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**Date:** May 3, 2005

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**To:** CSU Presidents

**From:** Jackie R. McClain  
Vice Chancellor  
Human Resources



**Subject:** **New and Updated Skilled Crafts Apprentice Classification Standards**

Human Resources Administration is pleased to provide new and updated Skilled Crafts Apprentice (Unit 6) Classification and Qualification Standards. On April 19, 2005, the Joint Apprenticeship Committee reviewed and approved these standards which are consistent with the requirements set forth by the California Division of Apprenticeship Standards. New and updated standards are provided in Attachment A and are listed below:

New classification standards:

| <b>Classification Code</b> | <b>Classification</b>                              |
|----------------------------|--|
| 6692                       | Air Conditioning/Refrigeration Mechanic Apprentice |
| 6838                       | Automotive/Equipment Mechanic Apprentice           |
| 6641                       | Locksmith Apprentice                               |
| 6585                       | Metal Worker Apprentice                            |

Updated classification standards:

| <b>Classification Code</b> | <b>Classification</b>                |
|----------------------------|--------------------------------------|
| 6701                       | Building Service Engineer Apprentice |
| 6477                       | Carpenter Apprentice                 |
| 6536                       | Electrician Apprentice               |
| 6704                       | Operating Engineer Apprentice        |
| 6527                       | Painter Apprentice                   |
| 6550                       | Plumber Apprentice                   |

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**Distribution:**

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Questions regarding this HR Letter may be directed to Arlene Coronel at (562) 951-4419 or via email at [acoronel@calstate.edu](mailto:acoronel@calstate.edu). This document also is available on Human Resources Web site at: <http://www.calstate.edu/HRAdm/memos.shtml>. Thank you.

JRMcC/ac



## 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.



## Automotive/Equipment Mechanic Apprentice

*Class Code: 6838*

*Date Established: 07-01-95*

*Date Revised: 05-01-05*

### **OVERVIEW:**

Under immediate supervision, in a trainee capacity, the Automotive/Equipment Mechanic Apprentice performs a variety of progressively more complex duties related to the automotive/equipment mechanic trade such as performing preventive maintenance, repair and modification of automotive, maintenance, construction and/or other power driven equipment.

### **DISTINGUISHING CHARACTERISTICS:**

The apprentice classification is distinguished from the Automotive/Equipment Mechanic by the trainee nature of the work, which is performed under the immediate supervision of a journey-level or higher Mechanic. Unlike the Mechanics Helper, 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 automotive/equipment mechanics 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 training classification, and not intended for the employment of journey-level 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 Equipment Mechanic classification; however, placement into the Equipment Mechanic classification is not guaranteed.

### **TYPICAL ACTIVITIES:**

Incumbents in this apprentice classification are instructed in and learn to inspect automotive, maintenance, construction and/or farm equipment to determine corrective action necessary; perform diagnostic tests using engine analyzers; make minor to major repairs to automotive and/or equipment; fabricate, construct and/or modify new or special equipment, mechanical and engine parts, and body parts; install and repair special equipment; operate and maintain tools, machinery and computerized systems used in the maintenance, repair and fabrication of automotive, maintenance and/or construction equipment; troubleshoot and repair all systems and components; perform smog tests; respond to emergency break downs and calls; may repair pump and compressor engines; perform minor welding and brazing work; estimate the cost of materials and labor for maintenance and repairs; inspect completed work to ensure compliance with standard trade practices; maintain vehicle inspection, maintenance and repair records using manual and/or computerized record keeping systems; and maintain a record of their progression through the work processes listed in the training guidelines performed, as well as records of progression through work processes listed in training guidelines.

**TYPICAL QUALIFICATIONS:**

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; and learn the methods, materials, tools and equipment used in the automotive/equipment mechanics trade, including the computerized systems used in the maintenance, adjustment and repair of engines, equipment and accessories. Incumbents also must be able to work in a trainee capacity, demonstrating continued progress and improvement in making skilled repairs to applicable automotive, maintenance and/or construction equipment; diagnosing mechanical and electrical malfunctions; working from blueprints, drawings and sketches to fabricate parts; inspecting vehicles and equipment to determine extent of repairs; 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.



