Course Name	Common Problems for Plumbers
Credit Hours	4 Hours
Instructor(s)	Randy Drake
Fee	$40.00

Course Description

This class provides a brisk survey of the most often cited violations and thorny plumbing areas such as cleanouts, pipe grading, corrosion, handicapped access, and customer abuse of the plumbing system. Along with a discussion of how these problems arise, the class offers tried-and-true strategies for addressing these common problem areas.

Learning Objectives

At the completion of the course, students will be able to:

- Better understand and be able to apply principles for drainage pipe sloping, traps & vents;
- Be familiar with the latest approaches on plumbing system noise mitigation;
- Better navigate options and methods of cross-connection and corrosion control; and
- Be vigilant in the areas where plumbing problems are most likely to arise and have more clarity on what to do about them.

Equipment Requirements

You must have an active, working internet connection to access this course online, as well as a platform to access the internet, such as a computer, tablet, or phone. All popular web browsers are supported, including Google Chrome, Mozilla Firefox, Safari, and Opera. No specialized software, speaker, microphone, or web camera is required.

Schedule and Location

This course is available online at any time at www.TradesmanCE.com. Upon enrolling in the course, students will have access for 365 days or until the agency-issued course expiration date, whichever comes first. After the access expiration date, the student may re-activate their course if the course approval has not expired. If they do not re-activate, the course will be removed from the student's account and any progress in the course will be lost. Before the access expiration date, the student may sign in and out of the course as many times as needed to complete the course.

Student Support

Both general and technical support is available to the student before, during, and after taking the course online. Students have access to general customer support via phone, chat, and email. Students have access to the course instructor via email. All questions, concerns, and comments received will be responded to within one business day.

Participation/Interactivity Verification

Timed Logs - Per our company's record retention policy, each student's every log-in, log-out, and lesson/assessment completion time is tracked and retained as part of the student record.

Review Questions - After each section of text, students must answer a review question. Students cannot progress in the course until the question between sections has been answered correctly.

Global Timer - Students will not get credit until they spend a minimum of 200 active minutes total in the course.

Identity Verification

Unique Username/Password - Each student that wants to complete a training course with us must create and account by registering a unique personal email address and password. The student must enter this unique identifier every time they take a break from the course.

Assessment Details

Review Questions - The licensee must complete all multiple-choice questions between sections correctly to get credit for the course. If their first response is incorrect, students will have to try again until they choose the correct answer.

Common Problems for Plumbers Timed Syllabus

Section	Title	Questions	Minutes
1	Introduction to Class on Common Problems in Plumbing (Video)	1	3.3
2	Ten Plumbing Problem Areas		0.1
	1. Noise		2.0
	a. Principles of Noise Transmission		1.2
	b. Drainage Piping		5.8
	c. Water Supply Pipes		3.0
	d. Water Hammer		4.9
	e. Pumps & Valves		2.4
	2. Sloping for Drainage Piping		3.2
	3. Mismatched Piping		5.1
	4. Inadequate or Inaccessible Cleanouts		6.1
	5. Air Gaps & Air Breaks		2.6
	6. Floor Drains		0.8
	7. Water Heater T&P Valves and Condensation		6.8
	a. Expansion Tanks		2.9
	b. Condensation from Water Heaters and T&P Valve		4.2
	8. Combustion Air		3.4
	9. Leaks		0.6
	10. Clearances and Handicapped Access	1	8.8
3	Traps and Vents		0.0
	a. Water Seal Traps		2.2
	1. Sewer Gas		3.5
	2. Trap (and Interceptor) Types		6.4
	3. Grease Traps (Interceptors)		0.7
	4. Illegal Traps		1.4
	a. House Traps		2.0
	5. The Effect of Pressure Differentials on Trap Seals		2.2
	6. What Can Go Wrong with Traps		7.4
	7. Deep Seal Traps		1.7
	b. Venting System		2.5
	1. Design Considerations		3.7
	2. Fixture Trap Vents		2.1
	a. Common Vent		1.1
	b. Private Fixture Group Wet Venting		1.0
	c. Circuit Venting		1.8
	d. Waste Stack		1.3
	e. Combination Drain and Vent		1.3
	f. Island Vent		0.8
	3. Relief Vents	1	2.7
4	Midway Through the Class (Video)	1	1.7
5	Cross-Connection		3.6

	a. Risk Assessment		4.6
	b. The Problem		2.3
	c. Causes		1.4
	1. Back-Pressure		2.9
	2. Siphonage and Back-Siphonage		6.4
	d. Protection Strategies		0.0
	1. Passive		0.0
	a. Air Gap		6.8
	2. Active		1.4
	a. Pressure-Type Vacuum Breaker		3.8
	b. Double Check Assemblies		3.7
	c. Reduced Pressure Principle Assemblies		4.5
	d. Atmospheric Vacuum Breaker (Anti-Siphon)		5.1
	3. Recommended Passive and Active Device Types for Specific Applications		0.4
	4. Hybrid		1.5
	e. Potential Problems	1	3.0
6	Corrosion		4.7
	a. Corrosion in Plastics		1.1
	b. Patterns of Metal Corrosion		4.2
	1. Galvanic Corrosion Factors		2.9
	2. Biological Corrosion		1.5
	c. Copper Pipe Erosion/Corrosion		3.2
	d. Corrosion Control		0.5
	1. Materials		1.9
	2. Design		1.9
	3. Protective Coating and Passivation		2.4
	4. Cathodic Protection		2.0
	a. Impressed Current Cathodic Protection		2.6
	b. Sample Code Section		2.1
	5. Dielectric Protection		1.5
	6. Inhibitors (Water Treatment)	1	2.2
7	Customer-Created Problems		2.7
	a. DIY Plumbers		3.1
	b. Drain Abuse		10.4
	c. Plumbing Fixtures Abuse		1.1
	d. MacGyvering Frozen Pipes		2.1
	e. Ignoring Plumbing Problems		1.8
	f. What Can Be Done?	1	5.5
8	End of the Class (Video)	1	0.8
	Totals:	**8**	**228.3**
	Student Minimum Time Required:		**200**