CLASS TITLE: SENIOR FORENSIC DATA ANALYST

CHARACTERISTICS OF THE CLASS

Under general supervision, performs senior-level data analytics functions to support citywide investigations conducted in the Office of the Inspector General (OIG), and performs related duties as required

ESSENTIAL DUTIES

- Develops and employs innovative techniques for data mining, exploratory, and predictive analytics resulting in the extraction of critical, near real-time information

- Develops advanced and statistical models and techniques (e.g., predictive algorithms) to analyze large, complex transactional and operational data sets extracted from City source databases to assist in the evaluation of deviations and trends in support of investigative and regulatory activities

- Creates, updates, and maintains comprehensive inventory of systems and databases used throughout the City

- Reviews and classifies inventory of data across the City and identify core data and associated hierarchies/taxonomy and lifecycle events

- Designs and conducts quality testing of source data; reviews data flow and usage to identify risks due to poor data quality and processing inefficiencies

- Creates advanced business intelligence and dashboards

- Assists office senior management with identifying City data sources

- Meets with information technology administrators assigned to operating departments and within external organizations (e.g., financial institutions, utility companies) to determine system compatibility with current applications

- Compiles and generates statistical and narrative reports to summarize the findings of financial forensic analysis work

- Assists in troubleshooting and maintaining office data storage systems

- Works with department personnel office wide to implement a consistent process for receiving and delivering data analytical services

- Provides technical expertise with external database connections, computer forensics, and financial forensic analysis

- Identifies training needs to ensure quality control of analysis work product

- Mentor, train, and assists lower level Analysts with analysis and techniques

- May assist Chief Forensic Data Analyst with project assignments

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 Master's degree or higher in Data Analytics, Statistics, Mathematics, Economics, Computer Science, or Information Technology/Systems or a directly related field, plus four (4) years of work experience in data analysis or data management

Licensure, Certification, or Other Qualifications

- None

WORKING CONDITIONS

- General office environment

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)

PHYSICAL REQUIREMENTS

- No specific requirements

KNOWLEDGE, SKILLS, ABILITIES, AND OTHER WORK REQUIREMENTS

Knowledge

Considerable knowledge of:

- *methods and techniques of data design, analysis and management
- *programming logic and languages, data manipulation and integrated environments
- *methods and techniques of predictive analytics
- *applicable computer software packages
- *research methods, techniques and procedures

Moderate knowledge of:

- *data mining processes and tools
- *data query, analysis and reporting

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 ENGAGEMENT - Give full attention to what other people are communicating, taking 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
- *PROGRAMMING – Write computer programs for various purposes

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

- ANALYTICAL THINKING - Analyze information and using logic to address work or job issues and problems

- COMPARE AND RECOGNIZE DIFFERENCES - Quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns (includes comparing a presented object with a remembered object)

- ORGANIZE INFORMATION - Arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations)

- REACH CONCLUSIONS – Combine pieces of information to firm general rules or conclusions

Other Work Requirements

- INITIATIVE - Demonstrate willingness to take on job challenges

- ATTENTION TO DETAIL - Pay careful attention to detail and thoroughness in completing work tasks

- ANALYTICAL THINKING – Analyze information and using logic to address work or job issues and problems

- INDEPENDENCE - Develop own ways of doing things, guide oneself with little or no supervision, and depend mainly on oneself to get things done

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.