## Locksmith Apprentice

*Class Code: 6641*

*Date Established: 07-01-89*

*Date Revised: 05-01-05*

### **OVERVIEW:**

Under immediate supervision, in a trainee capacity, the Locksmith Apprentice performs a variety of progressively more complex duties related to the locksmith trade such as installing, repairing, remodeling and maintaining manual and automated locks and locking systems.

### **DISTINGUISHING CHARACTERISTICS:**

The apprentice classification is distinguished from the Locksmith I by the trainee nature of the work, which is performed under the immediate supervision of a journey-level or higher Locksmith. 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 locksmith 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 training classification, and not intended for the employment of journey-level locksmiths, incumbents are generally not appointed to this classification for more than two years. Upon certification of journey-level capability, incumbents will become eligible for appointment or transition to the Locksmith I classification; however, placement into the Locksmith I classification is not guaranteed.

### **TYPICAL ACTIVITIES:**

Incumbents in this apprentice classification are instructed in and learn to install, repair, remodel and maintain manual and automated locks, locking systems and security devices, including mechanical and electrical systems and devices, low voltage computerized access control systems, and door opener, closers and hardware; learn to install, maintain, repair and adjust all types of locks and their components for campus buildings, rooms, furniture and vehicles; cut and issue keys and may program and issue key cards; implement, troubleshoot, repair and program computerized access control systems to meet campus facilities access and security needs; upgrade, troubleshoot and maintain security systems, including those interfacing with locking and other building systems; maintain and repair automatic door openers, door closing units, and control gates; service and maintain safes; estimate cost, time and materials for locksmith projects; participate in the maintenance and operations of a locksmith shop; purchase, store and maintain lock systems, hardware and materials; maintain and service tools and equipment used in the performance of duties; inspect completed work for conformance with specifications and requirements and compliance with applicable regulations, including work performed by contractors; perform all work in accordance with established safety procedures and maintain a safe and clean work environment; maintain records and retrieve data related to work performed, as well as records of progression through work processes listed in training guidelines; prepare standard reports; and consult and work with other trades workers.

## **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 including one year of high school algebra with a grade of "C" or better, or equivalent.

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. Incumbents also must be able to learn the methods, materials, tools and equipment used in the locksmith trade which includes a variety of access and control systems; all types of locks, fastening devices and related hardware; electrical locking and security systems and devices; and applicable state codes pertaining to the locksmith trade including specifics related to fire exits, door hardware and fastening devices. Incumbents must be able to work in a trainee capacity, demonstrating continued progress and improvement in the installation, repair, remodeling and maintenance of manual and automated locks and locking systems; 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.



## Metal Worker Apprentice

*Class Code: 6585*

*Date Established: 07-01-95*

*Date Revised: 05-01-05*

### **OVERVIEW:**

Under immediate supervision, in a trainee capacity, the Metal Worker Apprentice performs a variety of progressively more complex duties involved in the metal work trade which may include welding, sheet metal work, materials fabrication and/or machine shop work in support of facilities and systems preventive maintenance and renovations in accordance with specific training objectives.

### **DISTINGUISHING CHARACTERISTICS:**

The apprentice classification is distinguished from the Metal Worker I classification by the trainee nature of the work, which is performed under the immediate supervision of a journey-level or higher Metal Worker. 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 metal working 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 metal workers, 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 Metal Worker I classification; however, placement into the Metal Worker I classification is not guaranteed.

