



Code: 5529

Family: Technical Engineering
Service: Operation and Construction
Group: Engineering, Designing, and Structural
Series: Chemical Engineering

CLASS TITLE: CHIEF WATER CHEMIST

CHARACTERISTICS OF THE CLASS

Under direction, directs supervisory and professional personnel in overseeing the conduct of chemical and physical analyses of water samples and the testing of materials used at water treatment facilities, and performs related duties as required

ESSENTIAL DUTIES

- Directs the preparation and chemical testing of raw and treated water samples and interprets results, ensuring compliance with testing standards
- Supervises and monitors the analyses of samples collected and tested on the City's water supply
- Reviews and ensures the appropriateness of calculations, interpretations, and analyses of test results prepared by staff
- Prepares comprehensive reports of the unit's chemical analyses findings
- Oversees the preparation of status reports on staff activities and assigned projects
- Directs the maintenance of testing records according to accepted standards to ensure continued certification of the laboratory
- Oversees the conduct of specialized tests initiated in response to complaints and the preparation of related reports
- Implements testing and procedural changes to improve the lab's existing testing operations
- Directs and participates in training staff in water chemistry technology and laboratory standard operating procedures
- Monitors, prepares, and administers the unit's budget
- Oversees the care and maintenance of the laboratory and coordinates the purchase and maintenance of laboratory supplies, instruments, and equipment
- Addresses public forums as an expert in the chemical testing and analyses of water, as needed

NOTE: *The list of essential duties is not intended to be inclusive; there may be other duties that are essential to particular positions within the class.*

MINIMUM QUALIFICATIONS

Education, Training, and Experience

- Graduation from an accredited college or university with a Bachelor's Degree in Chemistry, Chemical Engineering, or a directly related field, plus four years of chemistry experience in laboratory analysis, including two years of supervisory experience; or an equivalent combination of education, training and experience provided that the minimum degree requirement is met

Licensure, Certification, or Other Qualifications

- None

WORKING CONDITIONS

- General office environment

- Exposure to fumes or dust
- Exposure to hazardous and toxic chemicals

EQUIPMENT

- Standard office equipment (e.g., telephone, printer, photocopier, fax machine, calculator)
- Computers and peripheral equipment (e.g., personal computer, computer terminals, hand-held computer)
- Personal protective equipment (e.g., glasses, gloves)
- Scientific calculators
- Chemical and environmental testing and monitoring equipment
- Laboratory instruments

PHYSICAL REQUIREMENTS

- Some moving or lifting of laboratory equipment and supplies

KNOWLEDGE, SKILLS, ABILITIES, AND OTHER WORK REQUIREMENTS

Knowledge

Comprehensive knowledge of:

- *applicable water treatment and purification theories, principles, methods and practices
- *laboratory methods, practices, and procedures
- *chemical testing and analysis principles, theories, methods, and practices
- *applicable safety principles, methods, practices, and procedures
- *procedures and methods for maintaining applicable equipment and instruments

Considerable knowledge of:

- *water treatment and purification operations
- *applicable federal, state, local laws, regulations, and guidelines

Moderate knowledge of:

- *supervisory methods, practices, and procedures

Some knowledge of:

- budgetary preparation and planning
- procurement processes (e.g., purchase of equipment, supplies, materials)
- applicable computer software packages and applications

Knowledge of applicable City and department policies, procedures, rules, regulations

Other knowledge as required for successful performance in the Water Chemist IV class

Skills

- *ACTIVE LEARNING - Understand the implications of new information for both current and future problem-solving and decision-making
- *ACTIVE LISTENING - Give full attention to what other people are saying, take time to understand the points being made, ask questions as appropriate, and not interrupt at inappropriate times

- *CRITICAL THINKING - Use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems
- *MATHEMATICS - Use mathematics to solve problems
- *MONITORING - Monitor and assess performance of one's self, other individuals, or organizations to make improvements or take corrective action
- *SCIENCE - Use scientific rules and methods to solve problems
- *COMPLEX PROBLEM SOLVING - Identify complex problems and review related information to develop and evaluate options and implement solutions
- *MANAGEMENT OF FINANCIAL RESOURCES - Determine how money will be spent to get the work done and account for these expenditures
- *MANAGEMENT OF MATERIAL RESOURCES - Obtain and see to the appropriate use of equipment, facilities, and materials needed to do certain work
- *MANAGEMENT OF PERSONNEL RESOURCES - Motivate, develop, and direct people as they work and identify the best people for the job
- *COORDINATION WITH OTHERS - Adjust actions in relation to others' actions
- *INSTRUCTING - Teach others how to do something
- *JUDGEMENT AND DECISION MAKING - Consider the relative costs and benefits of potential actions to choose the most appropriate one
- *SYSTEMS EVALUATION - Identify measures or indicators of system performance and the actions needed to improve or correct performance relative to the goals of the system
- *EQUIPMENT SELECTION - Determine the kind of tools and equipment needed to do a job
- *QUALITY CONTROL ANALYSIS - Conduct tests and inspections of products, services, or processes to evaluate quality or performance

Other skills as required for successful performance in the Water Chemist IV class

Abilities

- COMPREHEND ORAL INFORMATION - Listen to and understand information and ideas presented through spoken words and sentences
- SPEAK - Communicate information and ideas in speaking so others will understand
- COMPREHEND WRITTEN INFORMATION - Read and understand information and ideas presented in writing
- WRITE - Communicate information and ideas in writing so others will understand
- RECOGNIZE PROBLEMS - Tell when something is wrong or is likely to go wrong
- REASON TO SOLVE PROBLEMS - Apply general rules to specific problems to produce answers that make sense
- REASON MATHEMATICALLY - Choose the right mathematical methods or formulas to solve a problem
- MAKE SENSE OF INFORMATION - Quickly make sense of, combine, and organize information into meaningful patterns
- REACH CONCLUSIONS - Combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events)
- IDENTIFY PATTERNS - Identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material

Other abilities as required for successful performance in the Water Chemist IV class

Other Work Requirements

- PERSISTENCE - Persist in the face of obstacles on the job
- INITIATIVE - Demonstrate willingness to take on job challenges
- LEADERSHIP - Demonstrate willingness to lead, take charge, and offer opinions and direction
- COOPERATION - Be pleasant with others on the job and display a good-natured, cooperative attitude
- DEPENDABILITY - Demonstrate reliability, responsibility, and dependability and fulfill obligations
- ATTENTION TO DETAIL - Pay careful attention to detail and thoroughness in completing work tasks
- INDEPENDENCE - Develop own ways of doing things, guide oneself with little or no supervision, and depend mainly on oneself to get things done
- ANALYTICAL THINKING - Analyze information and using logic to address work or job issues and problems

Other characteristics as required for successful performance in the Water Chemist IV class

All employees of the City of Chicago must demonstrate commitment to and compliance with applicable state and federal laws, and City ordinances and rules; the City's Ethics standards; and other City policies and procedures.

The City of Chicago will consider equivalent foreign degrees, accreditations, and credentials in evaluating qualifications.

* May be required at entry.

City of Chicago
Department of Human Resources
April, 2014