

Date: October 14, 2008

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HR/PCOS 2008-04

To: Human Resources Directors

Response Due By: November 14, 2008

From: Evelyn Nazario
Senior Director, Compensation
Human Resources Administration



Subject: Campus Review – Updated Unit 6 Classification Series (HVAC, Equipment Mechanic, Locksmith)

Overview

Audience: Human Resources Directors, Classification/Compensation Managers, and campus management responsible for plant/facility operations

Action Item: Review draft classification standards and provide feedback by November 14, 2008

Affected Employee Group(s)/Unit(s): Unit 6 employees performing lead or supervisory work as Building Service Engineers, Automotive/Equipment Mechanics and Locksmiths

Summary

This Technical Letter provides an overview of three new proposed classifications and asks for your input on the proposed drafts: Lead Building Service Engineer, Supervising Automotive/Equipment Mechanic and Supervising Locksmith.

Study Background: Plant management systemwide has voiced the need for three new classifications within the following existing trade classification series:

- *HVAC Series* - Lead Building Service Engineer
- *Equipment Mechanic Series* - Supervising Automotive/Equipment Mechanic
- *Locksmith Series* - Supervising Locksmith

The proposed drafts were created using standard language related to lead and supervisory work within SETC trade classifications. Additionally, adjustments were made to recognize unique features of each trade and to the series' introductions to incorporate the additional classification level.

Campus Review: The draft classification standards are attached. Your review and feedback is critical to the development of the final classification standards and assists us in ensuring that the new classifications meet campuses' operational needs.

Distribution:

CSU Presidents
Interim Vice Chancellor, Human Resources
Vice Presidents, Administration
HR Professionals

As you review the attached drafts, please consider the following¹:

- *Do the proposed classifications provide an umbrella under which you can equitably classify your lead and supervisory positions in these trades?*
- *Do the proposed standards adequately cover the breadth of work performed by incumbents today and potentially in the next five years?*
- *Are the classification levels properly defined? Are the distinctions between levels clear?*
- *Are any critical work descriptions missing? If yes, please provide them.*
- *Are any critical knowledge, skills and abilities missing? If yes, please provide them.*
- *Is the language in the classification standard flexible enough to accommodate campus operations systemwide?*

Sending in Feedback: Thank you in advance for your time and effort in reviewing the draft classification standards. We look forward to hearing from you by Friday, November 14, 2008. We request that campus human resources coordinate their response with the appropriate campus management and submit consolidated feedback. Please provide written comments to Larry Fisher via e-mail at lfisher@calstate.edu

Next Steps: Campus feedback will be reviewed and revisions will be made, as appropriate, after reviewing with the subject experts. After the draft classification standards are finalized, CSU will begin impact negotiations with the appropriate bargaining representatives.

If you have questions regarding this technical letter, please contact Larry Fisher in Human Resources Administration at (562) 951-4416.

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Attachments

¹ Questions regarding salary ranges and impact to employees are subject to collective bargaining and will be addressed after the classification standard is finalized.

HVAC Series

Draft Update with Lead Building Service Engineer

<u>Classification Title</u>	<u>Class Codes</u>	<u>Date Established</u>	<u>Date Revised</u>
Operating Engineer	6703	11-15-57	09-03-03
Building Service Engineer	6702	06-30-74	09-03-03
Air Conditioning/Refrigeration Mechanic	6699	06-30-74	09-03-03
Facilities Control Specialist	6260	07-01-00	09-03-03
<i>Lead Building Service Engineer</i>	<i>New</i>	XX-XX-XX	
Supervising Building Service Engineer	6700	10-01-71	09-03-03

OVERVIEW:

The Heating, Ventilating and Air Conditioning (HVAC) series is comprised of six classifications with varying levels of responsibility for the operation, maintenance and repair of HVAC and refrigeration equipment/systems and related building automation systems. Incumbents in this series also maintain, service, inspect and repair the mechanical, electrical, electronic and digital controls associated with these systems, either in a centralized plant or in decentralized centers across a campus.

All incumbents must be able to proficiently use building automation systems to diagnose and troubleshoot problems; estimate cost, time and materials for projects; participate in the maintenance and operations of applicable heating and air conditioning systems and equipment; maintain and service tools and equipment used in the performance of duties; perform all work in accordance with established safety procedures and maintain a safe and clean work environment; maintain records and logs; retrieve data related to work performed using manual and/or computerized record-keeping systems; prepare standard reports; and consult and work with other trades workers. Work may involve exposure to hazardous materials and some positions will require EPA approved certification in refrigerant recovery.

Examples of typical activities for each classification are not meant to be all inclusive or restrictive; incumbents may perform related work activities.