### **TYPICAL ACTIVITIES:**

Incumbents in this apprentice classification are instructed in and learn to assist in the maintenance of a metal working/machine shop including advising in the selection, ordering, and storing of metal working, machining, and fabrications materials, supplies and equipment; lay out, position, and complete projects from blueprints, sketches and verbal instructions; make sketches and estimate costs of metal and/or machine work; inspect assemblies and work performed by contractors to ensure they conform to specifications, requirements and sound trade practices; maintain and service tools and equipment used in the performance of duties; maintain records and retrieve data related to work performed using manual and/or computerized record keeping systems; prepare standard reports; perform all work in accordance with established safety procedures and maintain a safe and clean work environment; consult and work with other trades workers; and maintain records of progression through work processes as outlined in the training program. Work may involve exposure to hazardous materials. Metal work at the campus typically falls into one or more of the following core areas. The Apprentice may specialize in one or more areas. This will be outlined in the training plan.

- ◆ HVAC ductwork fabrication and installation involves sizing and selecting ductwork and fittings based on CFM, velocity and static pressure requirements; the layout and fabrication of custom fittings; and the fabrication and installation of sheet metal components.
- ◆ Sheet metal construction and repair for architectural and non-structural metal work involves using triangulation, radial parallel and shop mathematics to develop patterns, shapes and parts; cutting, welding, brazing and soldering of sheet metals; installing, maintaining, inspecting and repairing of sheet metal parts; and developing, forming and fashioning sheet metals into various sheet metal objects such as gutters and downspouts, air handling equipment, roof flashings; hand rails and related non-structural equipment and fixtures.
- ◆ Machine shop work involves operating and maintaining of machine tools used in the construction and repairing parts, tools, equipment and fixtures.

### **TYPICAL QUALIFICATIONS:**

Entry to this apprentice classification requires the possession of a high school diploma, California GED, or equivalent combination of education and experience including one year of high school algebra with a grade of "C" or better, or equivalent.

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; learn the methods, materials, tools and equipment used in a wide variety of metal and machine work including cutting, welding, brazing, soldering, layout, sheet metal brake, and/or machine shop work; learn the composition, characteristics and uses of ferrous metals, nonferrous metals and alloys and/or various sheets metals; learn the installation standards for low, medium, and high pressure ductwork; and learn state safety orders applicable to metal work, including Safety Orders of the Division of Industrial Safety of the State of California. Incumbents also must be able to work in a trainee capacity, demonstrating continued progress and improvement in performing skilled metal and machine work for preventative maintenance on facilities, systems, equipment, structures and fixtures; 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.



## 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.



## Carpenter Apprentice

*Class Code: 6477*

*Date Established: 01-01-81*

*Date Revised: 05-01-05*

### **OVERVIEW:**

Under immediate supervision, in a trainee capacity, performs a variety of progressively more complex carpentry tasks and performs related work, as required.

### **DISTINGUISHING CHARACTERISTICS:**

The apprentice classification is distinguished from the Carpenter 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 Carpenters. 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. 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 Carpenters, incumbents may not be appointed to positions in this classification for more than four years. Upon certification of journey-level capability, incumbents will become eligible for appointment or transition to the Carpenter classification; however, placement into the Carpenter classification is not guaranteed.

### **TYPICAL ACTIVITIES:**

Incumbents in this apprentice classification are instructed in and learn to assist journey-level Carpenters in performing the full range of carpentry tasks; learn names and applications of pertinent tools and equipment; learn to maintain and repair buildings; learn to erect, maintain and repair various types of sheds, scaffolds, forms, frames, fences and other structures. Incumbents progressively assume more responsible and complex tasks from regular maintenance of tools, materials and equipment to making sketches and estimations of repair work. Incumbents learn proper methods of maintaining and storing materials and supplies, make simple reports, keep simple records and keep a daily log of work completed, as well as records of their progression through the work processes listed in their training guidelines.

### **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 including one year of high school algebra with a grade of "C" or better, or equivalent.

Incumbents must be able to follow oral and written instructions; read, write and perform tasks at a level appropriate for the duties of the position; establish and maintain cooperative working relationships; learn lumber types and grades; identify types and uses of carpentry tools and materials; handle carpentry tools safely and properly; learn and apply the Safety Orders of the Division of Industrial Safety and of the State of California applicable to carpentry. Incumbents also must be able to work in a trainee capacity and demonstrate continued progress and improvement in operating woodworking tools and machinery; develop work habits, knowledge and abilities pertinent to the trade; demonstrate a definite interest in a career as a crafts carpenter; and meet all the criteria as defined in the CSU and SETC Apprenticeship Standards Addendum.



