Classification Title Student Assistant - Engineering and Architectural Sciences	**Board/Bureau/Division** Bureau of Automotive Repair
Working Title Student Assistant	**Office/Unit/Section/Geographic Location** Engineering and Research Branch / Rancho Cordova
Position Number 646-121-4871-907	**Effective Date**

General Statement: Under the close supervision of the Senior Air Quality Engineer (AQE), the Student Assistant supports engineering and research activities in a learning capacity. The role involves assisting with equipment testing and certification, laboratory research, quality control, and general engineering tasks, while gaining practical experience with Bureau of Automotive Repair (BAR) procedures, technical analysis, and maintenance of inspection equipment. Duties include, but are not limited to:

A. SPECIFIC ASSIGNMENTS [Essential (E) / Marginal (M) Functions]

45% (E) Assist Engineers with Equipment Testing and Certification

Assist with certification testing of Emission Inspection Systems (EIS), On-Boarding Diagnostic (OBD) Inspection Systems, and other Smog Check inspection and repair equipment; in accordance with BAR specifications and test procedures. Assist AQEs by compiling test results, document equipment behaviors and support verification activities. Assist with collecting raw Smog Check data. Perform basic analysis, identify basic anomalies for review. Assist with building and maintaining data tracking told. Support the development of new fraud indicator algorithms. Support AQEs during Data Acquisition Device (DAD) 2.0 hardware certification and support AQEs when certifying BAR-97 and their components. (30%)

Assist with the design and build of electromechanical certification test fixtures, which include using hand, electronic, and power tools. Assist with BAR lab equipment calibration for the Smog Check Program, test fixture maintenance related to half-car vehicles used during equipment certification. (15%)

45% (E) Assist Engineers with Research, Analysis, Documentation and Quality Control

Assist with research and analytical tasks supporting the study of program improvements. Assist with initial data pulls and filtering. Conduct preliminary Quality Control checks. Assist with Statistical Analyst System (SAS) report formatting. Provide entry level statistical support. Assist with routine laboratory testing, develop quality control measures, collect data, and create reports to support ongoing studies. (30%)

Perform analysis and research using software such as MS Excel, SAS, Structured Query Language (SQL) Developer, and C#. Prepare reports and technical documentation. (15%)

10% (M) Assist with Studies and Emission Research Reporting
Assist Engineering and Research Branch with emissions studies in collaboration with California Air Resources Board (CARB) on joint research, and design, implementation of laboratory testing protocols to evaluate future program needs, using basic Smog Check equipment, SAS and SQL. Assist these projects by completing lab set up and teardown. Analyze data configuration and data collection during emission tests and documentation of test parameters, operating conditions and organizing large sets of experimental results. Analyzing mobile source emissions data and assist with analyzing data for BAR's annual U.S. Environmental Protection Agency, CARB reports and BAR's Biennial Smog Check Performance Report.

B. Supervision Received
The Student Assistant works under the direct supervision of the Senior Air Quality Engineer but may also receive assignment and direction from Air Quality Engineer II (lead).

C. Supervision Exercised
None.

D. Administrative Responsibility
None.

E. Personal Contacts
Incumbents in the Student Assistant position have occasional contact with motorists regarding their vehicle's smog check test results; occasional to frequent contact with smog check station owners and technicians when conducting surveys or providing clarification on smog check test procedures or other smog inspection issues; occasional contact with equipment manufacturers and contractors regarding equipment testing and certification.

F. Actions and Consequences
Failure to perform assigned duties could result in reporting inaccurate information, mishandling and inaccurate calibration of test equipment, improper certification of test equipment and gas blends.

G. Functional Requirements
40% Laboratory and Field Work – The incumbent works in the Engineering laboratory under extreme temperatures (from 35 degrees to 100 degrees) or out in the field in varied weather conditions. The incumbent is required to wear safety equipment and apply safety procedures, stand for long periods of time, occasionally lift over 50 pounds of materials/equipment, set up and/or operate various machinery and equipment, drive a vehicle, and perform housekeeping in the laboratory.

40% Office Work – The incumbent works in an office setting with artificial light and temperature control and uses a personal computer, laptop, fax, copier, and other office equipment.

H. Other Information

The incumbent must be able to perform engineering related tasks, supporting engineering staff. This includes but is not limited to: collecting mobile source emission data; analyzing data and reaching sound conclusions; applying scientific methods and principles; analyzing situations and taking effective action; working cooperatively with others; preparing clear, complete, and technically accurate reports; and communicating effectively. In addition, the incumbent should possess knowledge of industry standards for diagnosis and repair of automobiles; tools, equipment, and methods used in the repair, adjustment, and servicing of automobiles and automotive pollution control systems; maintenance and calibration of test equipment; use and operation of automotive emissions measuring devices, and methods of testing safety-related automotive equipment such as engine cooling systems, fluid systems, and brake systems in conformance with the California Vehicle Code; engineering, physics, chemistry, mathematics, and computer science, as related to air quality; research methods; methods of statistical analysis; methods of measuring automotive emissions; law and regulations applicable to motor vehicle emission control.

In all job functions, employees are responsible for creating an inclusive, safe, and secure work environment that values diverse cultures, perspectives, and experiences, and is free from discrimination. Employees are expected to provide all members of the public equitable services and treatment, collaborate with underserved communities and tribal governments, and work toward improving outcomes for all Californians.

I have read and understand the duties listed above and I can perform these duties with or without reasonable accommodation. (If you believe reasonable accommodation is necessary, discuss your concerns with the hiring supervisor. If unsure of a need for reasonable accommodation, inform the hiring supervisor, who will discuss your concerns with the Health & Safety analyst.)

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Employee Signature Date

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Printed Name

I have discussed the duties of this position with and have provided a copy of this duty statement to the employee named above.

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Supervisor Signature Date

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Printed Name

New: 08/2026