



Code: 06C7
Family: IT–Architect
Service: Administrative
Group: Clerical, Accounting, and General Office
Series: Information Technology

CLASS TITLE: DATA ARCHITECT

CHARACTERISTICS OF THE CLASS

Under supervision, is responsible for the overall design of the enterprise-wide data/information architecture, which maps to the enterprise architecture and balances the need for access against security and performance requirements; and performs related duties as required.

This class is assigned to the City's Architect Information Technology Job Family which consists of architects that develop technology strategy and vision, create technology roadmaps, and select specific technologies, provide conceptual designs of the technology environment, and create high-level solution designs.

ESSENTIAL DUTIES

- Creates and maintains current-and target-state data architectures
- Develops conceptual, logical, and physical data models to support data analysis and business intelligence
- Leads the design, development, implementation and maintenance of complex data systems and solutions
- Develops internal and external data governance controls
- Defines and manages standards, guidelines, and processes to ensure data quality
- Ensures technology solutions are in alignment with data architecture principles and target state
- Oversees end-to-end data life cycle management activities
- Provides technical expertise and strategic direction for the technologies, standards, processes, and architectures for data across the enterprise
- Works with product teams, product analysts and data scientists and analytics teams to understand data consumers' needs and develop solutions
- Evaluates and recommends emerging technologies for data management, storage, and analytics
- Leads strategy design and implementation and archiving and recovery strategy
- Develops a metadata management repository strategy and database management systems optimization
- Ensures existing data/information assets are identified, stewarded, and leveraged across the enterprise

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 an Bachelor's Degree in Information Science and Technology, Business Administration, Computer Science, Engineering or a directly related field plus two (2) years of relevant architecture 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., phone, printer, copier, computers, mobile devices)
- Standard productivity suites (e.g., Microsoft Office Suite, OpenOffice, Google Workspace)

PHYSICAL REQUIREMENTS

- No specific requirements

KNOWLEDGE, SKILLS, ABILITIES, AND OTHER WORK REQUIREMENTS

Knowledge

Comprehensive knowledge of:

- *architectural decisions and recommendations to business needs
- *emerging regulatory issues and database technologies
- *designing and constructing data architectures, operational data stores, and data marts
- developing reference architecture, principles, and standards
- business intelligence tools

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

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
- COMPLEX PROBLEM SOLVING - Identify complex problems and review related information to develop and evaluate options and implement solutions
- TIME MANAGEMENT - Manage one's own time or the time of others
- COORDINATION WITH OTHERS - Adjust actions in relation to others' actions
- 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

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
- **CONCENTRATE** - Concentrate on a task over a period of time without being distracted
- **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
- **COME UP WITH IDEAS** - Come up with a number of ideas about a topic
- **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)

Additional Competency Requirements

- **COMMUNICATION FOR RESULTS** – Writes, speaks and presents effectively. Explains the immediate context of the situation, asks questions with follow-ups and solicits advice prior to taking action. Develops presentations to influence others by using graphics, visuals or slides that display information clearly. Listens and asks questions to understand other people’s viewpoints.
- **GROWTH MINDSET** – Takes ownership of personal growth. Identifies knowledge gaps. Asks questions of subject matter experts and seeks help when needed. Keeps abreast of information, developments and best practices within a field of expertise (e.g., by reading, interacting with others or attending learning events).
- **INITIATIVE** – Volunteers to undertake tasks that stretch his or her capability. Identifies who can provide support and procures their input. Identifies problems and acts to prevent and solve them.
- **OWNERSHIP AND COMMITMENT** – Volunteers to undertake tasks that stretch his or her capability. Checks the scope of responsibilities of self and others. Monitors day-to-day performance and takes corrective action when needed to ensure desired performance is achieved. Identifies problems and acts to prevent and solve them. Identifies who can provide support and procures their input.
- **ANALYTICAL THINKING** – Undertakes a process of information and data collection and analysis for integration purposes. Identifies and makes sets of information and determines their relationships. Makes logical deductions from data. Identifies a solution for resolving the problem.
- **BUSINESS FUNCTION KNOWLEDGE** – Asks questions to determine the needs of a specific business function. Assesses the impact on business functional requirements prior to taking action.
- **PLANNING AND PRIORIZATION** – Creates project plans and milestones to manage the delivery of individuals' work. Monitors progress of work against project plan as required to meet objectives. Is able to detect potential conflicts and address them promptly.
- **FOUNDATION ARCHITECTURE KNOWLEDGE** – Shows understanding of the concept and usefulness of foundation architecture in the development and deployment of software and hardware. Integrates tasks with the foundation architecture. Uses relevant tools and techniques in own work area.

- **INFORMATION SYSTEMS KNOWLEDGE** – Possesses a basic understanding of the strategy, structures, processes and procedures of the enterprise in its relationship with the business and its activities. Troubleshoots in response to requests for technical support. Identifies problems and needs. Escalates problems to appropriate technical experts.
- **PROBLEM SOLVING** – Issues may not have clearly prescribed solutions and require interpretation of policies or analysis to resolve. Solicits input in gathering data that help identify and differentiate the symptoms and root causes of defined problems. Suggests alternative approaches that meet the needs of the organization, the situation and those involved. Escalates issues with suggestions for further investigation and options for consideration.
- **STRATEGIC TECHNOLOGY PLANNING** – Investigates technology practices, priorities and direction. Uses the strategic technology plan to set objectives and action plans for a specific work area.
- **SYSTEMS THINKING** – Investigates the critical relationships between primary business, technology and system platforms. Devises approaches that recognize the interdependencies of key system components.

Other competencies as required for successful performance in the lower-level series.

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
March 2023