

# MAINTENANCE SUPERVISOR: HEATING AND VENTILATION (60 Hours)

Course No.: 79-75-75

## COMPETENCY CHECKLIST

Student Name \_\_\_\_\_

Teacher Name \_\_\_\_\_ School Site \_\_\_\_\_

Start Date \_\_\_\_\_ Completion Date \_\_\_\_\_ Certificate Date \_\_\_\_\_

Teacher Signature \_\_\_\_\_ Student Signature \_\_\_\_\_

(Signature verifies completion of course competencies)

**A. ORIENTATION (4 hrs)**

- \_\_\_\_\_ 1. Describe custodial class description
- \_\_\_\_\_ 2. Identify HVAC systems found in district

**B. SAFETY REGULATIONS (4 hrs)**

- \_\_\_\_\_ 1. Identify Uniform Mechanical Code
- \_\_\_\_\_ 2. Title 24-California Energy Regulations
- \_\_\_\_\_ 3. Indoor Air Quality - amount per student
- \_\_\_\_\_ 4. Identify SCAQMD
- \_\_\_\_\_ 5. Air Compressor Regulation 8
- \_\_\_\_\_ 6. EPA Rule 608 of Clean Air Act Regulation
- \_\_\_\_\_ 7. Condition for renewal of permit

**C. GAS-FIRED HEATING SYSTEMS (4 hrs)**

- \_\_\_\_\_ 1. Components of steam water boiler/function
- \_\_\_\_\_ 2. Components of hot water boiler/function
- \_\_\_\_\_ 3. Components of gas-fired forced air unit

**D. AIR CONDITIONING SYSTEM (4 hrs)**

- \_\_\_\_\_ 1. Components of AC systems & their function

**E. BOILER CONTROLS AND AC CONTROLS (4 hrs)**

- \_\_\_\_\_ 1. Draw boiler controls, gas trains, & outside air
- \_\_\_\_\_ 2. Draw air-conditioning controls

**F. BOILER OPERATION AND AC OPERATION (10 hrs)**

- \_\_\_\_\_ 1. Firing procedures for school systems
- \_\_\_\_\_ 2. Shut down procedures for school systems
- \_\_\_\_\_ 3. Check color of flame for correct combustion

**G. TROUBLE-SHOOTING OPERATIONAL PROBLEMS (2 hrs)**

- \_\_\_\_\_ 1. Demo checking water level of boiler
- \_\_\_\_\_ 2. Demo checking pilots to boiler
- \_\_\_\_\_ 3. Demo checking burner switchers to boiler
- \_\_\_\_\_ 4. Demo checking power to boiler

- \_\_\_\_\_ 5. Demo checking manual reset switch/valve
- \_\_\_\_\_ 6. Demo checking earthquake valve on gas line
- \_\_\_\_\_ 7. Demo checking water hammer
- \_\_\_\_\_ 8. Demo checking smoke in chimney
- \_\_\_\_\_ 9. Demo detecting air condition problems
- \_\_\_\_\_ 10. Demo checking airflow at supply register
- \_\_\_\_\_ 11. Demo checking temperature at air registers
- \_\_\_\_\_ 12. Demo checking thermostat set point
- \_\_\_\_\_ 13. Demo checking cold/hot temperature at coil
- \_\_\_\_\_ 14. Demo checking blower motor operation

**H. VARIOUS GAS PILOTS (4 hrs)**

- \_\_\_\_\_ 1. Identify types of pilots
- \_\_\_\_\_ 2. Identify types of pilot gas valves
- \_\_\_\_\_ 3. Demo safe lighting for standing pilots
- \_\_\_\_\_ 4. Demo safe lighting for spark ignitors

**I. COOLING PUMPS AND HEATING PUMPS (4 hrs)**

- \_\_\_\_\_ 1. Operations of heating pumps and functions

**J. CONTROLLING TIME CLOCKS (4 hrs)**

- \_\_\_\_\_ 1. Mechanical vs electronic programmable clocks
- \_\_\_\_\_ 2. Identify energy management system
- \_\_\_\_\_ 3. Identify the by-timer holiday switch

**K. HOUSEKEEPING AND INSPECTION (4 hrs)**

- \_\_\_\_\_ 1. Demo proper boiler room cleaning methods
- \_\_\_\_\_ 2. Identify location of fire extinguishers
- \_\_\_\_\_ 3. Demo proper use of fire extinguishers
- \_\_\_\_\_ 4. Negatives of poor boiler room housekeeping

**L. REVIEW AND EVALUATION (4 hrs)**

- \_\_\_\_\_ 1. Pass objective exam on competency areas
- \_\_\_\_\_ 2. Ability to fire and shut down gas fired boilers
- \_\_\_\_\_ 3. Secure HVAC in case of gas smell/fire