## Electrician Apprentice

*Class Code: 6536*

*Date Established: 01-01-81*

*Date Revised: 05-01-05*

### **OVERVIEW:**

Under immediate supervision, in a trainee capacity, the Electrician Apprentice performs a variety of progressively more complex duties installing, maintaining and repairing electrical equipment, and performs related work, as required.

### **DISTINGUISHING CHARACTERISTICS:**

This apprentice classification is distinguished from the Electrician by the absence of substantial responsibility for the completion of journey-level tasks on a continuing basis, and by the requirement that incumbents in this classification receive immediate supervision from journey-level Electricians. 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 installation, maintenance and repair of electrical equipment and transmission lines. 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 Electricians, incumbents may not be appointed to in this classification for more than four years. Upon certification of journey-level capability, incumbents will become eligible for appointment or transition to the Electrician classification; however, placement into the Electrician classification is not guaranteed.

### **TYPICAL ACTIVITIES:**

Incumbents in this apprentice classification are instructed in and learn to install transmission lines for electrical equipment; and assemble, install, maintain and repair electric lights, motors, heaters, generators, transformers, switchboards and other electrical apparatus. Incumbents are instructed in and assist journey-level workers operating electrical power generating plants, maintaining the electrical shop, operating electrical equipment and trouble-shooting electrical systems. Incumbents learn the proper selection and storage of electrical equipment and how to make rough sketches and estimate the cost of minor electrical installations. Incumbents become proficient in rules and regulations of the National Electric Code and the Electrical Safety Orders of the Division of Industrial Safety of the State of California; make simple reports, keep simple records and keep a daily log of work completed as well as records of their progression through the work processes listed in the training guidelines.

## **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 including one year of high school algebra with a grade of "C" or better, or equivalent.

Incumbents must be able to follow oral and written instructions; read, write and perform tasks at a level appropriate for the duties; establish and maintain cooperative working relationships; learn how to handle the materials, tools, and equipment used in the installation, maintenance and repair of electrical equipment; learn and apply the National Electric Code and the Electrical Safety Orders of the Division of Industrial Safety of the State of California. Incumbents also must be able to work in a trainee capacity, demonstrating continued progress and improvement in the assembly, installation, maintenance, and repair of electrical apparatus; work in identifying and implementing tools and materials; develop work habits, knowledge and abilities pertinent to the trade; demonstrate a definite interest in a career as an Electrician; and meet all the criteria as defined in the CSU and SETC Apprenticeship Standards Addendum.



## Operating Engineer Apprentice

*Class Code: 6704*

*Date Established: 01-01-81*

*Date Revised: 05-01-05*

### **OVERVIEW:**

Under immediate supervision, in a trainee capacity, the Operating Engineer Apprentice performs a variety of progressively complex tasks in the operation, servicing and maintenance of boilers and auxiliary boiler equipment, either in a centralized plant or in decentralized utilities, and learns the operation and maintenance of other related mechanical equipment, according to specific training objectives.

### **DISTINGUISHING CHARACTERISTICS:**

The apprentice classification is distinguished from the Operating 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 Operating Engineers and 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 three-year training classification, and not intended for the employment of journey-level Operating Engineers, incumbents may not be appointed in this classification for more than three years. Upon certification of journey-level capability, incumbents will become eligible for appointment or transition to the Operating Engineer classification; however, placement into the Operating 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; learn to operate and maintain boilers regularly, service compressors, vacuum pumps and other related equipment by oiling parts and packing valves; learn the correct methods and procedures of cleaning fire tubes and flues by the use of blowers and rods; cleaning, washing, and painting boilers and tanks; and keeping their assigned area or areas orderly and cleaned to safety standards. Incumbents keep records of operations such as pressures maintained, fuel consumed and service functions performed. Incumbents also keep a daily log of work completed and records of their progression through the work processes listed in their training guidelines.

