

Certification Training Syllabus

Grade I/II Water

11/05/2024 - 12/12/2024

These dates are subject to change at the discretion of the instructor.

| Session | | |
|------------|--|--|
| Date | Link | Topic(s) - Notes |
| 11/05/2024 | tgrant@alruralwater.com | <p><u>Small Water System Operation and Maintenance</u></p> <p>Chapter 1-2</p> <p>This training session explores essential aspects of water sourcing and management, with a focus on well systems. We'll cover the hydrological cycle, water scarcity challenges, and criteria for selecting water sources, including the Safe Drinking Water Act and its impact on water quality standards. The session then delves into well systems, exploring identification, operation, and maintenance of various well types, including pressure tanks. We'll discuss well protection strategies, contamination prevention, disinfection techniques, and rehabilitation procedures. Troubleshooting common issues, such as sand removal, will be addressed, along with guidance on well site selection, drilling methods, and pump evaluation. The importance of accurate record-keeping will be emphasized. We'll also cover the critical process of decommissioning unused wells. Throughout, we'll highlight the responsibilities of small water system operators and underscore how these practices affect public health, environmental sustainability, and water resource management, offering practical knowledge for effective water system operation.</p> |

| Session | | |
|------------|--|---|
| Date | Link | Topic(s) - Notes |
| 11/07/2024 | tgrant@alruralwater.com | <p>Chapter 3</p> <p>This training session will focus on the critical role and operation of small water treatment plants. Attendees will gain comprehensive knowledge of essential treatment processes, including coagulation, flocculation, sedimentation, and filtration techniques, with special emphasis on slow sand filtration. We will explore disinfection methods, corrosion control strategies, the operation of solid contact units, and techniques for iron and manganese removal. Water softening processes will also be covered in detail. Throughout the session, we will emphasize the importance of operator safety while performing these vital duties. Participants will leave with a thorough understanding of how these interconnected processes contribute to the production of safe, high-quality drinking water in small-scale treatment facilities.</p> |
| 11/12/2024 | undefined | <p>Chapter 4</p> <p>Participants in this training module will receive an in-depth exploration of water sourcing, management, and treatment processes, with a particular emphasis on small water systems and well operations. The curriculum covers a wide range of topics, from the fundamentals of the hydrological cycle and water scarcity challenges to the intricacies of well system maintenance and water treatment techniques. Attendees will gain comprehensive knowledge of source selection criteria, regulatory frameworks, and various treatment processes including coagulation, filtration, and disinfection methods. This program is designed to equip water system operators with the practical skills and theoretical understanding necessary to ensure the safe and efficient production of high-quality drinking water in small-scale facilities, while emphasizing the importance of operator safety and environmental stewardship.</p> |

| Session | | |
|------------|---------------------------|---|
| Date | Link | Topic(s) - Notes |
| 11/14/2024 | undefined | <p>Chapter 5-6</p> <p>This comprehensive program equips future water system operators with essential skills in safety procedures and laboratory practices. Participants will learn to develop and implement safety programs, conduct facility inspections, and operate equipment safely. The course covers proper sampling techniques, preservation methods, and transportation protocols. Attendees will gain hands-on experience with critical field and laboratory tests, including alkalinity, chlorine analysis, coliform detection, and turbidity assessment. This training aims to enhance operator competence in maintaining safety standards and analytical accuracy in water utility operations.</p> |
| 11/19/2024 | undefined | <p>Chapter 7 and Mathematics</p> <p>This training event equips future water system operators with crucial financial management and operational mathematics skills. Attendees will learn to develop water rates, determine revenue needs, plan for financial stability, and prepare contingency plans. The program also focuses on essential mathematical calculations for water treatment operations, including area, volume, pressure, chemical dosages, and flow rates. This comprehensive training aims to provide operators with the financial acumen and mathematical proficiency necessary for efficient management of small water utilities.</p> |

This Training Session will provide 30 Water CEH's Subject to ADEM Approval.