

# Laboratory Scientist Series

## California State Personnel Board Specification

Series established xx/xx/xxxx

### Scope

This series specification describes five laboratory scientist classifications used to perform a broad range of rank and file, supervisory and managerial laboratory work on environmental, natural resources, consumer protection, and public health concerns and provides reference laboratory services essential to the diagnosis, treatment and control of diseases and to the maintenance and development of technical standards of performance of laboratories throughout the State. Incumbents perform, or supervise, biological and chemical analysis to identify the concentrations of substances that may be contaminants or hazardous substances in the environment, drinking water and waste water, food, consumer products, biological tissues and fluids, hazardous waste, or industrial and agricultural commodities; assist and consult on collection of samples; use, modify, and develop methods for chemical, physical, or biological analysis; regulate public and commercial laboratories; review and evaluate data from internal or external sources; conduct literature searches and analysis; perform quality assurance; review and monitor apparatus and procedures used by field staff; evaluate and accredit environmental testing laboratories to ensure the quality of analytical data used for regulatory purposes to meet the requirements of the State's drinking water, wastewater, shellfish, food, and hazardous waste programs; provide consultation and analytical determinations to Federal, State, and local officials for the enforcement of laws and regulations relating to public health, consumer, industrial, and agricultural commodities and in the identification and control of contaminants and pollutants in California's environment; analyze and interpret results of laboratory analyses and other findings; prepare data for court cases and act as a technical witness; write papers for publication; prepare reports; manage data archives and information systems; and perform other related work.

### Laboratory Scientist Series Specification - Class Titles and Codes

<u>Schem Code</u>	<u>Class Code</u>	<u>Class</u>
<u>XXXX</u>	<u>XXXX</u>	<u>Laboratory Scientist</u>
<u>XXXX</u>	<u>XXXX</u>	<u>Senior Laboratory Scientist (Specialist)</u>
<u>XXXX</u>	<u>XXXX</u>	<u>Senior Laboratory Scientist (Supervisory)</u>
<u>XXXX</u>	<u>XXXX</u>	<u>Laboratory Scientist Program Manager I</u>
<u>XXXX</u>	<u>XXXX</u>	<u>Laboratory Scientist Program Manager II</u>

### Factors Affecting Position Allocation

Level, variety, and complexity of assigned work; independence of action; degree of public and interagency contact; amount of supervision exercised or received; degree to which decisions are sought and accepted by top management; reporting relationships; extent of impact; and consequence of error.

### Definition of Levels

Entry into this series may be at any level, dependent upon both the characteristics of the work performed and the academic education and professional experience of the candidate.

## Laboratory Scientist

This class is the entry, intermediate and full journey level of the series.

Range A is the entry and first working level of the class. Under close supervision, incumbents perform a variety of the less difficult professional laboratory scientist work within a laboratory, office, or field setting. Following detailed instructions and specific procedures, incumbents perform chemical, physical, or biological analyses; conduct less difficult surveys, investigations, inspections, and studies; prepare standard and reagent solutions and samples for analysis; perform quality control and assurance checks; draft preliminary reports and routine correspondence; perform basic maintenance of equipment and laboratory instrumentation; answer questions from the public of a routine nature; serve as a technical witness; and do other related work. Work at this level is characterized by a reliance on detailed instructions and assistance from lead persons and supervisors in the application of proven techniques and methodologies to assigned work.

Range B is the intermediate working level of the class. Under general supervision, incumbents perform a variety of responsible professional laboratory scientist work of average difficulty within a laboratory, office, or field setting. Incumbents perform chemical, physical, or biological analyses, research, surveys, investigations, inspections, and studies of average difficulty; prepare standard and reagent solutions and samples for analysis; troubleshoot equipment problems; maintain equipment and laboratory instrumentation; write preliminary reports and routine correspondence; answer questions from the public of a routine nature; prepare regulatory and compliance documents; perform quality control and assurance checks; serve as a technical witness; and do other related work. Work at this level is characterized by a reliance on proven techniques and methodologies.

