HVAC 102

● ● ● Advanced 75 hours 5 modules · 35 lessons

Heating, Hydronics, Controls, Corrosion & Maintenance

Boilers and furnaces, chilled- and hot-water systems, building controls, corrosion-resistant design and the maintenance and troubleshooting skills to keep plants comfortable and safe.

75	5	35	5,000	175	15
HOURS OF TRAINING	MODULES	LESSONS	STUDY CARDS	SCENARIOS	3D SIMULATORS

COURSE OBJECTIVES

By the end of this course you will be able to:

1. Explain combustion air, venting and backdrafting for gas-fired heating equipment and troubleshoot an ignition sequence.
2. Analyze hydronic loops: flow, delta-T, pumping arrangements and low delta-T syndrome.
3. Evaluate chillers (tons, kW/ton, approach) and cooling towers (range, approach, cycles).
4. Read and troubleshoot HVAC control sequences, 24 V circuits and building automation.
5. Select materials and defenses for H_2S, chlorine and humid environments (ISA 71.04 classes).
6. Calculate fan energy and compare damper, inlet-vane and VFD control.
7. Build PM routes and perform systematic refrigeration, electrical and airflow diagnostics.

WHAT YOU WILL LEARN

Heating systems
Furnaces, boilers, venting, combustion air and ignition.

Hydronics, chillers & towers
Loops, pumping, kW/ton, approach and water treatment.

Controls & BAS
Sequences, sensors, interlocks and alarms.

Corrosion & energy
Coatings, materials, fan laws and efficiency.

Maintenance programs
PM tasks, filter strategy and condition-based work.

Troubleshooting
Voltage unbalance, winding tests and refrigerant-side diagnosis.

MAJOR TOPICS COVERED

Module 6	Heating Systems	7 lessons
Module 7	Chillers, Cooling Towers & Hydronic Systems	7 lessons
Module 8	HVAC Controls & Building Automation	7 lessons
Module 9	Corrosion, Energy & the Indoor Environment	7 lessons
Module 10	HVAC Maintenance, Troubleshooting & Professional Practice	7 lessons

COURSE HIGHLIGHTS

- **75 hours** of structured, self-paced instruction with active-time tracking.
- **15 interactive 3D simulators** — rotate, explode and cut away real equipment, then change the controls and watch the numbers respond.
- **175 field scenarios** with background, decision points and worked answers.
- **5,000 study cards**, 35 printable checklists and hands-on calculators.
- **Module quizzes** and a completion certificate with a verification code.

WHO IT'S FOR

HVAC and building-systems technicians, maintenance supervisors and facility engineers.

BEFORE YOU START

HVAC 101 recommended.

WHERE TO NEXT

ELEC 103 / IC 102 for controls cross-training.

Start learning Create a free account at tryetech.com, open **HVAC for Water & Wastewater Plants** and begin with Module 6.