



Job Description

Please note this job description is not designed to cover or contain a comprehensive listing of activities, duties or responsibilities that are required of the employee for this job.

Job title	Senior Scientist
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GENERAL PURPOSE

Under direction, leads, oversees and participates in the work of lower level staff responsible for performing routine and difficult physical, chemical, biological, and bacteriological analyses of water, wastewater, and biosolids samples; performs trace analyses using complex instrumentation and lab procedures to determine the presence of bacteria, trace metals and organic and inorganic substances in compliance with federal, state and local requirements; and performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS

This is the advanced lead level classification in the Scientist series responsible for planning, scheduling, leading, overseeing and participating in the work of assigned staff. Incumbents regularly work on tasks which are varied and complex, requiring considerable discretion and independent judgment. Positions in the classification rely on experience and judgment to perform and ensure efficient and effective services in the assigned program area. Assignments are given with general guidelines and incumbents are responsible for establishing objectives, timelines and methods to deliver services. Work is typically reviewed upon completion for soundness, appropriateness, and conformity to policy and requirements.

This class is distinguished from the Manager of Laboratory and Water Quality Services in that the latter is a management classification responsible for planning, organizing, review and evaluating the staff and operations of the Laboratory and Water Quality Services Division.

SUPERVISION RECEIVED AND EXERCISED

Receives direction from the Manager of Laboratory and Water Quality Services. Exercises technical and functional direction over and provides training to lower level professional and technical staff.

TYPICAL DUTIES AND RESPONSIBILITIES

The duties listed below are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related or a logical assignment to this position.

- Plans, schedules, leads and participates in the work of staff responsible for performing a diverse range of routine and difficult physical, chemical, biological, and bacteriological analyses of water, wastewater, and biosolids samples; reviews all laboratory data for quality and validity; assigns repeat of analyses when necessary; and investigates and troubleshoots discrepancies in data and quality control; trains employees in specific work procedures; reviews all work performed by lower level staff.
- Performs a variety of difficult laboratory tests, using sophisticated equipment on water samples collected from various areas within the District's water distribution, water treatment, and wastewater treatment systems; recognizes potential or actual problems which may occur in an analytical procedure; applies known procedures or confers with others to find solutions; calculates and interprets test results; conducts special tests and analyses as directed.
- Compiles and records data for a variety of logs, reports, and records, performing calculations as required; checks calculations and records prepared by others; modifies procedures and forms; enters results of analyses into the Laboratory Information Management System (LIMS) and produces reports.
- Prepares and mixes standard reagents, titrants, and solutions used in chemical testing and microbiological media for use in bacteriological testing/analysis; ensures that all reagents and media react according to specifications; maintains quality control over cultures.
- Sets up, calibrates, operates, performs, and keeps records of routine maintenance on a variety of complex laboratory equipment and instruments; devises and manages preventative maintenance programs for all instrumentation; recommends instrumentation and methodology alternatives to improve efficiency and meet District goals.
- Collects, receives, extracts, and digests a variety of samples; prepares field and sample control documentation and submits/receives samples for analysis; may plan short-term project sampling programs.
- Orders, receives, and maintains an adequate supply of chemicals, supplies, and replacement laboratory equipment.
- Maintains a diverse range of documentation including, but not limited to, written records of lab results and activities, quality assurance and quality control records and assists with implementation of quality assurance and control programs;

equipment maintenance logs; prepares technical reports; and updates reference materials.

- Performs research and experiments to solve problems; performs specialized research assignments on non-routine projects.
- Works with outside government entities, education/research institutions, other water and wastewater agencies, regulatory agencies, and District's customers regarding water quality; supports and works with District employees in other departments on matters pertaining to water quality and/or special projects.
- Observes and complies with all District and mandated safety rules, regulations, and protocols; ensure staff compliance with same.
- Configures, validates, and troubleshoots the Laboratory Information Management System (LIMS) software; prepares documentation; provides training to others on use of the software.
- Performs related duties as assigned.

REQUIRED QUALIFICATIONS

Knowledge of:

- Principles of providing functional direction and training.
- Principles and practices of leadership.
- Principles and techniques for working with groups and fostering effective team interaction to ensure teamwork is conducted smoothly.
- Quality control and quality assurance principles and practices.
- Theory, principles, practices, methods, chemicals and agents used in trace metals, chemical, and physical and biological analyses of environmental samples.
- Federal, state and local laws and regulations applicable to assigned areas of responsibility.
- Methods and techniques of conducting research and analysis.
- Water sampling methods and techniques.
- Laboratory procedures for water and wastewater testing and analysis.
- Analytical chemistry and environmental microbiology theory.
- Methods and processes used in water and wastewater treatment.
- The operation, maintenance and use of standard chemistry glassware and laboratory equipment.
- Methods and techniques of preparing and using media in microbiological/biological analysis.
- Methods and techniques of calibrating laboratory instruments.
- Mathematical principles.
- District and mandated safety rules, regulations, and protocols.

- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors and District staff.
- The structure and content of the English language including the meaning and spelling of words, rules of composition and grammar.
- Modern equipment and communication tools used for business functions and program, project, and task coordination, including computers and software programs relevant to work performed.

Ability to:

- Plan, organize, and coordinate the work of assigned staff.
- Effectively provide staff leadership and work direction.
- Assist in developing and implementing goals, objectives, practices, policies, procedures, and work standards.
- Understand, interpret, and apply all pertinent laws, codes, regulations, policies and procedures, and standards relevant to work performed.
- Perform difficult and precise physical, chemical, biological, and bacteriological analysis of water and wastewater according to established procedures.
- Evaluate the outcome of laboratory determinations in order to detect errors and recommend effective solutions.
- Adapt analytical methods and equipment to obtain test results.
- Make mathematical calculations.
- Conduct original research.
- Calibrate, diagnose problems, maintain, and perform minor repairs on laboratory equipment.
- Understand, carry out, and develop testing protocols.
- Prepare accurate reports and records of test results and special statistical analyses.
- Present scientific data clearly and concisely, both orally and in writing.
- Prepare clear, concise and comprehensive correspondence, reports, studies and other written materials.
- Use tact, initiative, prudence and independent judgment within general policy and procedural guidelines.
- Maintain a clean, safe working environment, including safely handling toxic chemicals.
- Independently organize work, set priorities, meet critical deadlines, and follow-up on assignments.
- Use tact, initiative, prudence, and independent judgment within general policy, procedural, and legal guidelines.
- Effectively use computer systems, software applications relevant to work performed, and modern business equipment to perform a variety of work tasks.
- Communicate clearly and concisely, both orally and in writing, using appropriate English grammar and syntax.

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- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Experience:

Any combination of experience and education that provides the required knowledge and abilities is qualifying, along with the specific licenses/certifications as outlined below:

- Four (4) years of progressively responsible professional experience in an environmental laboratory or four (4) years of experience as a Scientist II with the District.

Education:

- Equivalent to a bachelor's degree from an accredited college or university with major coursework in chemistry, biology, microbiology, or a related field.

Licenses/Certifications:

- A valid California driver's license and the ability to maintain insurability under the District's Vehicle Insurance Policy.
- Possession of a CWEA Laboratory Analyst Grade III Certificate.
- Possession of a CWEA Laboratory Analyst Grade IV Certificate is desirable.

PHYSICAL DEMANDS

The physical demands described here are representative of those that must be met by employees to successfully perform the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Must possess mobility to work in a laboratory and standard office setting and use standard office equipment, including a computer, as well as a diverse range of laboratory equipment; vision to read printed materials, a computer screen, and to operate a motor vehicle and visit various District sites; smell to perform odor tests on water samples and to detect chemicals, and hearing and speech to communicate in person and over the telephone. This is primarily laboratory focused classification with frequent standing, sitting and walking between work areas. Finger dexterity is needed to open and close sample bottles, pipette, and to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment. Positions in this classification bend, stoop, climb to access materials, kneel, reach, push, and pull drawers open and closed to retrieve and file information. Employees must possess the ability to lift, carry, push, and pull materials and objects with an average weight of 30 pounds, or heavier weights, in all cases with the use of proper equipment and/or assistance from staff.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Employees work primarily in a laboratory environment with moderate to excessive noise levels, controlled temperature conditions, and exposure to dust, fumes and/or allergens; biologic/infectious agents; and unpleasant odors.

Employees work in an office environment with moderate noise levels, controlled temperature conditions, and no direct exposure to hazardous physical substances. Employees may interact with upset staff and/or public and private representatives in interpreting and enforcing departmental policies and procedures.

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Last Update: March 2020

This job description has been reviewed and approved by all levels of management in cooperation with the union (if applicable):

Approved by:	<i>Board of Directors</i>
Date adopted:	<i>March 29, 2020</i>
Date modified:	
FLSA determination:	<i>Exempt</i>

Job Description Acknowledgment

I have received, reviewed and fully understand the job description for Senior Scientist. I further understand that I am responsible for the satisfactory execution of the essential functions described therein, under any and all conditions as described.

Employee Name (print): _____ *Date:* _____

Employee Number: _____

Employee Signature: _____