### **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 developing work habits, knowledge and abilities pertinent to the trade; demonstrate a definite interest in a career in heating and ventilation, and air conditioning operation, maintenance and repair; and meet all the criteria as defined in the CSU and SETC Apprenticeship Standards Addendum.



## Painter Apprentice

*Class Code: 6527*

*Date Established: 01-01-87*

*Date Revised: 05-01-05*

### **OVERVIEW:**

Under immediate supervision, in a trainee capacity, the Painter Apprentice performs a variety of progressively more complex painting tasks, and performs related work, as required.

### **DISTINGUISHING CHARACTERISTICS:**

The apprentice classification are distinguished from the Painters 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 Painters. 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 year of age, and who demonstrate an aptitude and desire to learn the painting craft. 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 three-year training classification, and not intended for the employment of journey-level Painters, incumbents may not be appointed to this classification for more than three years. Upon certification of journey-level capability, incumbents will become eligible for appointment or transition to the Painter classification; however, placement into the Painter classification is not guaranteed.

### **TYPICAL ACTIVITIES:**

Incumbents in this apprentice classification are instructed in and learn to perform a full range of responsible tasks during their designated training period. Incumbents scrape, sand and fill surfaces in preparation for painting and finishing; assist journey-level Painters in applying undercoats and finish coats by brush or by spray machine; learn paperhanging and assist journey-level workers in this procedure; learn to mix and match paints and finishes; become proficient in the process of erecting scaffolding; learn the cleansing and maintenance of brushes and other materials; paint simple signs and learn methods of selecting, ordering and storing various painting materials; keep simple records, and a daily log of work completed and records of their progression through the work processes listed in their training guidelines.

### **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; learn and apply the Safety Orders of the Division of Industrial Safety of the State of California.

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 or improvement in work habits, knowledge and abilities; demonstrate a definite interest in a career as a crafts painter; and meet all the criteria as defined in the CSU and SETC Apprenticeship Standards Addendum.



## Plumber Apprentice

*Class Code: 6550*

*Date Established: 01-01-81*

*Date Revised: 05-01-05*

### **OVERVIEW:**

Under immediate supervision, in a trainee capacity, the Plumber Apprentice performs a variety of progressively more complex plumbing tasks and performs related work, as required.

### **DISTINGUISHING CHARACTERISTICS:**

The apprentice classification is distinguished from the Plumber by the absence of substantial responsibility for the completion of journey-level tasks on a continuing basis and by the requirement that incumbents receive immediate supervision from journey-level Plumbers. 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. 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 Plumbers, 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 Plumber classification; however, placement into the Plumber classification is not guaranteed.

### **TYPICAL ACTIVITIES:**

Incumbents in this apprentice classification are instructed in and learn with graduated responsibility to install, maintain, inspect and repair standard plumbing equipment concerned with water, gas, oil, sewage, fire control, steam and refrigeration systems; learn the names and applications of various plumbing tools and equipment; assist journey-level workers in the installation and repair of pumps; learn general maintenance of the plumbing shop; learn to trouble-shoot plumbing systems; make rough sketches of plumbing systems; estimate labor and materials for minor plumbing installation and repair; and select, order and store plumbing supplies and equipment. Incumbents make simple reports, keep simple records and keep a daily log of work completed as well as record their progression through the work processes listed in their training guidelines.

### **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; learn the methods, materials, tools and equipment used in the plumbing trades; and learn and apply the rules and regulations of the California State Plumbing Codes and the Safety Orders of the Division of Industrial Safety applicable to plumbing. Incumbents also must be able to work in a trainee capacity, demonstrating continued progress and improvement in plumbing work, work habits, knowledge and abilities; demonstrate a definite interest in a career as a crafts painter; and meet all the criteria as defined in the CSU and SETC Apprenticeship Standards Addendum.