OPERATING ENGINEER

The Operating Engineer primarily is responsible for the operation, maintenance and repair of boilers and chillers for the heating and cooling systems on a campus or major facility. Incumbents also may be responsible for the operation, service and repair of power plants involving low, medium or high speed revolution cogeneration equipment. The Operating Engineer is distinguished from the Building Service Engineer in that the Operating Engineer typically works with stationary or more central equipment, while the Building Service Engineer must service a wider range of HVAC systems and equipment.

Under general supervision, incumbents monitor, operate, and maintain boiler and chiller systems and their components (including underground components), power plant equipment (such as reciprocating engines), and fire and secure high pressure boilers; respond to calls; manipulate features of building automation systems to adjust space temperatures and air intake to optimize comfort while conserving energy; affect building automation programming schedules for the heating and cooling of campus facilities; conduct chemical analyses for water treatment for both chillers and boilers; switch plant to manual operation in case of a power failure; perform some soldering and welding on plant equipment and pipelines; and may provide work direction to semi-skilled and unskilled assistants.

TYPICAL QUALIFICATIONS:

Knowledge:

Work requires thorough knowledge of high and low pressure boiler and chiller systems, electrical distribution and transfer systems and equipment, and auxiliary equipment; thorough knowledge of the methods, materials and

tools used in the operation of applicable systems; working knowledge of system water testing and treatment procedures; and working knowledge of applicable building automation systems and interfaces.

Abilities:

Must be able to operate boilers and chillers safely and efficiently; quickly identify and correct malfunctions; monitor energy consumption and adjust equipment and system features; operate computer-based energy management systems and interfaces with main building automation system; read, interpret and work from blueprints, manuals, diagrams and operating procedures; estimate cost, time and materials of projects; maintain logs and records; retrieve data related to work performed using manual and/or computerized record-keeping systems; prepare standard reports; provide instruction to unskilled assistants; analyze and respond appropriately to emergency situations; read and write at a level appropriate to the position; and perform arithmetic calculations as required by the position.

Experience:

These abilities normally would be acquired through the equivalent to two years of hands-on experience in the operation, maintenance and repair of boiler and chiller systems, cogeneration systems, and/or related mechanical equipment. Completion of a certificate or other vocational training may be substituted for hands-on experience.

BUILDING SERVICE ENGINEER

The Building Service Engineer is distinguished from an Operating Engineer by the independent and on-going performance of maintenance and repair work on a wider range of heating, ventilating, plumbing, electrical, mechanical, refrigeration, air conditioning, and water systems. Compared to the Air Conditioning/ Refrigeration Mechanic, the Building Service Engineer performs less sophisticated and comprehensive work on complex refrigeration and air conditioning systems. The work of an Air Conditioning/Refrigeration Mechanic requires a more comprehensive knowledge of these systems and the applicable regulations.

Under general supervision, incumbents operate, maintain, repair and inspect heating, ventilating, air conditioning, refrigeration and water systems and equipment; test, adjust, and calibrate boiler and air conditioning machinery and mechanical, electrical, pneumatic, and/or microprocessor control instruments; test and chemically treat boiler, condenser, and cooling tower water and water from other systems; maintain, inspect, diagnose and make emergency repairs to steam, natural gas, water, refrigerant, air and oil distribution systems; regularly use features of building automation systems to diagnose and troubleshoot problems in the HVAC systems while optimizing energy usage; monitor building automation systems data and adjust system accordingly; respond to service requests to adjust air flow, temperature and humidity balances for individual rooms, building areas or buildings; maintain swimming pools; troubleshoot basic elevator problems; maintain logs of maintenance and repairs using manual and computerized record-keeping systems; and may instruct and lead semi-skilled or unskilled assistants. Incumbents also repair and replace bearings, shafts, seals, rings and electrical wiring and install central system parts, gauges, valves and pipes which requires the application of journey-level skills in one or more of the applicable trades. Additionally, incumbents may rotate through various shift assignments at stations either in a central plant or in the utilities centers of individual buildings or campus centers for the operation, service and repair of low, medium or high-speed revolution cogeneration equipment.

TYPICAL QUALIFICATIONS:

Knowledge:

Work requires thorough knowledge of high and low pressure boilers, and heating, pneumatic, ventilating, air conditioning, refrigeration and other mechanical equipment; thorough knowledge of the methods, tools and materials used in the operation, maintenance and repair of such equipment; general knowledge of ventilation principles, thermal dynamics, and closed water systems; and working knowledge of energy management systems including the ability to understand and use system features.

