



Chemist II

DEFINITION

Under general supervision, performs a variety of chemical, bacteriological, and physical analyses of water using a variety of laboratory instruments and equipment; and performs related work as required.

DISTINGUISHING CHARACTERISTICS

This is the full journey-level class. Incumbents perform difficult analyses on water and recycled wastewater samples using a wide variety of laboratory instruments with a minimum of supervision. Incumbents perform water quality studies under the direction of the laboratory manager and completion of compliance reports for the State Water Resources Control Board. The work may include directing and training of other personnel on specific assignments.

EXAMPLES OF DUTIES

- Performs bacteriological, microbiological, chemical, and physical examination of water and recycled wastewater;
- sets up, calibrates, and operates a variety of instrumentation including flame atomic absorption spectrophotometer, , gas chromatograph, gas chromatograph mass spectrometer, total organic carbon analyzer, ion chromatograph, specific ion analyzer and inductively coupled plasma spectrophotometer mass spectrometer;
- interprets and evaluates test results; recognizes and investigates problems, and recommends solutions;
- maintains quality control checks in conjunction with analytical work;
- recognizes potential or actual problems which may occur in analytical procedures, takes proper corrective action;
- assists in conducting water quality research and special projects;
- makes mathematical calculations; maintains records of work performed;
- prepares reports and correspondence as required;
- enters and reviews data in a laboratory information management system (LIMS) and prepares spreadsheet analysis;
- may monitor and review the work of other personnel on assigned projects;
- applies and follows safety rules and regulations to work assignments;
- interprets water quality data;
- prepares standard chemical solutions, and bacteriological medias;
- uses computer software for purchasing equipment and chemicals and monitors budget as necessary;
- may collect water samples at lake sources, in the distribution system, at a consumer's residence, or on construction sites on an as needed basis;

EXAMPLES OF DUTIES (Continued)

- receives consumer water quality complaints and inquiries; and
- provides information regarding water quality and related regulations.

QUALIFICATIONS FOR EMPLOYMENT

Knowledge of:

- Principles, methods, calculations, and materials used in the chemical and microbiological testing of water;
- operation of complex laboratory equipment such as a spectrophotometer, ion chromatograph, total organic carbon analyzer, nephelometer, specific ion analyzer, analytical balance, flame atomic absorption spectrophotometer, gas chromatograph, gas chromatograph mass spectrometer and an inductively coupled plasma spectrophotometer mass spectrometer;
- quality control of analytical procedures;
- laboratory practices pertaining to safety, care and maintenance of equipment and materials;
- standard practices for water sampling and treatment techniques;
- proper spelling, grammar, punctuation, and writing practices;
- computer spreadsheet and LIMS software; and
- technical report writing.

Ability to:

- Perform laboratory analyses in a precise and reliable manner;
- use laboratory equipment and materials safely and effectively;
- make accurate observations and decisions;
- understand and comply with District operation, facilities, applicable regulations; State and Federal Health codes and standards;
- learn new methods of analysis;
- use mathematics involved in laboratory work;
- understand and carry out written or oral instructions;
- respond accurately and tactfully to inquiries from the general public;
- deal effectively with those contacted in the course of work;
- use a computer for the entry and retrieval of data; and
- prepare clear and concise records, reports, and correspondence.

Training and Experience:

- Graduation from college with a 4-year degree in chemistry, bacteriology, or closely related field; and two years experience as a professional chemist, one year of which must have included performing water or wastewater analysis, or
- a graduate degree in chemistry or closely related field, and one year of experience as

a professional chemist performing water or wastewater analysis.

OTHER REQUIREMENTS

Per California Government Code, Title 1, Division 4, Chapter 8, Section 3100 “all public employees are hereby declared to be disaster service workers subject to such disaster service activities as may be assigned to them by their superiors or by law.” (Ref: California Government Code, Title 1, Division 4, Chapter 8, Sections 3100- 3109)

LICENSES AND/OR CERTIFICATIONS

- Possession of a valid California driver’s license issued by the State Department of Motor Vehicles and satisfactory driving record.
- Possession of a Water Quality Laboratory Analyst Grade II certification issued by the American Water Works Association (AWWA) is highly desirable.

PHYSICAL REQUIREMENTS AND WORK ENVIRONMENT

The skills, abilities, physical demands and work environment of this position:

- The employee stands, walks, bends at neck and waists, twists at neck and waist, uses repetitive hand movement, uses simple and power grasping with both hands, uses fine manipulation of both hands and fingers, and lifts and carries short distances objects weighing up to 50 pounds.
- Sits to enter and retrieve data from personal computers and terminals via keyboards, and is often performed while sitting up to three hours a day.
- Frequently operates office equipment requiring repetitive arm/hand movement and/or the coordinated movement of more than one limb simultaneously.
- Possess specific vision abilities required by this job include close vision, color vision, and ability to adjust focus; possess a sense of taste and smell.
- Possess the ability to sort, separate, and arrange material in a prescribed manner and may also require the ability to differentiate between colors when using color-coded materials or files.

Work Environment

- The noise level in the work environment is usually quiet.
- Exposure to potentially hazardous laboratory chemicals, solvents, microbiological pathogens, odors and fumes.

Established: November 1995

Revised: October 2014, November 2021

Approved by: General Manager
Board of Directors