



Texas Commission on Environmental Quality

Permitting & Registration Support Division
March 2010

Licensing of Backflow Prevention Assembly Testers

Curriculum Guidance for Required Courses and Acceptable Topics for
Continuing Education

Required Courses

Backflow Prevention Assembly Tester (BPAT) Course

The 40-hour course for backflow prevention assembly testers (BPAT) must include information on the proper procedures for testing and repairing backflow assemblies. The course shall include an introduction to the theory and principles of backflow prevention and cross-connection control, and recognition of the regulations, statutes, ordinances, and codes that affect BPAT testers and water purveyors. The course topics shall include:

INTRODUCTION

Approximately 2.5 hours

- The history of plumbing as it pertains to backflow, cross-connections, public health, and environmental protection.
- Industry terminology, definitions, and vocabulary.
- Knowledge of backflow and cross-connection incidents.
- Purpose of cross-connection control program.
- Knowledge of the responsibilities of the BPAT tester, plumber, plumbing inspector, water purveyor, and customer.

CODES, REGULATIONS AND LAWS

Approximately 1.0 hour

- Regulations, statutes, ordinances, and codes relating to backflow and cross-connection.

THEORY OF BACKFLOW AND CROSS-CONNECTIONS

Approximately 4.5 hours

- Knowledge of principles of backflow, backpressure, and backsiphonage.
- Identification of direct and/or indirect cross-connections.

MECHANICAL EQUIPMENT FOR CROSS-CONNECTION CONTROL

Approximately 8.0 hours

- Safety associated with testing & repairing backflow preventers.
- Identification and description of backflow preventers, devices, and assemblies utilized for the prevention of backflow.

- Knowledge of the principles, operation, and calibration of test gauges.
- Knowledge of the proper testing of backflow prevention assemblies.

HANDS-ON PRACTICAL SKILLS TESTING

Approximately 16.0 hours

- Proper, safe test procedures for backflow prevention assemblies.
- Troubleshooting and repair of backflow prevention assemblies.
- Proper documentation of installation, testing, and/or repair of backflow prevention assemblies.

Backflow prevention assembly testing procedures shall be in accordance with the latest edition of the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research standards. During the performance examination, every candidate for a license shall demonstrate proper testing, troubleshooting, and operational procedures on the following:

- Reduced pressure principle assembly—RPBA,
- Double check-valve assembly—DCVA,
- Pressure vacuum breaker assembly—PVB,
- Spill resistant pressure vacuum breaker—SVB,
- Testing equipment, i.e., gauges.

WRITTEN AND PERFORMANCE EXAMS

8.0 hours

The course shall include both a written exam and performance exam that meets the administration requirements of either the American Society of Sanitary Engineers (ASSE) or the American Backflow Prevention Association (ABPA) to test each student's knowledge and understanding of the course objectives. A typical BPAT class shall include 16 hours of classroom instruction, 16 hours of hands-on testing and troubleshooting of assemblies with no more than 2 - 3 students per testing station, plus 8 hours for the written and performance examinations.

BPAT Practical Skills Refresher Course

The 8-hour BPAT refresher course shall contain the following minimum requirements:

UPDATE

Approximately 1.5 hour

- An update on relevant changes to state and local regulations, statutes, codes, and ordinances.
- An update on current gauge and instrumentation technology and use.
- An update on test procedures on additional assemblies approved for testing by University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (USC-FCCC&HR).
- An update and review of repair procedures for backflow assemblies.

PRACTICAL SKILLS TRAINING

6.5 hours minimum

- Review current testing procedures and troubleshooting on all types of backflow prevention assemblies.
- Students should demonstrate hands-on knowledge of proper testing procedures.

Acceptable Topics for Continuing Education

- I.** Any of the topics in the following approved training courses as provided by TCEQ-approved training providers:

- Backflow Prevention Assembly Tester (40-hour initial licensing course)
- BPAT Practical Skills Refresher Course (8-hour required renewal training)
- Backflow Awareness
- Backflow Prevention
- Backflow Prevention Assembly Repair
- Backflow Prevention Program Development and Implementation
- Introduction to Cross Connection Control
- Identification & Prevention of Cross-Connections
- Water Supply Protection Specialist training (endorsement to a Texas plumber's license)
- TCEQ Customer Service Inspector licensing course

- II** Any of the following topics as they relate to backflow prevention and BPAT critical skills:

- Confined space entry
- Troubleshooting
- Proper installation requirements
- Fire-protection systems and backflow prevention
- Principles of hydraulics/water pressures
- Assessment of hazards and appropriate backflow prevention equipment selection
- Water system response to backflow/cross-connection emergency incidents
- Reclaimed, re-use, recycled water

For lists of initial and renewal training offered by approved providers, go to the TCEQ website at http://www.tceq.state.tx.us/compliance/compliance_support/licensing/ and select the backflow prevention assembly tester licensing or training links.

Other topics will be considered on a case-by-case basis. Please be aware that topics should be developed into training reflecting the level of complexity and duration appropriate for the license when considering job task criticality and frequency. Call 512-239-6133 and ask to speak to training review staff to discuss other options.

All training must be reviewed and approved by TCEQ prior to awarding training credit hours to students.