experience:

One year of experience involving public contact.

License or Certificate:

Grade I Distribution Operator's certification issued by the California Department of Health Services is desirable. Possession of a valid California driver's license may be required at the time of appointment. Individuals who do not meet this requirement due to a physical disability will be considered on a case-by-case basis.

PHYSICAL, MENTAL AND ENVIRONMENTAL WORKING CONDITIONS:

Position requires prolonged sitting, standing, walking, reaching, twisting, turning, kneeling, and bending, and in the performance of daily activities. The position also requires grasping, repetitive hand movement, and fine coordination in preparing reports using a computer keyboard. Additionally, the position requires near and far vision in reading written reports and work related documents. Acute hearing is required when providing phone and personal service. Additionally, the need to lift, drag, and push files, paper, and documents weighing up to 25 pounds is required.

Some of these requirements may be accommodated for otherwise qualified individuals requiring and requesting such accommodations.

CONTACTS:

Regular contact and interaction with all levels of staff and external personnel furnishing or obtaining information.

Selection Process:

A review and evaluation of all applications will be conducted by the Hiring Manager. Those candidates possessing the most desirable qualifications will be invited to participate further in the selection process.

HOW TO APPLY:

It is important that your application is complete and thorough - please include all requested education, experience, attachments, and other information. Resumes and other supporting documents can be provided at the time of application; however, resumes will not be accepted in lieu of an application. Applications may be rejected if incomplete.

RECRUITMENT STATUS:

Notifications to applicants are sent electronically to the email address you provide. To check the status of a job application you submitted online and track the recruitment progress, login to your governmentjobs.com account by clicking the Applicant Login button located on the Agency's Job Opportunities page. Once you sign in, you will be directed to your Applications page where you can view the status of Submitted (and Incomplete) applications.

CLWA is an Equal Opportunity Employer

B. General Industry/ job information

1. <http://www.bls.gov/ooh/architecture-and-engineering/architects.htm>
2. <http://www.bls.gov/oes/current/oes171011.htm#st>

XI. Lesson to be implemented during Spring 2017 Semester as part of Archt-200A Sustainable Development and Environmental Design class