



## Air Conditioning/Refrigeration Mechanic Apprentice

*Class Code: 6692*

*Date Established: 07-01-95*

*Date Revised: 05-01-05*

### **OVERVIEW:**

Under immediate supervision, in a trainee capacity, the Air Conditioning/Refrigeration Mechanic Apprentice performs a variety of progressively more complex duties involved in the air conditioning/refrigeration mechanic trade which include performing the full range of service, maintenance and repair work on complex air conditioning and refrigeration systems and their associated HVAC systems and equipment.

### **DISTINGUISHING CHARACTERISTICS:**

The apprentice classification is distinguished from the Air Conditioning/Refrigeration Mechanic by the trainee nature of the work, which is performed under the immediate supervision of a journey-level or higher Mechanic. Incumbents follow a formal training plan with established objectives and are not solely responsible or accountable for the completion of journey-level tasks on a continuing basis.

The apprentice classification is designed for the employment of minimally qualified individuals with little or no skilled work experience, who are at least 18 years of age, and who demonstrate an aptitude and desire to learn the air conditioning/refrigeration mechanic trade. This classification will be used in conjunction with a formal training program of on-the-job training and supplemental education which outlines the training objectives and provides a method for the evaluation of performance while working to achieve those objectives. As this is a four-year training classification and not intended for the employment of journey-level Air Conditioning/Refrigeration Mechanics, incumbents generally are not appointed to this classification for more than four years. Upon certification of journey-level capability, incumbents will become eligible for appointment or transition to the Air Conditioning/Refrigeration Mechanic classification; however, placement into the Air Conditioning/Refrigeration Mechanic classification is not guaranteed.

### **TYPICAL ACTIVITIES:**

Incumbents in this apprentice classification are instructed in and learn to install, troubleshoot, calibrate, service, repair and maintain refrigeration, heating, ventilation and air conditioning systems equipment, instruments and controls using electrical, electronic, pneumatic or digitally controlled systems; oil, clean, adjust, overhaul, and repair motors, condensers, compressors, oil and vacuum pumps and similar equipment; perform major overhauls involving disassembly and inspection of all parts, replacement of defective and worn parts, reassembly of equipment instruments and/or controls, and the testing of equipment to ensure proper functioning; locate and diagnose malfunctions using a wide variety of test equipment and instruments; analyze the operating efficiency of campus refrigeration and air conditioning systems and recommend actions for improvements; respond to comfort complaints; diagnose problems in the distribution of air to individual rooms and buildings and making necessary adjustments and balances in air conditioning systems; use building automation system to diagnose and troubleshoot problems in HVAC and refrigeration systems; maintain inventory and records and order parts and supplies; and maintain records of progression through the work processes outlined in the training program.

In addition, incumbents learn to and perform the following activities: use building automation systems to diagnose and troubleshoot problems; estimate cost, time and materials for projects; perform all work in accordance with established safety procedures and maintain a safe and clean work environment; maintain records and logs and retrieve data related to work performed using manual and computerized record keeping systems; prepare standard reports; and consult and work with other trades workers. Work may involve exposure to hazardous materials.

## **TYPICAL QUALIFICATIONS:**

### ***Knowledge and Abilities:***

Entry to this apprentice classification requires the possession of a high school diploma, California GED, or equivalent combination of education and experience.

Incumbents must be able to follow oral and written instructions; read, write and perform such tasks at a level appropriate for the duties; establish and maintain cooperative working relationships; perform basic arithmetic computations; develop a knowledge of electrical voltage, plumbing refrigeration, electrical and plumbing codes, thermodynamics and automated energy/environmental management systems; accurately distinguish colors; learn the theories behind and operation of major types of refrigeration and air conditioning equipment and of the materials, equipment and techniques used in the repair and maintenance of such equipment; and learn all legal and safety codes and regulations related to the installation and operation of refrigeration and air conditioning systems to ensure campus compliance. Incumbents also must be able to work in a trainee capacity, demonstrating continued progress and improvement in performing skilled air conditioning/refrigeration work; identifying and using the tools and materials of the trade; developing work habits, knowledge and abilities pertinent to the trade; and meet all the criteria as defined in the CSU and SETC Apprenticeship Standards Addendum.