

09/80
Rev 4/81
Rev 4/12/89
Rev 9/11/90

City of San Jose

MICROBIOLOGIST (5115)

CLASS PURPOSE

Under general supervision, performs professional and technical work of moderate difficulty involving the qualitative and quantitative biological, chemical and microbiological analyses of water, wastewater, industrial waste and related materials. Performs related work as required.

TYPICAL DUTIES AND RESULTS (Any one position may not include all the duties listed, nor do the examples cover all the duties which may be performed.)

Performs instrumental and wet chemical analyses on water, wastewater, industrial waste and related samples for specific inorganic and organic substances.

Conducts regular microscopic examinations to identify bacterial, protozoan, and metazoan organisms associated with the wastewater treatment process.

Develops and directs the biomonitoring testing requirements within the laboratory, including the care and maintenance of aquatic species used in acute bioassays.

Monitors and evaluates problems related to plant operations and laboratory analyses and recommends solutions to alleviate such problem situations.

Performs the more complicated and research related biological, chemical and microbiological analyses of water, wastewater, industrial waste and related samples.

Determines sampling procedures and programs, implements the quality assurance/quality control program, and recommends methods and procedures for implementation into normal laboratory operations.

Supervises and directs the daily work activities within the laboratory including the instruction of laboratory personnel, the preparation of daily work schedules, the assignment of duties to laboratory technicians and the maintenance of appropriate inventories of laboratory supplies.

Assists with the organization and analysis of information from industry, government agencies and the public, which may include hearings, workshops, seminars, etc.

Compiles, records and manages laboratory data and records; provides organization of record keeping and data retrieval; supervises clerical and other personnel as directed; prepares written and verbal reports as requested.

DISTINGUISHING CHARACTERISTICS

This is a professional class in the laboratory series which reports to the Laboratory Supervisor assigned to the WPCP Laboratory. Incumbents perform work related to qualitative and quantitative laboratory determinations upon water, wastewater, industrial waste and related materials. This class is distinguished from the Laboratory Technician series by having supervisory responsibility over Laboratory Technicians. Positions in this class are also responsible for performing the more complicated and research related biological, chemical and microbiological testing requirements.

QUALIFICATIONS

Minimum Knowledges, Skills and Abilities

Knowledge of the principles of biochemistry, organic chemistry and inorganic chemistry.

Knowledge of modern laboratory procedures, techniques and equipment, and the ability to utilize such equipment.

Knowledge of mathematics, microbiology, morphology and taxonomy routinely utilized in a chemical or environmental laboratory.

Knowledge of standard and sophisticated laboratory equipment, instruments and procedures.

Knowledge of local, state and federal environmental regulations.

Ability to perform research work on problems of a chemical, biochemical or microbiological nature.

Ability to perform microscopic examinations with emphasis on organisms of sanitary significance.

Ability to prepare clear, accurate and concise written technical reports.

Ability to critically review chemical reports and documents.

Ability to develop and direct acute biomonitoring activities with regard to NPDES permit requirements.

Competency Knowledges, Skills and Abilities

Knowledge of instrumental analytical methods and their application to environmental analyses.

Knowledge of laboratory safety and quality assurance methods and procedures.

Knowledge and ability to perform routine and sophisticated biological, chemical and microbiological determinations with regard to the environmental characterization of water, wastewater, industrial waste and related materials.

Ability to provide lead direction, supervision and training.

Ability to operate instrumentation associated with typical operations in a microbiological laboratory.

Training And Experience

Any combination of training and experience equivalent to a bachelor's degree in bacteriology, microbiology or related discipline, plus two years experience working in a laboratory environment.