



Mechanical Engineer

Exam Code: 7PB03

Department: State of California

Exam Type: Servicewide, Open

Final Filing Date: Continuous

CLASSIFICATION DETAILS

Mechanical Engineer – \$5,995.00 - \$11,230.00 per month

[View the Mechanical Engineer classification specification](#)

APPLICATION INSTRUCTIONS

Final Filing Date: Continuous

Who Should Apply:

Applicants who meet the minimum qualifications as stated on this bulletin may apply for and take this examination.

Once you have taken this examination, you may not retake it for **six (6)** months.

How To Apply:

The link to connect to the Training and Experience Evaluation is located farther down on this bulletin in the “Taking the Exam” section.

Special Testing Arrangements:

If you require special testing arrangements due to a verified disability or medical condition, please contact:

California Department of Human Resources
CalCareer Service Center

1810 16th Street
Sacramento, CA 95814

Phone: (866) 844-8671

Email: CalCareer@CalHR.CA.GOV

California Relay Service: 7-1-1 (TTY and voice)

TTY is a Telecommunications Device for the Deaf, and is reachable only from phones equipped with a TTY Device

MINIMUM QUALIFICATIONS

All applicants must meet the education and/or experience requirements as stated on this exam bulletin to be accepted into the examination. Part-time or full-time jobs, regardless of whether paid or volunteer positions, and inside or outside California state service will count toward experience.

Mechanical Engineer

Education: Graduation from a curriculum in mechanical engineering accredited by the Engineers' Council for Professional Development, or equivalent qualifications. (Registration as a Senior in such a curriculum will admit applicants to the examination, but they must produce evidence of graduation before they will be considered eligible for appointment.)

Or

Possession of equivalent qualifications may be demonstrated by qualifying in a written examination covering basic mechanical engineering and by graduation from an engineering curriculum which includes the engineering courses normally included in a standard four-year course in mechanical, chemical, or industrial engineering. (Registration as a Senior in such a curriculum will admit applicants to the qualifying written examination, but they must produce evidence of graduation before they will be considered to meet the minimum qualifications.)

POSITION DESCRIPTION

Mechanical Engineer

Mechanical Engineers perform mechanical engineering work in the design, plans, and specifications for mechanical systems in dams, electrical power and pumping plants, substations, radio stations, highways, tunnels, bridges, and institutional and office buildings; prepare designs, detailed drawings, and specifications for mechanical systems such as heating, ventilating, air-conditioning, refrigeration, plumbing, water supply and water purification systems, sanitary and drainage systems, and steam

generating plants; check working drawings; prepare material lists and purchase requisitions; make detailed field inspections of material, equipment, and construction operations; make or supervise the installation, repair, or recommend improvements of mechanical equipment or systems; lead the work and review the reports of lower-level engineers; and prepare correspondence and reports.

EXAMINATION SCOPE

This examination consists of the following components:

Training and Experience Evaluation – Weighted 100% of the final score.

The examination will consist solely of a **Training and Experience Evaluation**. To obtain a position on the eligible list, a minimum score of 70% must be received. Applicants will receive their score upon completion of the Training and Experience Evaluation process.

In addition to evaluating applicants' relative knowledge, skills, and ability, as demonstrated by quality and breadth of education and/or experience, emphasis in each exam component will be measuring competitively, relative job demands, each applicant's:

Knowledge of:

1. Engineering fundamentals and mathematics.
2. Designing and preparing plans, layout, specification writing, and estimates for heating, ventilating, instrumentation, pumping, lubrication, piping, air conditioning, refrigeration, plumbing, sanitary, pressure tank, water, water purification and drainage systems, and steam generating plants in common use, including principles of fluid flow, heat transfer, mechanical methods of power and material transmission, thermodynamics, and hydraulics pertaining to the design of water systems, pressure tanks, pumps, sewer systems, and other similar installations.
3. Various codes, safety orders, and regulations governing the design and installation of mechanical equipment, including electric motors.
4. Procedures of building construction as it relates to the installation of mechanical equipment.
5. Principles of leading the work of others.

Ability to:

1. Prepare plans, specifications, and estimates for heating, ventilating, air-conditioning, refrigeration, plumbing, sanitary, water, water purification and drainage systems, and steam generating plants in common use.
2. Do mechanical design work; make correct computations.
3. Make neat and accurate lettering, drawings, and technical sketches.

