

HEATING AND AIR CONDITIONING TECHNICIAN

DEFINITION

Performs skilled journey-level heating and air conditioning work in the installation, inspection, maintenance, alteration, and repair of hot water, high and low pressure steam, and direct gas-fired heating, chilled water and direct expansion refrigeration and air conditioning, and ventilating systems, equipment, and controls at a college.

TYPICAL DUTIES

Inspects, maintains, repairs and modifies hot water, high and low-pressure steam, and direct gas-fired heating, chilled water and direct expansion refrigeration and air conditioning, and ventilating systems, equipment, and controls, including pilots, relays, coils, heating and condensate piping, controls, valves, compressors, fans, dampers, vents, blowers, pumps, burners, gauges, and traps.

Installs heating, ventilating, refrigeration, and air conditioning systems, equipment, and controls on new construction, alteration, improvement and rehabilitation projects.

Calibrates and adjusts thermostats, valves, and controls to specified levels of operation.

Ignites gas or oil fired burners and monitors pressure, temperature, and draft meters to assure specified levels of operation.

Reads meters and gauges and records data such as temperature of equipment, hours of operation, fuel consumption, and temperature and analysis of fuel gases.

Tests and treats circulating water to prevent scale and corrosion.

Reviews plans, blueprints, and specifications for heating and air conditioning projects to understand scope of projects and to recommend potential changes to supervisor.

Attends to trouble calls for emergency repairs to heating units, refrigeration, and air conditioning equipment.

Effectively utilizes energy management systems software programs to program and monitor energy resources used in the heating and air conditioning trade.

Safely operates tools and equipment used in the heating and air conditioning trade.

Maintains heating and air conditioning hand and power tools and equipment to ensure their safe and efficient operation.

May assist in estimating job costs, preparing material lists and job records, and maintaining an inventory of supplies and tools for assigned area/projects.

May assist in planning and developing modifications to existing heating and air conditioning systems.

May inspect facilities for heating and air conditioning maintenance work and safety problems related to heating and air conditioning materials and equipment.

May assist in inspecting of heating and air conditioning work performed by outside contractors.

May assist in developing job specifications, diagrams, and blueprints related to heating and air conditioning work.

May provide work direction to staff assigned to the heating and air conditioning unit.

Performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS

A **Heating and Air Conditioning Technician** performs skilled journey-level heating and air conditioning work in the installation, inspection, maintenance, alteration, and repair of heating, ventilating, refrigeration, and air conditioning systems, equipment, and controls at a college.

A **General Foreman** plans, coordinates, and supervises the work of skilled journey-level workers of at least three building trades and other staff assigned to work projects at a college, and has job site responsibility for various building trades projects.

A **Lead Heating and Air Conditioning Technician** acts as a lead over a small group of journey-level workers of the heating and air conditioning trade and other assigned staff and performs the more complex work related to the installation, inspection, maintenance, alteration, and repair of heating, ventilating, refrigeration, and air conditioning systems, equipment and controls at a college. Lead responsibilities include guidance and instruction on techniques, methods, and procedures for accomplishing assigned tasks and solving problems. A small group of employees typically consists of at least three people, two of whom must be at the journey-level.

SUPERVISION

General supervision is received from a General Foreman or facilities management staff. May provide work direction to Maintenance Assistants.

CLASS QUALIFICATIONS

Knowledge of:

- Hot water, high and low pressure steam, and direct gas-fired heating systems and related equipment
- Chilled water and direct expansion refrigeration and air conditioning systems and related equipment
- Ventilating systems
- Principals of alternative and renewable energies
- Load shifting
- Design and function of mechanical, pneumatic, electrical, electronic and digital control systems used on heating, refrigeration, and air conditioning equipment
- Current practices, hand and power tools, equipment, materials, and supplies used in the heating, refrigeration, and air conditioning trade
- Digital energy management systems
- Use of solar energy in heating and air conditioning systems
- Installation, maintenance, and repair of heating, ventilating, refrigeration, and air conditioning systems, equipment, and controls
- Testing and inspection methods for heating, ventilating, refrigeration, and air conditioning systems, equipment, and controls
- State and local regulations pertaining to heating, refrigeration, and air conditioning systems
- Fire and safety regulations and practices pertaining to the heating and air conditioning trade
- Industrial and commercial building construction
- Harmful effects of hazardous or toxic materials and the protection and safeguards required when working with or controlling such materials
- Basic recordkeeping procedures
- Capabilities of computer applications, systems, and hardware used in the heating and air conditioning trade

Skill in:

Using tools and equipment of the trade

Ability to:

Install, inspect, maintain, modify, and repair a wide variety of heating, ventilating, refrigeration, and air conditioning systems, equipment, and controls
Diagnose electronic, electro-mechanical, electrical, and mechanical malfunctions
Make complex emergency repairs
Effectively use test equipment
Safely lift heavy tools and materials
Safely operate tools and equipment of the heating and air conditioning trade
Read, interpret, and work from blueprints, drawings, schematics, diagrams, sketches, and specifications
Follow oral and written instructions
Work effectively and cooperatively with staff, administrators, faculty members, and contractors
Keep accurate records
Effectively utilize computer systems and software applicable to the heating and air conditioning trade
Learn characteristics of new systems and equipment of the heating and air conditioning trade and update skills to adapt to changing technology
Learn general and specialized software applications

ENTRANCE QUALIFICATIONS

Education and Experience:

A. Graduation from high school or its equivalent **AND** completion of a recognized apprentice training program of at least four years' duration in the heating and air conditioning trade **AND** one year of full-time, paid journey-level experience in the heating and air conditioning trade.

OR

B. Graduation from high school or its equivalent **AND** five years of full-time paid experience in heating and air conditioning work under the supervision of a journeyman or crafts supervisor. One year of the required experience must have been at the journey-level.

Special:

Successful candidates hired at Los Angeles Trade-Technical College will be required to obtain a current and valid Boiler Operator or Steam Engineer License issued by the Department of Building and Safety of the City of Los Angeles within 130 working days of employment.

Possession of a certificate of competence of chlorofluorocarbon (CFC) License type Universal in accordance with EPA Rule 608, Clean Air Act.

A valid Class "C" California driver's license.

Access to an automobile.

SPECIAL NOTE:

Prior to employment, all successful candidates will be required to pass an asbestos medical examination in compliance with the General Industry Safety Orders, Section 5208, Title 8 of the California Administrative Codes.