Abilities:

Must be able to install, operate and repair HVAC equipment and systems; demonstrate a high degree of mechanical skill equivalent to journey-level in one or more related trades such as plumbing, pipe fitting, electrical, or air conditioning; read, interpret and work from blueprints, plans, drawings and specifications; make rough sketches; estimate cost, time and materials of mechanical work; maintain records and retrieve data related to

work performed using manual and/or computerized record-keeping systems; prepare standard reports; provide instruction to unskilled and semi-skilled assistants; analyze and respond appropriately to emergency situations; read and write at a level appropriate to the position; and perform arithmetic calculations as required by the position.

Experience:

These abilities normally would be acquired through two years of journey-level experience in the operation, maintenance and repair of boiler, heating, ventilating, refrigeration and air conditioning equipment and systems or the equivalent combination of formal course work in mechanical technology and hands-on experience.

AIR CONDITIONING/REFRIGERATION MECHANIC

The Air Conditioning/Refrigeration Mechanic is distinguished from other classifications in the series by responsibility for the full range of service, maintenance and repair on more complex refrigeration and associated HVAC systems and equipment. The work of an Air Conditioning/Refrigeration Mechanic requires a more comprehensive knowledge of refrigeration and air conditioning systems than the refrigeration and air conditioning work performed by the Building Service Engineer. Incumbents in this classification must be thoroughly familiar with all safety codes and regulations related to the installation and operation of refrigeration and air conditioning systems. Positions in this classification require certification from the Environmental Protection Agency in the use and disposal of compressed refrigerants.

Under general direction, incumbents install, troubleshoot, calibrate, service, repair and maintain refrigeration and HVAC 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 efficiency of campus refrigeration and air conditioning systems and recommend action for improvement; respond to service requests; diagnose problems in the distribution of air to individual rooms and buildings and make necessary adjustments; use building automation system to diagnose and troubleshoot problems in HVAC and refrigeration systems; maintain inventory and records; order parts and supplies; and train and provide work direction to skilled and semi-skilled workers.

TYPICAL QUALIFICATIONS:

Knowledge:

Work requires thorough knowledge of the theory 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 working knowledge of electrical voltage, plumbing refrigeration, electrical and plumbing codes, thermodynamics and automated energy/environmental management systems.

Abilities:

In addition to the abilities required of a Building Service Engineer, the Air Conditioning/Refrigeration Mechanic must be able to use judgment and discretion in determining the methods and priorities of work orders; perform skilled electrical and plumbing work; diagnose and repair major malfunctions in the complex multi-zone air conditioning systems; devise and control air distribution efficiently with maximum comfort; and diagnose and repair the full range of refrigeration equipment including centrifugal and absorber equipment and/or screw, scroll and reciprocating refrigeration equipment.

Experience:

These abilities normally would be acquired through progressively responsible experience in the installation, adjustment, maintenance and repair of commercial and domestic refrigeration and air conditioning systems involving modulatory and safety controls, thermostats, humidifiers and duct stats as well as one year of experience in the installation and repair of central multi-zone air conditioning systems. In addition, journey-level skill equivalent to that acquired through the completion of a refrigeration or air conditioning mechanic's apprenticeship program is required.

Special Requirements:

Incumbents typically must possess certification in the use of refrigerants.

FACILITIES CONTROL SPECIALIST

This classification is designed for those positions primarily responsible for the installation, maintenance, adjustment and repair of electric, electronic, pneumatic and digitally controlled building automation systems which manage the most complex HVAC and refrigeration systems. Incumbents monitor, troubleshoot, design, modify, calibrate and program system features; and respond to technical and mechanical problems, either remotely or on-site. Incumbents must be thoroughly conversant in the software operation of the applicable building automation system and have journey-level skills and experience to allow them to diagnose, repair and maintain complex HVAC systems and their components. The Facilities Control Specialist is distinguished from the Building Service Engineer and Air Conditioning/Refrigeration Mechanic in that the primary focus of this classification is on the monitoring and maintenance of building automation systems rather than on the operation, maintenance and repair of these systems. While some manual repairs and adjustments may be performed directly on HVAC and refrigeration systems and equipment, these are ancillary rather than primary duties for the Facilities Control Specialist.

Under limited supervision, incumbents install, modify and adjust computer-based heating, ventilation and air conditioning equipment and systems; fabricate and implement programs or building control strategies for digitally controlled or global supervisory controlled systems; troubleshoot, design and modify programs for building automation systems; repair and maintain individual hardware and software components of applicable systems; perform major-to-minor overhauls which include disassembling and inspecting of all parts, replacing worn and defective parts, reassembling of all equipment and controls, and testing to ensure proper function; perform major-to-minor repairs of microprocessor-based automation system that monitors and controls building environments; respond to requests for service; diagnose and troubleshoot system problems and correct as necessary; may serve as the department specialist on building automation systems; and train others on the troubleshooting, overhaul, repair, calibration, and testing of controls to facilitate the maintenance of systems.

