



## Chemist I/II

Class Code:  
445,446

### DEFINITION

Under direction from the Laboratory Services Supervisor, performs a variety of chemical, biological and bacteriological tests and analyses of water, possible wastes and pollutants using laboratory instruments and equipment; sets up, calibrates, operates, and performs minor maintenance and repair of various laboratory test equipment; assists in collecting field samples for subsequent laboratory testing; coordinates special applied research projects as assigned; and performs other related work as required. The Chemist II may provide work direction and training to technicians and less experienced chemists.

### DISTINGUISHING CHARACTERISTICS

**Chemist I** is the entry level in the professional Chemist series. Under close to general direction within a framework of established policies and procedures, incumbents learn and perform a variety of routine and specialized laboratory tests and analyses. Assignments are given in specific terms and are subject to frequent review while in progress and upon completion, except where tasks are well defined by established standards, policies and procedures. There is limited latitude for independent judgment. As experience and proficiency are gained, assignments become progressively more diversified and difficult with less supervision.

This class is distinguished from the journey-level Chemist II class by the routine nature and limited complexity of work assignments and the level of supervision received. The Chemist I and II classifications are flexibly staffed. Incumbents normally advance to the Chemist II classification after gaining requisite experience, demonstrating sustained satisfactory performance, achieving and demonstrating proficiency in the job requirements of the journey-level classification and upon recommendation and approval of departmental supervisory and management staff.

**Chemist II** is the experienced journey-level in the professional Chemist series. Under general direction within a framework of established policies and procedures, incumbents perform a full range of difficult and complex laboratory tests and analyses and may provide some work direction and training to technicians and less experienced chemists while exercising discretion and independent judgment within established guidelines. Assignments are generally reviewed upon completion; difficult and non-routine assignments may be reviewed while work is in progress.

The Chemist II is distinguished from the Chemist I class by the complexity of work assignments, the potential impact of error, the level of independence with which assignments are performed and the level of supervision received. The Chemist II is distinguished from the advanced journey-level Senior Chemist class which performs tests and analyses of the highest technical complexity and provides technical guidance to incumbents classified as Chemist I/II under limited oversight and direction.

## **TYPICAL DUTIES**

### **TYPICAL EXAMPLES OF DUTIES MAY INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:**

- Performs analyses and interprets the results of physical, chemical, biological, microbiological, limnological tests of water, disinfection byproducts, and other samples related to the treatment, quality, and distribution of potable water.
- Makes calculations, maintains records and makes oral and written reports of work performed; enters data and test results into the Laboratory Information Management System (LIMS); generates reports from LIMS and analyzes the results.
- Applies basic statistical tools to identify issues related to laboratory process control.
- Sets up, calibrates, operates, and performs minor maintenance and repair of various laboratory equipment including, but not limited to, atomic absorption spectrophotometer, gas chromatograph/mass spectrometer, total organic carbon analyzer, ion chromatograph, and inductively coupled plasma/mass spectrometer; takes necessary steps to enhance quality assurance and quality control.
- Assists in developing new monitoring techniques and other applied research projects; recommends revisions to procedures and test methods, as appropriate.
- Interacts with clients to provide project management support, to include but not limited to arranging for analytical and sampling support, arranging for data acquisition and reporting, and assuring the completion of analytical objectives of District projects.
- Responds to queries from the public regarding water quality matters and follows up on customer complaints as needed while conducting field investigations and/or collecting samples.
- Maintains laboratory and equipment in a safe and orderly manner.
- In the absence of the Senior Chemist, a Chemist II, may instruct technicians in work procedures and sampling techniques and provide work direction, training and technical guidance to technicians and less experienced chemist.
- Performs other related work as required.

## **REQUIREMENTS**

*Any combination of education and experience that would likely provide the required knowledge, skills, and abilities is qualifying. A typical way to obtain the knowledge, skills, and abilities would be the equivalent of:*

### **Education and Experience:**

Possession of a Baccalaureate degree from an accredited college or university with a major in chemistry, microbiology or a related field and

**Chemist I:** No work experience required.

**Chemist II:** Two years of full time experience as a professional chemist, at least one year of which must have been in water or wastewater analysis.

Substitution: A graduate degree in chemistry or a related field may be substituted for one year of general experience referenced above.

**Knowledge, Skills and Abilities:**

**Working Knowledge of:** general chemical quantitative and qualitative analysis methods and techniques as applied to the analysis of water; standard laboratory equipment and its care and use; basic physical, chemical and biological characteristics of raw and treated water and the fundamentals of water treatment; methods and techniques of water sampling and storage requirements; state and federal laws and regulations related to water quality; laboratory quality assurance and quality control techniques; safe handling and storage of hazardous materials; research and statistical analysis methods and standard sources of information related to water and industrial waste analysis.

**Skill and Ability to:** plan test procedures, set priorities and organize work; perform and interpret the results of standard tests of water and related materials; perform difficult mathematical calculations with speed and accuracy; set up, operate, and perform minor maintenance on a variety of laboratory equipment; quickly learn and apply internal procedures related to the work; understand and follow oral and written instructions; effectively use the Laboratory Information Management System (LIMS) for record keeping and generating reports; communicate effectively both orally and in writing; train and instruct other employees on the routine aspects of chemical analysis; maintain detailed, complete and accurate records; compile data and prepare clear and concise technical reports; establish and maintain effective working relationships with those contacted in the course of the work; and perform the essential functions of the job without causing harm to self or others

**Additional Requirements:**

- Must possess a valid California driver's license and have a satisfactory driving record

**Working Conditions/Physical Requirements:**

The essential duties of the job are primarily performed in a laboratory environment with periodic exposure to chemicals, solvents and other environmental substances, and require the ability to sit for extended periods of time in front of a computer and laboratory equipment; to intermittently twist to reach instruments or supplies surrounding equipment; to use hand strength and finger dexterity to perform simple grasping and fine manipulation; to hear and talk to receive and communicate information; to occasionally operate a vehicle; to traverse uneven terrain; to stand for long periods of time; to walk, bend, and squat; and to perform work activities with hands in and out of water.

Revised: 04/14

Approved:   
Human Resources/Risk Manager

