

Class Concept

This is advanced level technical support work in a chemistry laboratory or field operation performing a wider range of both routine and non-routine tasks and duties, or supervising other technicians in performing routine tasks and duties, including the responsibility for a moderately sized technical function or project. Employees perform continuing assignments that include some general objectives, priorities and deadlines, and receive assistance on unusual or very difficult situations. Work includes some use and application of chemical theory to evaluate and interpret the results of their quantitative and qualitative analyses. Employees are expected to recognize unanticipated or unusual reactions and to conduct a limited analysis to determine the cause and significance of the reaction. Work also includes operating and calibrating a variety of laboratory instruments and equipment that often requires fairly frequent adjustment during operation; making moderate repairs to a variety of laboratory equipment and instrumentation including some of the more complex instruments, performing range of both standard and non-standard wet or instrumental methods and procedures including some fairly complex tests on occasion; and preparing samples, reagents, standard solutions and quality control test samples as necessary. Methods, procedures and tests performed include a wide ranging combination of titration, gravimetric, volumetric, colorimetric, IR, UV and visible spectroscopy, inductively coupled plasma (ICP) emission spectroscopy, robotic measurements of pH, digestions, extractions and other documented methods and tests including the more complex procedures such as atomic absorption spectroscopy or gas, liquid, ion or thin layer chromatography. Samples used are often in minute or very difficult to work with concentrations and may have substances that react or interfere with the reagents or with each other during analysis. Work normally includes instructing and training lower level technicians in methods, procedures, techniques and some chemical theory. Employees have a significant portion of their work reviewed for technical accuracy and for conformance to established policy and requirements but usually not for the methodology used. They may choose guides and references from a fairly wide variety of generally established procedure, methodology and instrument manuals, and evaluate, adapt and make minor deviations, modifications or extensions to these procedures as necessary. Employees may provide work direction and review to other laboratory employees. Work may include other duties and responsibilities as assigned.

Recruitment Standards

Knowledge, Skills, and Abilities

- Considerable knowledge of the basic principles, concepts, theories and reference sources used in the laboratory application of analytical chemistry and other related sciences.
- Working knowledge of scientific methodology and of the hazards involved in laboratory procedures along with related safety practices.
- Ability to independently perform and record standardized, non-standardized and fairly complex laboratory tests and procedures.
- Ability to understand and solve simple theoretical problems, and to provide work direction and instruction to other technicians concerning a variety of chemical procedures.
- Ability to express technical information clearly, both orally and in writing, when reporting results and explaining procedures to others.
- Ability to perform advanced mathematics and statistical analysis to understand and follow moderately complex oral and written instructions, to perceive colors normally and to make olfactory distinctions.
- Ability to establish and maintain effective working relationships.

Note: This is a generalized representation of positions in this class and is not intended to identify essential functions per ADA.

Minimum Education and Experience

Bachelor's degree in one of the chemical, biological, microbiological, environmental or natural resource sciences including related chemistry laboratory coursework from an appropriately accredited institution; or

Associate's degree in one of the chemical, biological, microbiological, environmental or natural resource sciences or a closely related curriculum including related chemistry laboratory coursework from an appropriately accredited institution and two years of directly related chemistry laboratory experience; or an equivalent combination of education and experience.

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