



**JULY 2009**  
**FLSA: EXEMPT**

## **INFORMATION SYSTEMS ENGINEER**

### **DEFINITION**

Under general direction, performs a wide variety of professional, technical, and analytical tasks related to support and administration of the District's computer network systems and related servers; provides lead support for server and network management, configuration, security, resource monitoring, reporting, and troubleshooting; stays informed of new technology; provides recommendations, support, and assistance to the Information Technology/Management Information Systems Manager and District information technology users; and performs related work as required.

### **SUPERVISION RECEIVED AND EXERCISED**

Receives general direction from the Information Technology/Management Information Systems Manager. Exercises technical and functional direction over and provides training to lower-level staff.

### **CLASS CHARACTERISTICS**

This classification is assigned to the MIS Department and responsible for designing, planning, implementing, and maintaining the District's computer network and server infrastructure, including hardware installation, software installation and configuration, user administration and maintenance, needs analysis, evaluation of vendor hardware/software capabilities, recommending appropriate systems for purchase, troubleshooting, and monitoring operations. Responsibilities include performing diverse, specialized, and complex work involving significant accountability and decision-making responsibility. Successful performance of the work requires skill in managing projects and coordinating assigned work with other District departments, vendors, and contractors. This class is distinguished from Information Technology/Management Information Systems Manager by the latter's full management and supervisory authority in planning, organizing, and directing the full scope of operations within the department.

### **EXAMPLES OF ESSENTIAL FUNCTIONS (Illustrative Only)**

*Management reserves the right to add, modify, change, or rescind the work assignments of different positions and to make reasonable accommodations so that qualified employees can perform the essential functions of the job.*

- Plans, implements, administers, monitors, and maintains the District's computer network and server infrastructure, including hardware installation, software installation and configuration, user administration, resource administration, troubleshooting, monitoring, operations, and vendor technical support.
- Identifies opportunities for improving service delivery methods and procedures; reviews with appropriate management staff and implements improvements; works with District staff to maintain, revise, or improve the overall network and server operations.
- Conducts growth analysis and planning to prepare for and minimize costs of system expansion.

- Participates in the development and implementation of goals, objectives, policies, and priorities for the District's computer systems, networks, and servers; identifies resource needs; recommends and implements policies and procedures.
- Works with vendor representatives to identify and correct causes of hardware, software, and server malfunctions and to perform enhancements.
- Evaluates and analyzes the District's information systems needs and requirements; develops and recommends application and resource priorities; administers changes and adjustments to systems as needed.
- Monitors the performance of the system; tracks possible problem areas affecting response time and prepares recommendations for correction of problems and improvement in performance.
- Manages network architecture, including LAN, WAN, and WLAN technologies including routers, switches, hubs, access points, and firewalls.
- Designs, implements, and upgrades network and server architecture to accommodate growing communication requirements.
- Maintains and troubleshoots networks, systems, servers, and applications to identify and correct malfunctions and other operational problems.
- Administers and maintains the District's Microsoft Server 2003 Clustering Services, manages day-to-day issues of the Windows Active Directory; monitors server health and maintains service pack levels, anti-virus, etc; coordinates with staff and District users regarding planning outages and maintenance and system changes.
- Assists in evaluating the impact of new software and client/server applications being considered to determine impact on current and future infrastructure.
- Ensures maintenance contracts, licenses, and auditing procedures and policies are current and accurate, and adheres to established standards.
- Manages application deployment of server/client software.
- Provides technical assistance and support for all computer users at the District for all levels of software/hardware issues via telephone, remote control of computers, or site visit to ensure minimal downtime and greatest faculty, staff, and student productivity.
- Evaluates and recommends purchases of servers, network hardware, peripheral equipment, and software; provides technical consulting services to departments regarding the use of computers and networks to satisfy operational needs.
- Develops and maintains documentation of current system configuration, network systems, and servers.
- Develops and maintains procedures and systems for data security, backup, redundancy, and recovery.
- Provides assistance and support for PC configuration and troubleshooting; maintains central PC support systems and applications; coordinates with users to determine their server and network requirements; assists with help desk activities and support.
- Develops and conducts various training and instruction courses for system users on operating systems and applications; assists users in maximizing the use of networks and computing systems.
- Builds servers from ground up, loading operating system, patching, and prepares for operational use.
- Attends meetings, conferences, workshops, and training sessions, and reviews publications to remain current on principles, practices, and new developments in information technology.
- Performs other duties as assigned.