TYPICAL QUALIFICATIONS:

Knowledge:

In addition to the knowledge requirements of the Building Service Engineer and/or Air Conditioning/Refrigeration Mechanic, the Facilities Control Specialist must possess a thorough understanding of electric, electronic, pneumatic and digitally controlled building automation systems, including a thorough knowledge of assigned building automation systems.

Abilities:

In addition to the abilities of the Building Service Engineer and/or Air Conditioning/Refrigeration Mechanic, the Facilities Control Specialist must be able to use of the building automation system's programming features to design, modify and implement programs to achieve facilities management's goals, as well as to perform remote and hands-on troubleshooting, intervention and repair, as needed.

Experience:

In addition to the experience required of the Building Service Engineer and/or Air Conditioning/Refrigeration Mechanic, the abilities of a Facilities Control Specialist normally would be acquired through four or more years of experience in the following areas:

- a) Progressively responsible skilled journey-level experience diagnosing, repairing and maintaining large, complex and sophisticated heating, ventilation, refrigeration and air conditioning and water treatment systems.
- b) Experience installing, inspecting, servicing, repairing, replacing and calibrating building automation and control systems.
- c) Experience using programming features of building automation systems.

LEAD BUILDING SERVICE ENGINEER – *New Classification*

Under general supervision, the Lead Building Service Engineer (Lead BSE) works with and is in charge of a small group or crew of skilled and semi-skilled workers involved in the installation, operation, maintenance and repair of mechanical systems related to heating, ventilating, refrigeration, air conditioning, power, water and/or sewer systems and equipment throughout a campus. The Lead BSE is distinguished by the additional responsibilities of providing lead work direction to journey-level crafts workers and semi-skilled assistants, laying out and coordinating the work flow for jobs, and preparing materials lists and ordering supplies for jobs. Unlike the Supervising BSE, the Lead BSE spends the majority of time working as a Building Service Engineer while performing lead work coordination and project planning responsibilities for a work crew and typically is not overseeing the work of multiple work crews.

Incumbents typically coordinate the work of a small work group or crew including providing direction for work sequencing and technical expertise and leadership; ensuring necessary materials, supplies and equipment are available to complete assigned work orders and perform preventive maintenance; instructing staff on work and safety rules and ensuring that they are observed; inspecting work to ensure it meets quality requirements and specifications; and maintaining manual or computerized records of work performed and preparing reports. On specific projects, work may involve coordinating with other departments and coordinating the work of other skilled crafts workers.

TYPICAL QUALIFICATIONS:

Knowledge: In addition to the knowledge required of the Building Service Engineer, the Lead BSE must possess a working knowledge of effective supervisory practices and techniques; working knowledge of project sequencing; and a working knowledge of the applicable state and federal safety codes and regulations pertaining to mechanical and HVAC systems.

Abilities: In addition to the abilities required of a Building Service Engineer, the Lead BSE must be able to lead, instruct and coordinate the work of a small group or crew of skilled and semi-skilled workers; provide direction on the interpretation and use of blueprints, plans, drawings, and specifications to the work crew; accurately estimate costs, supplies and materials needed for jobs and projects; prepare materials lists; ensure work is performed in sequence; inspect and assess work to ensure it meets requirements and specifications; analyze and respond appropriately to emergency situations; and maintain records and prepare more complex reports.

Experience: In addition to the experience required of the Building Service Engineer, the abilities of a Lead BSE would normally be acquired through one to two years of experience as a journey-level Building Service Engineer that included some work or project coordination responsibilities.

SUPERVISING BUILDING SERVICE ENGINEER

Under general supervision, the Supervising Building Service Engineer primarily is responsible for supervising and working with one or more small groups or crews of skilled and semi-skilled workers involved in the installation, operation, maintenance, and repair of mechanical systems including heating, ventilating, refrigeration, air conditioning, power, water and sewer systems and equipment throughout a campus. The Supervising Building Service Engineer is distinguished from the other trade and lead classifications in the HVAC Series by the scope of supervisory, project planning and coordination duties and the greater amount of time devoted to these activities.

Incumbents typically prioritize and coordinate the work of multiple crews or projects; assign work to qualified crew members; provide overall technical leadership; determine necessary materials, supplies, equipment and staffing to meet work orders and preventive maintenance schedule; provide work and safety instructions; provide on-the-job training and instructions to less skilled workers in trade and safety practices; provide input on performance evaluations; monitor work in progress; inspect completed work to ensure it is in compliance with specifications, special instructions and sound trade practices; develop and maintain manual and/or computerized work record-keeping and/or maintenance management systems; and prepare reports.