Range C is the full journey level. Under direction, incumbents perform a variety of responsible professional laboratory scientist work within a laboratory, office, or field setting. Incumbents independently perform complex assigned chemical, biological, physical, research, surveys, investigations, inspections, and studies; prepare standard and reagent solutions and samples for analysis; consult and advise public and private entities. write final reports; prepare regulatory and compliance documents; operate and maintain equipment and laboratory instrumentation including the more complex laboratory equipment; prepare non-routine correspondence; answer routine or difficult questions from the public; perform quality control and assurance checks; serve as a technical witness; review and approve applicants for technician, scientist, public health microbiologist and laboratory director level licensure; approve phlebotomy schools and scientist level training programs and training applicants and do other related work. Incumbents at this level often independently develop and implement new and advanced techniques and methodologies. Incumbents are expected to work in obtaining EPA certifications as Laboratory Certification Officers (LCO) for drinking water and Laboratory Evaluation Offices (LEO) for shellfish testing laboratories in addition to certification for specialty fields like dioxin, asbestos, radiochemistry, pesticide residue and fish bioassay. Incumbents may be assigned lead responsibilities for a specific project.

## Senior Laboratory Scientist (Specialist)

The Senior Laboratory Scientist (Specialist) is the specialist level of the series requiring scientific expertise and perform duties above the full journey level. Under direction, incumbents independently identify problems, conduct the most complex and innovative chemistry work, including investigations, inspections, and studies on issues; develop courses of action, and conduct critical and/or sensitive scientific investigations and studies; may prepare guidance, policy, planning, or regulatory documents and legislative proposals on issues of importance to the employer; and do other related work. Incumbents operate and maintain the most complex equipment and laboratory instrumentation; plan and conduct research; originate and evaluate experimental methods and make interpretative analyses of data. Incumbents must have the required EPA certification as Laboratory Certification Officers (LCO) for drinking water and Laboratory Evaluation Offices (LEO) for shellfish testing laboratories in addition to certification for specialty fields like dioxin, asbestos, radiochemistry, pesticide residue and fish bioassay is accrediting environmental laboratories. Decision making at this level has a higher consequence of error than that of the Laboratory Scientist Range C. Incumbents may be assigned lead responsibility for a specific project, program function, or area of expertise; may act as a mentor to lower level

staff; and may act as a consultant to other technical staff, management and other agencies in those matters. Other duties may include the preparation of reports and papers for internal use and external publication; represent the department at public meetings and conferences; and serve as an expert witness as necessary.

## Senior Laboratory Scientist (Supervisory)

Incumbents must have LCO or LEO certifications if accrediting environmental laboratories. Under general direction, incumbents plan, organize, supervise, and direct the work of a small to medium group of professional laboratory scientists and technical staff in a laboratory or program unit. Incumbents research, evaluate, and implement new analytical methods and procedures, oversee and perform complex chemical, biological and physical analyses, prepare equipment specifications; may lead inspections or investigations of complex laboratories for either accreditation or enforcement purposes; and prepare related reports; ensure quality assurance and laboratory safety; select and train staff; evaluate and make recommendations on staff performance; oversee the purchase of laboratory supplies and equipment; assist in budget preparation; prepare or make recommendations on operational plans; and perform other related work.

## Laboratory Scientist Program Manager I

This is the second supervisory level of the series. Incumbents direct and have charge of critical scientific programs or components which are of major sensitivity and complexity; carry authority and accountability for timely completion of program objectives and for submittal of satisfactory products; are responsible for operational planning and assigning of projects, budgeting for time and funds, and preparing administrative reports; coordinate program activities with technical and administrative support sections and their activities; assist in formulating and administering policies; exercise discretion in the provision of oversight and coordination of projects or programs; maintain liaison with other governmental agencies and the private sector; evaluate program performance and achievements; plan for work force needs; represent their organization in compliance negotiations, policy implementation, program budgeting, and strategic planning; and do other related work. Incumbents may supervise a group of professional and technical staff working on one or more major critical and/or sensitive projects. Incumbents have authority in the interest of management to recruit, hire, transfer, suspend, lay off, recall, promote, discharge, assign, reward, or discipline employees. Incumbents have the responsibility to direct employees, adjust employee grievances, or effectively recommend such actions.

## Laboratory Scientist Program Manager II

This is the second level supervisor of the series and, organizationally, incumbents are in the top management structure. Incumbents plan, organize, and direct critical, sensitive and/or complex scientific programs of major importance to the employer, and perform other related work. Incumbents have significant responsibility for formulating and administering policies, and programs, and strategic plans, and exercise discretion in the provision of oversight and coordination on a broad and technically diverse range of projects or programs. Incumbents typically supervise one or more Laboratory Scientist Program Managers I or other second-level supervisors.

