



**Code: 6054**

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

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## **CLASS TITLE: MECHANICAL ENGINEER IV**

### **CHARACTERISTICS OF THE CLASS**

Under supervision, the class independently performs moderately complex professional mechanical engineering related to the design, installation, maintenance and inspection of mechanical equipment and systems, and performs related duties as required

### **ESSENTIAL DUTIES**

- Conducts extensive inspections and tests to assess the operational efficiency of mechanical systems and equipment
- Calibrates and monitors mechanical equipment instrumentation to ensure accurate readings and safe operation of equipment
- Performs calculations of calibration results and prepares data for use in operational reports
- Develops and writes specifications for the procurement of mechanical equipment and instrumentation
- Prepares cost estimates for new installations or the repair and maintenance of existing mechanical systems and equipment
- Performs engineering calculations and acceptance tests of mechanical equipment to ensure performance standards are met and makes recommendations for improvement
- Manages medium to large design and construction projects and reviews technical drawings, proposed changes and contract amendments prepared by architects, engineers and contractors to ensure compliance with municipal codes, design standards and project specifications, and recommends changes
- Reviews payment vouchers submitted by engineering and construction firms ensuring requests reflect completed work according to contract specifications
- Assists with the preparation of grant applications for various energy efficient features and programs
- Assists in training lower level engineers in equipment operations and testing procedures as well as providing technical support to departmental staff
- Confers with operating departments and sister agencies to coordinate mechanical engineering projects and activities, as required
- May serve as resident engineer for large mechanical engineering projects, ensuring minimal disruptions to operations, monitoring of installation methods and inspection of related equipment
- May determine the appropriateness of engineering changes, contract amendments and related costs, and confers with contractors to review and approve plan changes and contract modifications

**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 Mechanical Engineering or a directly related field of engineering, plus two years of mechanical engineering work experience, or an equivalent combination education, training and experience, provided that the minimum degree requirement is met

### Licensure, Certification, or Other Qualifications

- None

## WORKING CONDITIONS

- General office environment and water pumping stations
- May be exposed to inclement weather and extreme temperatures

## 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)
- Mechanical calibration and testing equipment, AutoCAD system

## PHYSICAL REQUIREMENTS

- Ability to access mechanical systems and equipment during various stages of installation or repair

## KNOWLEDGE, SKILLS, ABILITIES, AND OTHER WORK REQUIREMENTS

### Knowledge

Considerable knowledge of:

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

Moderate knowledge of:

- \* use of mechanical and hydraulic equipment
- \*applicable computer software packages and applications
- \*project management principles, methods, practices and procedures

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

Other knowledge as required for successful performance in the Mechanical Engineer III 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
- \*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
- \*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 Mechanical Engineer III 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
- 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)

Other abilities as required for successful performance in the Mechanical Engineer III class

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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.

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City of Chicago  
Department of Human Resources  
July, 2015