4. Specify proper equipment materials.
5. Accurately interpret drawings and specifications.
6. Determine required sizes for radiators, traps, pipes, and other units.
7. Direct or inspect field construction operations or make field inspections and tests of mechanical installations.
8. Lead the work of others.
9. Check drawings and specifications.
10. Establish and maintain cooperative relations with employees and with those contacted in the work and whose work is being inspected.
11. Analyze situations accurately, and adopt and take effective action.
12. Prepare correspondence and make effective oral and written reports.

ELIGIBLE LIST INFORMATION

A servicewide, open eligible list for the **Mechanical Engineer** classification will be established for the State of California (all State of California departments, statewide).

The names of successful competitors will be merged onto the eligible list in order of final score regardless of exam date. Eligibility expires **twelve (12) months** after it is established. Applicants must then retake the examination to reestablish eligibility. Veterans' Preference will be granted for this examination. In accordance with Government Codes 18973.1 and 18973.5, whenever any veteran, or widow or widower of a veteran achieves a passing score on an open examination, he or she shall be ranked in the top rank of the resulting eligible list.

Veterans status is verified by the California Department of Human Resources (CalHR). Information on this program and [the Veterans' Preference Application](#) (Std. form 1093) is available online. Additional information on veteran benefits is available at the Department of Veterans Affairs.

EXAMINATION INFORMATION

[Preview of the Mechanical Engineer Training and Experience Evaluation](#)

PREPARING FOR THE EXAMINATION

Here is a list of suggested resources to have available prior to taking the exam.

Employment History: Employment dates, job titles, organization names and addresses, names of supervisors or persons who can verify your job responsibilities, and phone numbers of persons listed above.

Education: School names and addresses, degrees earned, dates attended, courses taken (verifiable on a transcript), persons or office who can verify education, and phone numbers of persons or offices listed above.

Training: Class titles, certifications received, names of persons who can verify your training, and phone numbers of persons listed above.

TAKING THE EXAMINATION

[Take the Mechanical Engineer examination](#)

TESTING DEPARTMENTS

State of California (all State of California departments)

CONTACT INFORMATION

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EQUAL OPPORTUNITY EMPLOYER

The State of California is an equal opportunity employer to all, regardless of age, ancestry, color, disability (mental and physical), exercising the right of family care and medical leave, gender, gender expression, gender identity, genetic information, marital status, medical condition, military or veteran status, national origin, political affiliation, race, religious creed, sex (includes pregnancy, childbirth, breastfeeding, and related medical conditions), and sexual orientation.

DRUG-FREE STATEMENT

It is an objective of the State of California to achieve a drug-free State work place. Any applicant for State employment will be expected to behave in accordance with this objective, because the use of illegal drugs is inconsistent with the law of the State, the rules governing civil service, and the special trust placed in public servants.

GENERAL INFORMATION

Examination and/or Employment Application (STD 678) forms are available at the California Department of Human Resources, local offices of the Employment Development Department, and through your [CalCareer Account](#).

If you meet the requirements stated on this examination bulletin, you may take this examination, which is competitive. Possession of the entrance requirements does not assure a place on the eligible list. Your performance in the examination described in this bulletin will be rated against a predetermined job-related rating, and all applicants who pass will be ranked according to their score.

The California Department of Human Resources (CalHR) reserves the right to revise the examination plan to better meet the needs of the service, if the circumstances under which this examination was planned change. Such revision will be in accordance with civil service laws and rules and all applicants will be notified.

General Qualifications: Applicants must possess essential personal qualifications including integrity, initiative, dependability, good judgement, the ability to work cooperatively with others, and a state of health consistent with the ability to perform the assigned duties of the class. A medical examination may be required. In open examinations, investigation may be made of employment records and personal history and fingerprinting may be required.

Eligible Lists: Eligible lists established by competitive examination, regardless of date, must be used in the following order: 1) sub-divisional promotional, 2) departmental promotional, 3) multi-departmental promotional, 4) servicewide promotional, 5) departmental open, 6) open. When there are two lists of the same kind, the older must be used first. Eligible lists will expire in one to four years unless otherwise stated on the bulletin.

High School Equivalence: Equivalence to completion of the 12th grade may be demonstrated in any one of the following ways: 1) passing the General Education Development (GED) Test; 2) completion of 12 semester units of college-level work; 3) certification from the State Department of Education, a local school board, or high school authorities that the competitor is considered to have education equivalent to graduation from high school; or 4) for clerical and accounting classes, substitution of business college work in place of high school on a year-for-year basis.