## Minimum Qualifications

### All Levels:

Education: Possession of a Bachelor's degree with a major in chemistry, biochemistry, biology, medical or public health microbiology, bacteriology, virology mycology, parasitology, immunology, toxicology, epidemiology, clinical laboratory science or a closely related scientific discipline from a recognized institution. (Admission to a master's or a doctoral degree program in chemistry, biochemistry, biology, medical microbiology, bacteriology, virology mycology, parasitology, immunology, toxicology, epidemiology, clinical laboratory science or a closely related scientific discipline shall be considered to meet these education qualifications.)

## Laboratory Scientist

Education as indicated above. (Registration as a senior in a recognized institution will admit applicants to the examination, but they must produce evidence of a degree before they can be considered eligible for appointment.)

### Senior Laboratory Scientist (Specialist) Senior Laboratory Scientist (Supervisory)

Either I

Experience: Two years of experience in California state service performing duties comparable to those of a Laboratory Scientist, Range C.

OR II

Experience: Five years of increasingly responsible professional experience in laboratory analysis, research, management, planning, regulation, or investigation, including responsibility for the development or implementation of analytical methods; or for the direction of the work of a chemical, microbiological or analytical laboratory staff. Two years of this experience must be at a level of responsibility equivalent to that of a Laboratory Scientist, Range C, in the California state service. (Possession of a Master's Degree in chemistry, biochemistry, biology, medical microbiology, bacteriology, virology mycology, parasitology, immunology, toxicology, epidemiology, clinical laboratory science or a closely related scientific discipline from a recognized institution may be substituted for one year of the required general experience; possession of a Doctorate in the above-named disciplines from a recognized institution may be substituted for two years of the general experience.)

### Laboratory Scientist Program Manager I (Supervisory)

EITHER I

Experience: Two years of experience in the California state service performing the duties of a Senior Laboratory Scientist (Specialist) (Supervisory).

OR II

Experience: Five years of broad, extensive, and increasingly responsible experience in laboratory analysis, research, management, planning, regulation, or investigation, including responsibility for the development or implementation of analytical methods; or for the direction of the work of a chemical, microbiological or analytical laboratory staff at least two years of which must have been in an administrative or supervisory position in full charge of a staff responsible for the development or implementation of scientific policies, programs, plans, or research projects; or conducting a major critical and/or sensitive monitoring, surveillance or scientific program. (Possession of a Master's Degree in chemistry, biochemistry, biology, medical microbiology, bacteriology, virology mycology, parasitology, immunology, toxicology, epidemiology, clinical laboratory science, or a closely related scientific discipline from a recognized institution may be substituted for one year of the required general experience; possession of a Doctorate in the above-named disciplines from a recognized institution may be substituted for two years of the general experience.)

### Laboratory Scientist Program Manager II

EITHER I

Experience: Two years of experience in the California state service performing the duties of a Laboratory Scientist Program Manager I.

OR II

Experience: Five years of broad, extensive, and increasingly responsible experience as a scientist in analysis, management, research, planning, regulation, investigation, or enforcement, at least two years of which must have been in an administrative or supervisory position in full charge of a staff responsible for the development or implementation of policies, programs, plans, or research projects; or conducting or managing a major critical and/or sensitive monitoring, surveillance or management program; or in management of the work of a large multi-disciplined multidisciplinary or investigatory or regulatory staff at a level equivalent to a Laboratory Scientist Program Manager I in the California state service. (Possession of a Master's Degree in chemistry, biochemistry, biology, medical microbiology, bacteriology, virology mycology, parasitology, immunology, toxicology, epidemiology, clinical laboratory science, or a closely related scientific discipline from a recognized institution may be substituted for one year of the required general experience; possession of a Doctorate in the above-named disciplines from a recognized institution may be substituted for two years of the general experience.)

## Knowledge and Abilities

### Laboratory Scientist

Knowledge of: Fundamentals of organic, inorganic, analytical, and physical chemistry, biochemistry, microbiology or clinical medical bio-analysis; principles, procedures, instruments, techniques, terminology, and equipment used in the laboratory and for quantitative and qualitative analyses; investigation of disease; causes and transmission of and control of communicable diseases; specific application of State and Federal laws and regulations relating to clinical, public health and environmental laboratories, including principles and procedures involved in the investigation of violations and current developments in legislative action affecting clinical, public health and environmental laboratories and personnel; quality control and assurance; applicable laws, rules, or regulations; statistics, report writing, and research methods and procedures; proper safety precautions and procedures; and personal computer and related office and instrument software.