Work on new construction and remodels requires: collaborating with engineering and design departments; interpreting complicated plans and drawings; coordinating work schedules and work assignments to meet the overall construction/modification objectives; sequencing of work; ensuring the availability of required materials

and equipment; analyzing operations; preparing cost and time estimates; and providing a high level of inspection to ensure appropriate building and safety codes are met. Incumbents also may design minor tenant improvements and coordinate and supervise the work of related trades workers on specific projects.

TYPICAL QUALIFICATIONS:

Knowledge:

In addition to the knowledge required of the Lead Building Service Engineer, the Supervising Building Service Engineer must possess a thorough knowledge of effective supervisory practices and techniques; working knowledge of job design and work sequencing related to renovation and installation projects; and thorough knowledge of the applicable state and federal safety codes and regulations pertaining to mechanical and HVAC systems.

Abilities:

In addition to the abilities required of the Lead Building Service Engineer, the Supervising Building Service Engineer must possess journey-level skills in a mechanical and/or HVAC trade. Also, must be able to maintain currency in applicable industrial safety orders and regulations pertaining to facilities, HVAC and related equipment; plan and direct the work of skilled crafts workers and semi-skilled workers; determine and coordinate staffing, material and equipment needs for multiple jobs and projects; perform basic design work; read blueprints and work from plans and specifications; prepare rough sketches; read and interpret complex operating manuals; analyze and respond appropriately to emergency situations; ensure accuracy and maintenance of assigned record-keeping systems; prepare more complex reports; read and write at a level appropriate to the position; and perform arithmetic calculations as required by the position.

Experience:

In addition to the experience required of the Lead Building Service Engineer, the abilities of the Supervising Building Service Engineer normally would be acquired through two or more years of experience working as a journey-level crafts worker in one or more applicable mechanical or related trades, including one to two years in a lead/supervisory capacity.

Equipment Mechanic Series

Draft Update with Supervising Automotive/Equipment Mechanic

<u>Classification Title</u>	<u>Class Codes</u>	<u>Date Established</u>	<u>Date Revised</u>
Mechanics Helper	6837	1931	09-03-03
Automotive/Equipment Mechanic	6270	07-01-00	09-03-03
Lead Automotive/Equipment Mechanic	6852	04-01-78	09-03-03
<i>Supervising Automotive/Equipment Mechanic</i>	<i>New</i>	XX-XX-XX	

OVERVIEW:

Classifications in this series are distinguished by their focus on the preventive maintenance, repair and modification of automotive, maintenance, construction and/or other power-driven equipment.

Four progressive classifications are defined within the series. All incumbents clean and maintain materials, tools and equipment used in the performance of duties; perform all work in accordance with established safety procedures; maintain a safe and clean work environment; maintain records and retrieve data related to work performed using manual and/or computerized record-keeping systems; prepare standard reports; and consult and work with other trades workers. Work may involve exposure to hazardous materials. Incumbents are required to possess a California Driver's License valid for the operation of any vehicle or equipment they are required to maintain and operate.

Examples of typical activities for each classification are not meant to be all inclusive or restrictive; incumbents may perform related work activities.

MECHANICS HELPER

Under supervision, the Mechanics Helper is involved in the servicing, maintaining and repairing of automotive, maintenance and/or construction equipment. This classification is distinguished from the Automotive/Equipment Mechanic by the fact that the work performed independently does not require journey-level mechanic skills. Incumbents may assist in overhauling, repairing or adjusting engines, transmissions, ignition, electrical, fuel and cooling systems, and related component systems. Incumbents may also operate automotive and other equipment and assist in directing less skilled workers.

TYPICAL QUALIFICATIONS:

Knowledge:

Work requires general knowledge of the names of automotive parts, machine parts and automotive and heavy equipment; working knowledge of materials, machines and hand tools, and equipment and procedures used in the maintenance and repair of these parts and equipment; and working knowledge of applicable safety practices and regulations.

Abilities:

Must be able to identify automotive, equipment and machine parts; perform the less skilled tasks involved in repairing and servicing automotive and heavy mechanical equipment; read and write at a level appropriate to the position; and perform simple arithmetic calculations as required by the position.

Experience:

These abilities normally would be acquired through a combination of experience and vocational/trade schooling such as completion of a recognized vocational course in automotive or heavy construction equipment technology and/or equivalent experience in the duties outlined above.

AUTOMOTIVE/EQUIPMENT MECHANIC

Under general supervision, the Automotive/Equipment Mechanic performs skilled work in the overhaul, repair, maintenance, service and adjustment of campus automotive, heavy maintenance, heavy construction and farm equipment. The work of the Automotive/Equipment Mechanic is distinguished from the Mechanics Helper by the independent performance of skilled, journey-level automotive and/or heavy equipment mechanical work.

