



Code: 0602
Family: Information Technology
Service: Administrative
Group: Clerical, Accounting, and General Office
Series: Information Technology

CLASS TITLE: PRINCIPAL SYSTEMS PROGRAMMER

CHARACTERISTICS OF THE CLASS

Under general supervision, functions as a technical expert in installing and maintaining operating systems and application software, and performs related duties as required

As a technical expert OR team leader, assignments at this level typically require considerable knowledge of operating systems and configuration methods, or specialized knowledge of a subject matter, discipline, or function. Positions in this class title are allocated across various City departments and perform a wide range of functions that are specific to the operational needs of the department. Common specialty titles or functional roles for positions in this class title include but are not limited to: *Lead/Supervising Systems Software Programmer, Lead/Supervising Software Analyst, Lead/Supervising Application Analyst.*

Examples of the essential core functions that characterize this class are provided below for the purpose of distinguishing the level and scope of duties and responsibilities allocated to this class.

ESSENTIAL DUTIES

- Installs, tests, and evaluates specialized systems software products for compatibility with existing systems
- Monitors and evaluates systems for maximum efficiency
- Tunes, configures, and upgrades systems as required
- Codes, tests, and debugs complex operating systems programs
- Develops or leads a team in the development of specialized systems programs (e.g. database) in a functional area
- Prepares documentation describing program operations and procedures
- Maintains and modifies existing operating systems programs to conform to business requirements or systems changes
- Defines development tools and procedures for operational support
- Analyzes operating systems programming problems to identify causes of hardware and software malfunctions
- Recovers systems-oriented files after failures and/or performs systems disaster recovery tasks
- May perform systems disaster recovery tasks by backing up catalogs and reinstalling system program files

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 Computer Sciences, Information Technology/Systems or a directly related field, plus two years of systems programming experience, or an equivalent combination of education, training and experience

Licensure, Certification, or Other Qualifications

- None

WORKING CONDITIONS

- General office environment

EQUIPMENT

- Standard office equipment (e.g., telephone, printer, photocopier, fax machine, calculator)
- Personal computers and peripheral equipment (e.g., desktop computer, laptop computer, hand-held computer, computer terminals, modems, scanner)
- Client/server computer
- Local area/wide area communications network

PHYSICAL REQUIREMENTS

- No specific requirements

KNOWLEDGE, SKILLS, ABILITIES, AND OTHER WORK REQUIREMENTS

Knowledge

Considerable knowledge of:

- *applicable computer software packages
- *computer operating systems
- *programming logic and languages, data manipulation, and integrated environments
- *space management, file back up, and restoration/disaster recovery techniques
- systems communications protocols

Moderate knowledge of:

- *methods, practices, and procedures for analyzing and resolving computer-related problems
- commercial computer systems applications and their capabilities
- computer systems management
- IT systems development practices, standards, and procedures
- *data security policies and processes

Some knowledge of:

- methods and techniques of database analysis and design
- distributed and centralized computer systems

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

Other knowledge as required for successful performance in the Senior Systems Programmer 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
 - *COMPLEX PROBLEM SOLVING - Identify complex problems and review related information to develop and evaluate options and implement solutions
 - *JUDGEMENT AND DECISION MAKING - Consider the relative costs and benefits of potential actions to choose the most appropriate one
 - *SYSTEMS ANALYSIS - Determine how a system should work and how changes in conditions, operations, and the environment will affect outcomes
 - 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
 - *PROGRAMMING - Write computer programs for various purposes
 - *QUALITY CONTROL ANALYSIS - Conduct tests and inspections of products, services, or processes to evaluate quality or performance
 - *TECHNOLOGY DESIGN - Generate or adapt equipment and technology to serve user needs
 - *TROUBLESHOOTING - Determine causes of operating errors and decide what to do about it
- Other skills as required for successful performance in the Senior Systems Programmer 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
 - 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)
- Other abilities as required for successful performance in the Senior Systems Programmer 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

CLASS TITLE: PRINCIPAL SYSTEMS PROGRAMMER

- ADAPTABILITY/FLEXIBILITY - Be open to change (positive or negative) and to considerable variety in the workplace
- 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
- INNOVATION - Think creatively about alternatives to come up with new ideas for and answers to work-related problems
- ANALYTICAL THINKING - Analyze information and using logic to address work or job issues and problems

Other characteristics as required for successful performance in the Senior Systems Programmer 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
October, 2014