## **QUALIFICATIONS**

### **Knowledge of:**

- Operational characteristics, services, and activities of information technology, including Microsoft server operating system.

- Modern and complex principles and practices of computer network and server management, analysis, design, implementation, and maintenance.
- Design, operations, properties, and capabilities of networks and network cabling.
- Various software packages including word processing, spreadsheet, data processing, graphics, and desktop publishing applications and programs.
- Operation and care of computer equipment.
- Operating characteristics, capabilities, capacities, and limitations of computer related peripheral equipment.
- Data management theory, principles, and practices and their application to a wide variety of services and programs.
- Operating systems such as LAN/WAN and WLAN operating systems, mini-computer applications, and telephone systems.
- Techniques of contract administration.
- Business letter writing and record-keeping principles and procedures.
- Methods, techniques, and practices of data collection and report writing.
- Modern office practices, methods, and computer equipment and applications related to the work, including word processing, database, and spreadsheet software.
- English usage, spelling, vocabulary, grammar, and punctuation.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, students, and District staff, including individuals of various ages, various socio-economic and ethnic groups.

**Ability to:**

- Implement comprehensive computer, network, and server operations-related projects and training programs.
- Perform difficult server and computer information system operation, installation, repair, and maintenance work involving the use of independent judgment and personal initiative.
- Analyze problems, identify alternative solutions, project consequences of proposed actions, and implement recommendations in support of goals.
- Interpret and apply the policies, procedures, laws, and regulations pertaining to assigned programs and functions.
- Accurately evaluate and prioritize hardware and software requests.
- Research, develop, and recommend cost effective technical system improvements.
- Prepare clear and effective reports, correspondence, policies, procedures, and other written material.
- Analyze situations and identify pertinent problems/issues; collect relevant information; evaluate realistic options; and recommend/implement appropriate course of action.
- Establish and maintain a variety of filing, record-keeping, and tracking systems.
- Respond to and effectively prioritize multiple phone calls and other requests for service.
- Make accurate arithmetic and statistical computations.
- Organize and prioritize a variety of projects and multiple tasks in an effective and timely manner; organize own work, set priorities, and meet critical time deadlines.
- Operate modern office equipment including computer equipment and specialized software applications programs.
- Use English effectively to communicate in person, over the telephone, and in writing.
- Use tact, initiative, prudence, and independent judgment within general policy and legal guidelines in politically sensitive situations.
- Establish, maintain, and foster positive and harmonious working relationships with those contacted in the course of work.

**Education and Experience:**

*Any combination of training and experience that would provide the required knowledge, skills, and abilities is qualifying. A typical way to obtain the required qualifications would be:*

Equivalent to graduation from an accredited four-year college or university with major coursework in computer science, information systems, data processing, or a related field and three (3) years of increasingly responsible systems, network administration, and server management experience, including some project lead experience.

**Licenses and Certifications:**

- Possession of, or ability to obtain, a valid California Driver's License by time of appointment.

**PHYSICAL DEMANDS**

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer; to operate a motor vehicle and to visit various District sites; vision to read printed materials and a computer screen; and hearing and speech to communicate in person and over the telephone. This is primarily a sedentary office classification although standing in and walking between work areas is frequently required. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment. Positions in this classification frequently bend, stoop, kneel, reach, push, and pull drawers open and closed to retrieve and file information. Employees must possess the ability to lift, carry, push, and pull materials and objects weighing up to 50 pounds.

**ENVIRONMENTAL ELEMENTS**

Employees work in an office environment with moderate noise levels, controlled temperature conditions, and no direct exposure to hazardous physical substances. Employees may interact with upset staff and/or public and private representatives in interpreting and enforcing departmental policies and procedures.