Incumbents typically inspect automotive, maintenance, construction and/or farm equipment to determine necessary corrective action; 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, engine 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 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; prepare standard reports; provide instruction and lead direction to semi-skilled and unskilled assistants; and may serve as the campus vehicle inspector.

TYPICAL QUALIFICATIONS:

Knowledge:

Work requires thorough knowledge of automotive and/or equipment mechanics including electrical systems and brake and engine overhaul; thorough knowledge of methods, tools, materials, equipment and computerized systems used in the maintenance, adjustment and repair of engines, equipment and accessories; working knowledge of wiring and electrical theory and engine principles; working knowledge of hydraulic systems; and working knowledge of applicable state and federal regulations pertaining to automotive and other power-driven equipment, including applicable smog regulations.

Abilities:

Must be able to make skilled repairs to applicable automotive, maintenance and/or construction equipment; diagnose mechanical and electrical malfunctions; perform a variety of skilled repairs on equipment; work from blueprints, drawings and sketches to fabricate parts; perform required welding; inspect vehicles and equipment and determine extent of repairs; estimate cost, time and materials of mechanical work and repairs; maintain records and retrieve data related to work performed using manual and/or computerized record-keeping systems; prepare standard reports; provide instruction to unskilled and semi-skilled assistants; analyze and respond appropriately to emergency situations; read and write at a level appropriate to the position; and perform arithmetic calculations as required by the position.

Experience:

These abilities normally would be acquired through any combination of progressively responsible training and experience as an automotive and/or equipment mechanic which demonstrates achievement of journey-level skills equivalent to that acquired through completion of a standard apprenticeship program.

LEAD AUTOMOTIVE/EQUIPMENT MECHANIC

Under general supervision, the Lead Automotive/Equipment Mechanic works with and provides lead work direction to a small group or crew of skilled automotive or equipment mechanics and semi-skilled assistants. The work of the Lead Automotive/Equipment Mechanic is distinguished from the Automotive/Equipment Mechanic by the performance of lead duties and/or a wider variety of highly skilled work in the maintenance, repair, design and modification of automotive, maintenance, agricultural, landscape and construction equipment, machinery and tools.

Incumbents typically lay out, direct, and assist with the full range of skilled mechanic work outlined in the series overview; supervise, instruct and work with a small group or crew of Automotive/Equipment Mechanics and assistants; establish priorities for automotive and equipment repair and maintenance; instruct mechanics and equipment operators in the proper operation and servicing of their equipment; recommend specialized jobs to be contracted out; ensure preventive maintenance program is accomplished and that manufacturer obligations are

met; serve as the liaison with customers and vendors; instruct others in safety rules and ensure that they are observed; select and prepare lists of materials for jobs; maintain inventory of parts and materials; recommend purchase and storage of parts and equipment; inspect completed work for conformance with specifications, requirements and compliance with applicable safety codes and regulations; inspect related work performed by contractors; draw diagrams and sketches of work to be performed; maintain manual and/or computerized work records and systems; prepare manual and/or computerized reports; and may supervise the maintenance of an automotive/equipment maintenance shop. On specific projects, may coordinate the work of other skilled crafts workers.

TYPICAL QUALIFICATIONS:

Knowledge:

In addition to the knowledge required of the Automotive/Equipment Mechanic, the Lead Automotive/Equipment Mechanic must possess a working knowledge of effective supervisory practices and techniques.

Abilities:

In addition to the abilities required of the Automotive/Equipment Mechanic, the Lead Automotive/Equipment Mechanic must be able to lead, instruct and coordinate the work of a small group or crew of skilled and semi-skilled workers; perform skilled to highly skilled repair, maintenance and modification work; accurately estimate costs, supplies and materials needed; maintain records; and prepare more complex reports.

Experience:

In addition to the experience required of an Automotive/Equipment Mechanic, the abilities of the Lead Automotive/Equipment Mechanic normally would be acquired through one to two years of experience as a journey-level automotive or equipment mechanic that included work coordination responsibilities.

SUPERVISING AUTOMOTIVE/EQUIPMENT MECHANIC – *New Classification*

Under general supervision, the Supervising Automotive/Equipment Mechanic is responsible for supervising working with one or more groups or crews of skilled automotive and/or equipment mechanics and their semi-skilled and unskilled assistants engaged in the maintenance, repair, design and modification of automotive, maintenance, landscape, agricultural and construction equipment, machinery and tools. The Supervising Automotive/Equipment Mechanic is distinguished from the Lead Automotive/Equipment Mechanic by the scope of supervisory, project planning and coordination duties, as well as the greater amount of time devoted to these activities.

