Training Evaluation Request
Oregon Environmental Services Advisory Council
Watura
Disinfection in Drinking Water Treatment

Course title: Disinfection in Drinking Water Treatment

Drinking Water CEUs: 2.0 h

Wastewater CEUs: 0 h

Instructor bio: **Michel ANDRES** started as a chemist and worked briefly in the oil industry before moving into the water sector in the early 1980s. Working hands-on in water analysis, research, and making drinking water safe helped grow his commitment. He also participated in community water projects in different parts of the world. For 40 years, Michel worked mainly in practical, day-to-day roles in water supply and sanitation within the Suez group. His long experience in the field gave him strong expertise in managing water-related health risks.

Course description: Disinfection is a key step in ensuring safe drinking water. It eliminates or inactivates harmful microorganisms that can cause serious health risks. The most common disinfection method is chlorination using chlorine gas or sodium hypochlorite, but other techniques are also used depending on the context. The course covers the main challenges and regulations of disinfection, along with key microbiological risks. It then focuses on chlorination—its principles, application, monitoring, and safety. Other disinfectants, like chlorine dioxide, ozone, and UV, are also presented, with a comparison of their advantages and disadvantages.

Learning goals:

- Describe the purpose of disinfection and key microbiological risks
- Explain how chlorination is used to disinfect drinking water
- Compare the main disinfection methods and their respective advantages and disadvantages

Tracking attendance method:

The e-learning platform offers a highly interactive experience designed to engage learners at every stage. It begins with an initial test to assess knowledge and tailor the learning journey. The course includes short, focused videos interspersed with mandatory training quizzes that reinforce key concepts and ensure active participation. Students are required to watch every video entirely and to answer practice questions before advancing to the next course module. Students cannot skip course content. A final quiz at the end of each chapter evaluates overall comprehension and certifies the learner's mastery of the material. Students must obtain a minimum score of 70% for every chapter's final quiz to successfully complete the course and obtain the certificate of attendance. The platform automatically tracks each learner's learning time. The real learning time is indicated alongside the delivered credits in the course completion certificate.

Course outline: Disinfection in Drinking Water Treatment

Initial Test		14 min
1. Challenges and Regulations	1.1. Course Overview	2 min
	1.2. Introduction	5 min
	1.3. Purpose of Disinfection in Water Treatment	4 min
	1.4. Pathogenic Microorganisms	5 min
	1.5. Other Microbiological Risks	5 min
	1.6. Assessing the Microbiological Quality of Water	7 min
	1.7. Chapter 1 - Fact Sheets	2 min
	Chapter final test	5 min
2. Disinfection by Chlorination	2.1. Forms of Chlorine and the Influence of pH	6 min
	2.2. Chlorination Using Chlorine Gas or Sodium Hypochlorite	6 min
	2.3. Advantages and Disadvantages of Chlorination	4 min
	2.4. Chlorine Measurement Methods	5 min
	2.5. Chlorine Disinfection Operating Parameters	4 min
	2.6. Chlorine Gas Safety Recommendations	7 min
	2.7. Hypochlorination Safety Recommendations	3 min
	2.8. Chapter 2 - Fact Sheets	4 min
	Chapter final test	7 min
3. Other Types of Treatment	3.1. Chlorine Dioxide Disinfection	4 min
	3.2. Ozone Disinfection	4 min
	3.3. Ultraviolet (UV) Disinfection	5 min
	3.4. Course Glossary	6 min
	3.5. Chapter 3 - Fact Sheets	1 min
	Chapter final test	5 min
Total Learning Time		120 min
Requested Contact Hours		2.0 h