INTRODUCTION

Caltrans is pleased to announce the posting of the Electrical Engineering Technician III examination. Employment from this examination may be offered in all Caltrans Districts and Sacramento County.

EQUAL EMPLOYMENT OPPORTUNITY

Caltrans is an equal opportunity employer to all, regardless of age, ancestry, color, disability (mental and physical), exercising the right to 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 work place. All applicants will be expected to behave in accordance with this objective, as 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.

WHO SHOULD APPLY?

Candidates who meet the minimum qualifications as stated on this announcement may apply for this examination.
FILING INSTRUCTIONS

Applications (STD 678) must be received or postmarked no later than the final filing date. Dates printed on Mobile Bar Codes, such as the Quick Response (QR) Codes available at the USPS, are not considered Postmark dates for the purpose of determining timely filing of an application. FAXED OR E-MAILED APPLICATIONS WILL NOT BE ACCEPTED. THE EXAMINATION TITLE MUST BE INDICATED ON THE APPLICATION.

*FILE BY MAIL:
Caltrans
Examination Services (MS 86)
P.O. Box 168036
Sacramento, CA 95816-8036

*FILE IN PERSON:
Caltrans
Examination Services (MS 86)
1727 30th Street, 1st Floor
Sacramento, CA 95816

*Candidates are responsible for obtaining proof of mailing or submission of their application to Examination Services.

SPECIAL TESTING ARRANGEMENTS

If you have a disability and wish to participate in one of our testing services, programs, or activities and require a specific accommodation, please mark the appropriate box for Question #2 on the Examination Application form STD678. You will be contacted to make specific arrangements.

POSITION STATEMENT

This is the advanced journey level in the series. Under the general direction of an engineer, incumbents independently conduct field investigations; plot preliminary site data; prepare and check complete design and contract drawings and check shop drawings and construction submittals for electrical and electronic projects; design complex electrical and electronic systems to previously established standards and good design practice, requiring engineering assistance with only the most novel, unstandardized features; secure information from catalogs; prepare the most difficult and complex plans, specifications and quantity and cost estimates on a wide variety of electrical and electronic work, such as power and light distribution systems, building, transit station, bridge and tunnel electrical systems, highway lighting and traffic signal systems, electrical systems for motors, fans, pumps and turbines and communication, audio-visual and instrumentation systems; prepare complex electrical and electronic system layouts and detail drawings; use state-of-the-art technology, i.e., CADD, personal computers, stand-alone interactive systems and automatic lettering devices; coordinate design with other groups and incorporate electrical and electronic details into other kinds of plans and occasionally will work on drawings and designs other than electrical and electronic; inspect complex manufacturing and installations of electrical and electronic materials and equipment, especially where conformance to special design or complex requirements are involved; suggest design standards and prepare any special electrical and electronic
drafting standards; make complex engineering calculations; train drafting persons and technicians; act in a lead person capacity; report the status of complex and unusual electrical or electronic engineering work and completed results.

ELIGIBLE LIST INFORMATION

An Open, Non-promotional statewide eligible list will be established for Caltrans in all Caltrans Districts and Sacramento County. The list will be abolished 24 months after it is established unless the needs of the service and conditions of the list warrant a change in this period.

REQUIREMENTS FOR ADMITTANCE TO THE EXAMINATION

All applicants must meet the education and/or experience requirements for this examination by the final filing date. Your signature on the application indicates that you read, understand, and possess the minimum qualifications required, and that the information provided is true and complete to the best of your knowledge.

All applications must include: “to” and “from” dates (month/day/year), time base, civil service or private sector titles, the duties performed, and an original signature. Applications received without this information will be rejected.

NOTE: Qualifying experience may be combined on a proportionate basis if the requirements stated below include more than one pattern and are distinguished as “Either I,” “or II,” “or III,” etc. For example, candidates who possess qualifying experience amounting to 50% of the required time of Pattern I, and additional experience amounting to 50% of the required time of Pattern II, may be admitted to an examination as meeting 100% of the overall experience requirements.

Click on the link below to review the California State Personnel Board class specification which contain the requirements for admittance to the exam:

http://calhr.ca.gov/state-hr-professionals/pages/3629.aspx

MINIMUM QUALIFICATIONS

EITHER I

Experience: Two years of experience performing the duties of an Electrical Engineering Technician II in the California state service.

OR II

Experience: Broad and extensive (more than five years) drafting and design experience in an engineering office (two of which may be specification writing only), three years of which must have been electrical or electronic drafting and design.
experience equivalent in responsibility to an Electrical Engineering Technician II in the California state service. and

**Education:** Equivalent to completion of a two-year terminal curriculum in electrical or electronics technology at a community college, or completion of the sophomore year (at least 60 semester units or equivalent quarter units) of a professional electrical or electronic engineering college or university curriculum. [Candidates may substitute electrical or electronic drafting experience for the education on the basis that one year of experience is equivalent to one year (at least 30 semester units or equivalent quarter units) of education.]

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**EXAMINATION INFORMATION**

This examination will consist of a Supplemental Application Questionnaire weighted 100%. In order to obtain a position on the eligible list, a minimum score of 70% must be attained.

It is anticipated that the Supplemental Application Questionnaire will be mailed in April 2017.

