



Code: 5815

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

CLASS TITLE: ELECTRICAL ENGINEER V

CHARACTERISTICS OF THE CLASS

Under supervision, the class supervises the work of subordinate engineers OR serves as project engineer for a variety of projects responsible for overseeing the design, installation, maintenance, and inspection of electrical equipment and systems; and performs related duties as required

ESSENTIAL DUTIES

- Assigns projects to staff and monitors and evaluates their performance ensuring projects are completed according to contract and within budget
- Confers with management to determine project scope and objectives based on budget and project plans prepared by staff and consultant engineering firms
- Supervises the conduct of field surveys and engineering studies to identify existing utilities, systems and equipment and to identify conditions that may impact the scope of proposed projects
- Prepares contract documents including plans, specifications and cost estimates for large scale electrical engineering projects that will be performed by contractors
- Reviews design plans and contract documents, cost estimates and engineering calculations submitted by consultant engineering firms to ensure compliance with established design criteria, project scope and budget specifications and makes or requests changes
- Supervises the preparation of complex calculations to determine electrical power distribution, luminance, and voltage levels
- Determines equipment replacement and maintenance schedules based on inspections by subordinate staff or consultants
- Interprets plans and specifications to contractors
- Supervises subordinate engineers and technicians monitoring electrical construction and equipment installation projects
- Supervises the testing and evaluation of newly installed equipment and systems
- Monitors work in progress and determines the appropriateness of engineering changes, contract amendments and related costs, and confers with contractors to review and approve plan changes and contract modifications
- Approves partial and final payments to contractors ensuring payment requests reflect completed work according to contract specifications
- Supervises or personally analyzes and resolves complex electrical engineering design and installation problems
- Provides professional electrical engineering support and advice on joint projects to other City, state, and private agencies
- Represents the department to community groups and other agencies
- Prepares project status and cost reports for management
- Prepares grant applications to secure project funding

- Consults with other departments and agencies to coordinate electrical engineering work on various infrastructure projects
- Assists in training and providing guidance to lower level staff
- Researches new materials and techniques for use in installing, maintaining, and repairing electrical systems and equipment

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 Electrical Engineering or a directly related field of engineering, plus four (4) years of electrical engineering work experience of which one (1) year is in a supervisory role related to the responsibilities of the position; or an equivalent combination of education, training, and experience, provided the minimum degree requirement is met

Licensure, Certification, or Other Qualifications

- Registration as a Professional Engineer (R.P.E.) in the State of Illinois is required

WORKING CONDITIONS

- General office environment

EQUIPMENT

- Standard office equipment (e.g., telephone, printer, photocopier, fax machine, calculator, adding machine)
- Computers and peripheral equipment (e.g., personal computer, computer terminals, hand-held computer)

PHYSICAL REQUIREMENTS

- No specific requirements

KNOWLEDGE, SKILLS, ABILITIES, AND OTHER WORK REQUIREMENTS

Knowledge

Advanced knowledge of:

- *applicable electrical engineering theories, principles, methods, and procedures
- *electrical system installation and maintenance methods
- *procedures and methods for monitoring and maintaining related equipment and instruments

Considerable knowledge of:

- *applicable computer software packages and applications
- *project management principles, methods, practices, and procedures

Moderate knowledge of:

- applicable training practices and procedures

Some knowledge of:

- supervisory methods, practices and procedures

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

Other knowledge as required for successful performance in the Electrical Engineer 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, taking time to understand the points being made, ask questions as appropriate, and not interrupt at inappropriate times
- *MONITORING – Monitor and assess performance of one’s self, other individuals or organizations to make improvements or take corrective action
- *COMPLEX PROBLEM SOLVING – Identify complex problems and review related information to develop and evaluate options and implement solutions
- SYSTEMS ANALYSIS - Determine how a system should work and how changes in conditions, operations, and the environment will affect outcomes

Other skills as required for successful performance in the Electrical Engineer 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
- REASON TO SOLVE PROBLEMS - Apply general rules to specific problems to produce answers that make sense
- REACH CONCLUSIONS - Combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events)

Other abilities as required for successful performance in the Electrical Engineer 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.