Incumbents typically oversee an automotive and/or equipment mechanic shop, including the fleet maintenance facility; assess, evaluate and provide advice and expertise on the need to purchase or replace vehicles and equipment; plan, prioritize and coordinate the work of multiple crews or projects; assign work to qualified crew members; provide work and safety instructions; oversee customer service functions within the shop; recommend training programs for staff and provide on-the-job training and instructions to less skilled workers in trade and safety practices; monitor work progress; inspect completed work to ensure compliance with specifications, special instructions and sound trade practices; provide input on performance evaluations; develop and maintain manual and/or computerized work record-keeping and/or maintenance management systems which track vehicle/equipment use, condition, service history and inspections; and prepare reports.

TYPICAL QUALIFICATIONS:

Knowledge:

In addition to the knowledge required of the Lead Automotive/Equipment Mechanic, the Supervising Automotive/Equipment Mechanic must possess a thorough knowledge of effective supervisory practices and techniques; working knowledge of job design and work sequencing applicable to an automotive or mechanical equipment shop; working knowledge of alternative fuel vehicle technology; thorough knowledge of applicable state and federal safety codes pertaining to mechanic shops; working knowledge campus policies and programs applying to fleet oversight; and working knowledge applicable state and federal fleet laws and regulations.

Abilities:

In addition to the abilities required of the Lead Automotive/Equipment Mechanic, the Supervising Automotive/Equipment Mechanic must be able to maintain currency in equipment innovations and advances and provide technical leadership; plan and direct the work of skilled workers and their semi-skilled and unskilled assistants; determine and coordinate staffing, material and equipment needs for multiple jobs and projects; and ensure accuracy and maintenance of assigned record-keeping systems.

Experience:

In addition to the experience required of a Lead Automotive/Equipment Mechanic, the abilities of the Supervising Automotive/Equipment Mechanic normally would be acquired through two or more years of experience as a journey-level automotive or equipment mechanic, including one to two years in a lead or supervisory capacity.

Locksmith Series

Draft Update with Supervising Locksmith

<u>Classification Title</u>	<u>Class Codes</u>	<u>Date Established</u>	<u>Date Revised</u>
Locksmith	6642	03-01-72	09-03-03
Lead Locksmith	6643	03-01-72	09-03-03
<i>Supervising Locksmith</i>	<i>New</i>	XX-XX-XX	09-03-03

OVERVIEW:

Locksmiths as defined in this series are journey-level skilled trades workers responsible for the full range of skilled locksmith work including the installation, repair, remodel and maintenance of manual and automated locks, locking systems and security devices; low voltage computerized access control systems; and door openers, closers and hardware. Incumbents install, maintain, repair and adjust all types of locks and their components for campus buildings, rooms, furniture and vehicles; cut and issue keys; may program and issue key cards; implement, troubleshoot, repair and program computerized access control systems; 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; purchase, store and maintain lock systems, hardware and materials; inspect completed work for conformance with specifications, requirements and compliance with applicable building and safety codes and regulations; inspect related work performed by contractors; estimate cost, time and materials for locksmith projects; participate in the maintenance and operations of a locksmith shop; clean, maintain and service tools and equipment used in the performance of duties; perform all work in accordance with established safety procedures; maintain a safe and clean work environment; maintain records and retrieve data related to work performed using manual and/or computerized record-keeping systems; prepare standard reports; and consult and work with other trades workers. Incumbents typically hold a license or applicable certification. Work may involve exposure to hazardous materials.

Three progressive classifications are defined within this series, each performing the full range of skilled locksmith work; however, the second and third levels have lead and supervisory responsibilities respectively. Examples of typical activities are not meant to be all inclusive or restrictive; incumbents may perform related work activities.

LOCKSMITH

Under general supervision, incumbents in this classification perform the full range of skilled journey-level locksmith work as outlined in the series overview. Incumbents in this classification assist in the development of master key systems and the design of special security devices and are independently responsible for the implementation and maintenance of these programs. Incumbents in this classification may also provide instruction and lead direction to unskilled and semi-skilled assistants.

TYPICAL QUALIFICATIONS:

Knowledge:

Work requires thorough knowledge of the methods, materials, tools and equipment used in the locksmith trade, including complex access and control systems; a thorough knowledge of all types of locks, fastening devices and related hardware; working knowledge of electrical locking and security systems and devices; and a thorough knowledge of applicable state codes pertaining to the locksmith trade including those related to fire exits, door hardware and fastening devices.

