



## Building Service Engineer Apprentice

*Class Code: 6701*

*Date Established: 01-01-81*

*Date Revised: 05-01-05*

### **OVERVIEW:**

Under immediate supervision, in a trainee capacity, the Building Service Engineer Apprentice performs a variety of progressively more complex tasks in the maintenance, service, repair and inspection of heating, ventilating, plumbing, electrical, mechanical and air conditioning systems. Incumbents also learn the operation of the mechanical, electrical and electronic controls associated with such systems in either a centralized plant or decentralized utilities centers located throughout the campus, according to specific training objectives.

### **DISTINGUISHING CHARACTERISTICS:**

The apprentice classification is distinguished from the Building Service Engineer by the absence of substantial responsibility for the completion of journey-level tasks on a continuing basis, and by the requirement that they receive immediate supervision from journey-level Building Service Engineers. 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 operation, maintenance and servicing of boilers and auxiliary equipment. This classification will be used in conjunction with a formal training program of on-the-job training and supplemental education which outlines training objectives and provides a method for evaluation of performance while achieving those objectives. As it is a four-year training classification, and not intended for the employment of journey-level Building Service Engineers, incumbents may not be 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 Building Service Engineer classification; however, placement into the Building Service Engineer classification is not guaranteed.

### **TYPICAL ACTIVITIES:**

Incumbents in this apprentice classification are instructed in and learn to perform the full range of responsible tasks during their designated training period. In the process, incumbents learn to operate, maintain, repair and inspect heating, air conditioning, refrigeration, water treatment and ventilating equipment (e.g., boilers, chillers, condensers, compressors, circulating water pumps, blower fans, valves, ducting gauges); correct methods to test, adjust and calibrate boiler and air conditioning machinery, mechanical, electrical and/or pneumatic control instruments; test, and, as required, learn the proper and safe methods necessary to chemically treat boiler, condenser and cooling tower water and water from other systems; and maintain, inspect, diagnose and make emergency repairs to steam, natural gas, water, refrigerant, air and oil distribution systems. Incumbents eventually may be called upon periodically to adjust air handling equipment to achieve air flow, temperature and humidity balances for individual rooms, building areas or buildings. Incumbents will learn to assist in the repair and replacement of bearings, shafts seals, rings and electrical wiring and in the installation of central system parts, gauges, valves and pipes which require the application of skills and knowledge equivalent to the journey-level in one or more of the basic trades worked. Incumbents rotate, assisting journey-level workers, through various shift assignments at stations either in a central operating plant or in the utilities centers of individual buildings, maintaining logs of daily operating data and of the maintenance and repair work performed.

## **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; and perform basic arithmetic computations. Incumbents also must be able to work in a trainee capacity, demonstrating continued progress and improvement in work habits, knowledge and abilities pertinent to the trade; learn the methods, material, tools and equipment used in the building service engineer trade; demonstrate a definite interest in a career in heating, ventilation, and air conditioning operation, maintenance and repair; and meet all the criteria as defined in the CSU and SETC Apprenticeship Standards Addendum.