Ability to: Communicate effectively; perform accurate chemical, microbiological, biochemical, clinical medical bio-analytic analyses following standard and non-standard methodology; conduct surveys and inspection of clinical, public health and environmental laboratories, blood banks and other specialized facilities with accuracy, thoroughness and tact; interpret and apply laws and regulations to specific cases; prepare reports; consult with laboratory personnel and administrators; set up, adjust, calibrate, trouble-shoot, and maintain instruments; analyze and interpret test information; use, modify, or develop analytical procedures for specific needs; prepare and present evidence in court; testify as a witness; participate in research studies; prepare reports and papers for presentation or publication; collect and organize data for hearings; analyze situations accurately and take effective action; maintain accurate records; inspect laboratories and make recommendations; and learn, interpret, and apply applicable laws, rules, and regulations.

### Senior Laboratory Scientist (Specialist)

Knowledge of: All of the above, and characteristics, properties, and uses of a wide variety of laboratory science, public health, consumer safety, and hazardous materials; research and development; and identify alternate testing methodology.

Ability to: All of the above, and develop new, and modify existing, analytical methods and procedures; coordinate quality control and assurance programs; plan, conduct, and direct research studies; perform the most difficult laboratory science related analyses; prepare reports and papers for internal distribution and official publication; provide information to assist with investigations and prosecutions of violations of State and Federal laws and regulations; act as an expert witness; and act as a lead laboratory scientist.

## Senior Laboratory Scientist (Supervisory)

Knowledge of: In addition to the above, techniques for dispute resolution, principles and techniques of personnel management and supervision; budgeting and other administrative functions; and a manager's/supervisor's role in the Affirmative Action and Equal Employment Opportunity Program and the processes available to meet affirmative action and equal employment opportunity objectives.

Ability to: In addition to the above, plan, organize, and direct the work of others; perceive the alternatives available in the solution of management problems and select realistic courses of action; confer and work with legislative representatives, advisory committees, and administrative officials of Federal, State and local agencies; and effectively contribute to the employer's affirmative action and equal employment opportunity objectives.

## Laboratory Scientist Program Manager I

## Laboratory Scientist Program Manager II

Knowledge of: In addition to all of the above, health and environment related priorities of legislative and administrative branches of California and Federal government; health and environmental solutions and initiatives being pursued by other states, local agencies, and the Federal government; and performance management strategies.

Ability to: In addition to all of the above, manage, lead, or administer program resources; make decisions regarding program milestones; provide a forum for the resolution of conflicts or disputes among implementing agencies; ensure prompt and balanced media utilization; develop innovative solutions to difficult human health, agricultural productivity, and environmental management problems; and evaluate program performance and achievements.

## Special Requirements

### Certified Public Health Microbiologist

Some positions may require the possession of a valid Public Health Microbiologist's certificate issued by the California State Department of Public Health.

### Clinical Laboratory Bioanalyst or Technologist License

Some positions may require the possession of a valid Clinical Laboratory Bioanalyst Director or Clinical Laboratory Scientist License issued by the California State Department of Public Health.

### Certified Cytotechnologist

Some positions may require the possession of a valid Public Health Cytotechnology certificate issued by the California State Department of Public Health.

### Certified Laboratory Certification Officer (LCO)

Some positions may require the possession of certification issued by the US Environmental Protection Agency for Chemistry (Inorganic and Organic) and Microbiology.

### Certified Laboratory Evaluation Officers (LEO)

Some positions may require the possession of certification issued by the US Food and Drug Administration for shellfish testing.

## Class History

Laboratory Scientist Series History - Dates Established, Revised, and Title Changed

<u>Class</u>	<u>Date Established</u>	<u>Date Revised</u>	<u>Title Changed</u>
<u>Laboratory Scientist</u>	<u>xx/xx/xxxx</u>	--	--
<u>Senior Laboratory Scientist (Specialist)</u>	<u>xx/xx/xxxx</u>	--	--
<u>Senior Laboratory Scientist (Supervisory)</u>	<u>xx/xx/xxxx</u>	--	--
<u>Laboratory Scientist Program Manager I</u>	<u>Xx/xx/xxxx</u>	--	--
<u>Laboratory Scientist Program Manager II</u>	<u>xx/xx/xxxx</u>	--	--