Abilities:

Must be able to perform journey-level locksmith work; use features of applicable access control systems; read, interpret and work from shop blueprints, plans, drawings and specifications; maintain computerized inventory and master locking systems records; prepare standard reports; provide instruction to unskilled and semi-skilled assistants; read and write at a level appropriate to the position; and perform arithmetic calculations as required by

the position. Incumbents may be required to possess a California Driver's License valid for the operation of any vehicle or equipment they are required to maintain and operate.

Experience:

These abilities normally would be acquired through any combination of progressively responsible training and experience which demonstrates achievement of journey-level skills equivalent to that acquired through completion of a locksmith's apprenticeship program.

Special Requirements:

Incumbents typically hold a license or certification as a locksmith and are required to successfully complete a background check.

LEAD LOCKSMITH

In addition to performing skilled locksmith work, the Lead Locksmith is responsible for providing lead work direction to a small group or crew of skilled Locksmiths, other skilled crafts workers and their assistants as well as the planning, design and oversight of the implementation and maintenance of a campus-wide master lock and key program. Incumbents typically provide lead work direction to and work with a small group or crew performing locksmith or related work; plan, schedule and assign work; determine material, equipment and staffing needs for projects; monitor work in progress; inspect work to ensure it meets quality requirements and specifications; provide input on performance evaluations; may oversee a locksmith shop; serve as the campus expert on all matters pertaining to locks, locking systems and fastening devices; and consult with campus administrators on the types of systems and devices most appropriate for new facilities and major replacements, as well as on the development of a key and access control policy.

TYPICAL QUALIFICATIONS:

Knowledge:

In addition to the knowledge required of the Locksmith, the Lead Locksmith must possess a comprehensive knowledge of master key systems and a working knowledge of effective supervisory practices and techniques.

Abilities:

In addition to the abilities required of the Locksmith, the Lead Locksmith must be able to develop and implement a master key system; lead, instruct and coordinate the work of a small group or crew of skilled and semi-skilled assistants; determine staffing, material and equipment needs; estimate costs for new locking systems or for replacement systems; analyze and respond appropriately to emergency situations; and maintain more complex manual and/or computerized record-keeping systems.

Experience:

In addition to the experience required of the Locksmith, the abilities of a Lead Locksmith normally would be acquired through one to two years of experience as a journey-level locksmith that included lead work coordination responsibilities and training in master key systems.

SUPERVISING LOCKSMITH – *New Classification*

Under general supervision, the Supervising Locksmith is primarily responsible for supervising and working with one or more crews of skilled journey-level Locksmiths and their semi-skilled and unskilled assistants in the performance of the full range of locksmith work. The Supervising Locksmith is distinguished from the Lead Locksmith by the scope of supervisory and project planning and coordination duties and the greater amount of time devoted to these activities.

Incumbents typically oversee a locksmith shop; prioritize and coordinate the work of multiple crews and/or projects; assign work to individual crew members, considering the special skills required and possessed; provide work and safety instructions; provide on-the-job training and instructions to less skilled workers in trade and safety practices; provide input to performance evaluations; monitor work in progress; inspect completed work to ensure it

is in compliance with specifications, special instructions and sound trade practices; and maintain and develop manual or computerized work record and maintenance management systems, as well as prepare reports.

Supervising Locksmiths also are more involved in new construction, remodels and building upgrades which involves: collaborating with engineering and design departments and providing advice and technical expertise on new locking and door security systems; interpreting complicated plans and drawings; coordinating work of schedules and work assignments to meet the overall construction/modification objectives; accurate and detailed planning of work sequencing; ensuring the availability of required materials and equipment; analyzing operations; preparing cost and time estimates; and providing a high level of inspection to ensure appropriate building and safety codes are met.

TYPICAL QUALIFICATIONS:

Knowledge:

In addition to the knowledge required of the Lead Locksmith, the Supervising Locksmith must possess a comprehensive knowledge of master key systems; a thorough knowledge of electronic locking and security systems; a thorough knowledge of effective supervisory practices and techniques; and a working knowledge of job design and work sequencing related to construction, remodel, and upgrade projects.

Abilities:

In addition to the abilities required of the Lead Locksmith, the Supervising Locksmith must be able to plan and direct the work of skilled crafts workers and their semi-skilled assistants; determine and coordinate staffing, materials and equipment needs for multiple jobs and projects; ensure accuracy and maintenance of assigned record-keeping systems; and perform design work related to new and upgraded locking and security systems.

Experience:

In addition to the experience required of the Lead Locksmith, the abilities of a Supervising Locksmith normally would be acquired through two or more years of experience as a journey-level locksmith that included one to years in a lead or supervisory capacity and thorough training in master key systems and electronic locking and security systems.