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**KNOWLEDGE AND ABILITIES**

**Knowledge of:**

1. Design of electrical, electronic, and associated systems
2. Electrical and electronic material, components, installation, and construction methods
3. Drafting symbols and control and instrumentation devices
4. State-of-the-art technology, i.e., Computer-Aided Drafting/Design (CADD), personal computers, stand-alone interactive systems, and various technical aids
5. Power and lighting distribution systems
6. Power and distribution transformers
7. Highway lighting and traffic signal systems
8. Electrical systems for motors and their controls
9. Communication systems
10. Electrical control schematic and wiring diagrams
11. Drafting presentation and projection methods
12. Electrical and electronic theory and practice
13. Engineering mathematics
14. Caltrans' safety and health policies and procedures
15. Basic safety practices contained in the California Code of Regulations, Title 8 Industrial Relations, Safety Orders, and the General Industry Safety Orders regarding personal protective equipment
16. Lead person responsibilities
17. Training methods
18. Methods of directing and scheduling the work of others
Ability to:

1. Follow directions
2. Prepare design and contract drawings for electrical and electronic work from existing drawings and from design notes and sketches
3. Interpret all drawings, plans, and specifications encountered in the work
4. Incorporate electrical, electronic and associated drawings, plans, and specifications into general design and contract documents
5. Prepare as-built plans
6. Use state-of-the-art technology, i.e., Computer-Aided Drafting/Design (CADD), personal computers, and stand-alone interactive systems
7. Prepare neat and accurate drafting and freehand drawings
8. Report the status of work and completed results
9. Prepare basic or assist in the preparation of complex plans, specifications, and quantity and cost estimates of electrical and electronic work
10. Do electrical and electronic design and layout work of average difficulty
11. Electrical and electronic detail drafting of the most complex nature
12. Work independently
13. Prepare engineering calculations
14. Check and plot from field notes
15. Prepare and check complex plans, quantity and cost estimates, and specifications of electrical and electronic work
16. Do complex layout work
17. Specify and estimate electrical and electronic materials and components
18. Do manufacturing and field inspection of equipment and electrical and electronic systems
19. Correlate plans, designs, drawings, and data with physical conditions
20. Check as-built plans
21. Act in a lead capacity
22. Train electrical engineering technicians

VETERANS’ PREFERENCE

Veterans’ Preference will be applied to those competitors who are successful in this examination and who qualify for, and have requested, Veterans’ Preference through the California Department of Human Resources. Veterans who have achieved permanent civil service status are not eligible to receive Veterans’ Preference.

CAREER CREDITS

Career Credits will be granted in this examination.

CONTACT INFORMATION

For more information regarding this examination, please contact the examination analyst at (916) 227-7731.
GENERAL INFORMATION

For an examination without a written feature, it is the candidate's responsibility to contact the testing department three weeks after the final filing date if he/she has not received his/her notice.

Applications are available at https://jobs.ca.gov/pdf/std678.pdf, California Department of Human Resources (CalHR) offices, and local offices of the Employment Development Department.

If you meet the requirements stated on this bulletin, you may take this examination, which is competitive. Possession of the entrance requirement does not assure a place on the eligible list. Your performance in the examination will be compared with the performance of the others who take this test, and all candidates who pass will be ranked according to their scores.

Caltrans 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 competitors will be notified.

General Qualifications: Candidates must possess essential personal qualifications including integrity, initiative, dependability, good judgment, and 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) service-wide 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.

Veterans’ Preference: Pursuant to Assembly Bill 372, Veterans’ Preference will be awarded as follows, starting January 1, 2014:

1. Any veteran, widow or widower of a veteran, or spouse of a 100 percent disabled veteran, who achieves a passing score in an open examination, shall be ranked in the top rank of the resulting eligibility list.

2. Any veteran who has been dishonorably discharged or released is not eligible for Veterans’ Preference.

3. Veterans’ Preference is not granted once a person achieves permanent civil service status (Permanent State civil service status means the status of an employee who is lawfully retained in his/her position after completion of the
applicable probationary period. This includes permanent intermittent, part-time, and full-time appointments. In addition, individuals who at any time achieved permanent State civil service status and subsequently resigned or were dismissed from State civil service are not eligible to receive Veterans’ Preference.

Veteran status is verified by the California Department of Human Resources (CalHR). Directions to apply for Veterans’ Preference are on the Veterans’ Preference Application (CalHR Form 1093) which is available at https://jobs.ca.gov/Public/Jobs/Veterans.aspx, CalHR, and the Department of Veterans Affairs.

**Career Credits:** In Open, Non-promotional examinations, Career Credits are granted to: 1) State employees with permanent civil service status, 2) full-time employees of the state who are exempt from State civil service pursuant to the provisions of Section 4 of Article VII of the California Constitution, and who meet all qualification requirement specified by the Board and have 12 consecutive months of service in an exempt position, and 3) individuals who have served one full year in, or are graduates of, the California Conservation Corps (eligibility shall expire 24 months after graduation from the California Conservation Corps). Three points are added to the final test score of those candidates who meet the above criteria, and who are successful in the examination. Such examinations cannot be for managerial positions described in Government Code Section 3513. Competitors not currently employed in State civil service who have mandatory reinstatement rights may also be eligible for career credits, but they must explain their service status in the appropriate section of the application Form 100-678. (Section 4 of Article VII of the California Constitution is posted at the State Personnel Board, 801 Capitol Mall and Sacramento).

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

For individuals with disabilities, this document may be available upon request in alternate formats. To obtain an alternate format, please call or write to Caltrans, Office of Examinations and Recruitment Services, P.O. Box 168036, MS 86, Sacramento, CA 95816. Voice (916) 227-7858 California Relay Service: Voice 1-800-735-2922 or TTY 1-800-734-2929.