



Job Description

Please note this job description is not designed to cover or contain a comprehensive listing of activities, duties, or responsibilities that are required of the employee for this job.

Job title	Information Systems Engineer I/II
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GENERAL PURPOSE

Under general supervision (Information Systems Engineer I) or direction (Information Systems Engineer II), provides professional analytical support to District technology programs in diverse capacities ranging from responses to complex user-support problems to technology system development, implementation, and administration; monitors systems to ensure performance and reliability standards are met; collaborates with team members to integrate systems across multiple operating platforms and technologies; performs specialized duties in support of an assigned technology program area; and performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS

Information Systems Engineer I: This is the entry-level classification in the Information Systems Engineer series. Initially under close supervision, incumbents learn the operational aspects of the District's technology environment, its multiple systems and associated hardware and software, and the specific operations of the technology program area to which the position is assigned. As experience is gained, assignments become more varied, complex, and difficult; close supervision and frequent review of work lessen as an incumbent demonstrates skill to perform the work independently. Positions at this level usually perform most of the duties required of the positions at the Information Systems Engineer II level but are not expected to function at the same skill level and usually exercise less independent discretion and judgment in matters related to work procedures and methods. Work is usually supervised while in progress and fits an established structure or pattern. Exceptions or changes in procedures are explained in detail as they arise.

Information Systems Engineer II: This is the fully qualified journey-level classification in the Information Systems Engineer series. Positions at this level are distinguished from the Information Systems Engineer I by the performance of the full range of duties as assigned, working independently, and exercising judgment and initiative. Positions at this level receive only occasional instruction or assistance as new or unusual situations arise and are fully aware of the operating procedures and policies of the work unit. This class is distinguished from the Senior Information Systems Engineer in that the latter performs the more complex work assigned to the series, serves in a project lead

capacity on an ongoing basis, and/or provides technical and functional direction over lower-level staff.

SUPERVISION RECEIVED AND EXERCISED

Receives general supervision (Information Systems Engineer I) to direction (Information Systems Engineer II) from assigned supervisory or management personnel. Exercises no direct supervision over staff.

TYPICAL DUTIES AND RESPONSIBILITIES

The duties listed below are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related or a logical assignment to this position.

Positions at the Information Systems Engineer I level may perform some of these duties and responsibilities in a learning capacity.

All Technology Program Areas:

- Provides analytical support to District technology programs in diverse capacities ranging from highly complex user support to technology system development, implementation, and administration.
- Serves as advanced-level responder to client service issues using multiple diagnostic techniques; isolates problems with a significant impact on user groups, such as the system's lack of availability or unreliability; identifies critical system outages or failures among multiple systems; independently resolves issues or confers with colleagues and management on resolution options.
- Provides status updates to clients and colleagues on technology problem resolution, identifying the nature of the problem, recommended solution, any cost impacts, and anticipated date of resolution.
- Uses multiple devices to monitor systems evaluating reliability, conformance to performance metrics, and overall availability; identifies system deficiencies or additional resource requirements and makes recommendations on resolution of same.
- Develops and implements modified or enhanced systems that increase their effectiveness, efficiency, reliability, and availability; implements, tests, and evaluates the effectiveness of solutions.
- Installs, configures, maintains, troubleshoots, and monitors hardware, software, and tools; configures and maintains system patches.

- Installs system security hardware, software, and related devices; monitors security system to identify any breaches to the system; activates procedures and responses to system security issues; assesses assigned technology area for potential exposure to risk and provides recommendations to mitigate risk; documents security-related actions.
- Assists in the development and implementation of technology-related protocols, policies, procedures, and operating standards.
- Prepares technical documentation for assigned technology program areas; updates as needed; maintains statistical data; prepares analyses and reports.
- Conducts research and stays current on new trends and innovative solutions for technology programs; recommends new technologies that would improve the operational effectiveness or services to client departments.
- Observes and complies with all District and mandated safety rules, regulations, and protocols.
- Performs related duties as assigned.

When Assigned System/Network/Communications Responsibilities:

- Performs systems administration functions for server, storage, and networking platforms; maintains a Windows-based central authentication and management platform; plans, tests, documents, and installs software upgrades; monitors, evaluates, and takes appropriate action based on system performance, health, and other statistics; partitions and allocates resources to optimize system and application performance.
- Installs and configures data communications equipment; participates as a team member on multi-platform installations; integrates new systems, applications, and other technologies; sets up, documents, installs, and maintains systems in accordance with established procedures; installs, documents, and manages server-based applications and software tools.
- Provides root cause analysis for system problems and performs or works with vendors or technology teams to resolve issues; automates repetitive tasks, including developing scripts and backup strategies.
- Serves as communications network administrator for the network infrastructure that supports the sharing of data across computer/server platforms and systems; designs data bus architectures, data interfaces, cable/cable layout and installation specifications, and other network and communications devices and protocols.
- Uses network analyzer, system logs, and auditing tools to ensure efficient data transmission and adequate network redundancies; designs and installs multi-platform interfaces; configures, tests, tunes, and maintains network integrity and

security to achieve optimal data communications system performance; researches, diagnoses, and resolves problems to minimize system downtime; documents network configuration and standards.

- Evaluates, recommends, installs, and configures network hardware, including bridges, cabling, and other wiring equipment; installs communications devices in accordance with established protocols.
- Manages and coordinates telephone and voice communications services, including adding, deleting, and modifying circuits, planning and installing additional telephone lines, planning and installing switchboards and PBXs, installing and programming routers, and designing and modifying communications closets.

When Assigned Database Responsibilities:

- Performs physical designs of database formats for user front-end entry and inquiry; creates standard databases and database menu formats; designs database structures; captures basic requirements; performs logical design, and implements design using established techniques.
- Performs database management and administration tasks; creates and maintains user accounts, roles, and access privileges; troubleshoots database and data administration problems to identify the source of problems and performs or requests fixes or repairs; provides database infrastructure support in data warehousing and transaction processes; ensures database capacity.
- Installs and executes programs and scripts to upgrade database structures for existing applications; monitors and tunes database applications for optimal performance; performs backup and recovery tasks.

REQUIRED QUALIFICATIONS

Positions at the Information Systems Engineer I level may exercise some of these knowledge and abilities statements in a learning capacity.

Knowledge of:

- Principles, methods, and techniques in the design and operation of information systems in assigned technology area which may include, but is not limited to, infrastructure, network, communications, database, or system control.
- Methods and techniques of troubleshooting systems and devices in assigned technology area.
- Methods and techniques of installing, configuring, administering, and monitoring a diverse range of physical and virtual systems.
- Methods and techniques of evaluating system effectiveness and responding accordingly.

- Security and monitoring devices, and procedures necessary to maintain the integrity and security of data in networked systems.
- Principles and practices of systems analysis and design for the development and management of assigned technology systems.
- Change management principles and practices.
- Principles, practices, and methods of network architecture, design, and administration, including connectivity, protocols, interfaces, and security measures.
- Methods of managing and administering server-based operating systems.
- Principles and practices of database design, administration, and functionality.
- Principles, methods, protocols, and techniques in the design, installation, and operation of data, voice, and video communications systems, networks, equipment, devices, and cabling.
- Federal, state, and local laws, codes, and regulations in assigned areas of responsibility.
- Standard programming languages and utilities similar to those used by the District.
- District and mandated safety rules, regulations, and protocols.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors, and District staff.
- The structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.
- Modern equipment and communication tools used for business functions and program, project, and task coordination, including computers and software programs relevant to work performed.

Ability to:

- Provide professional level support to systems in assigned technology areas.
- Troubleshoot a diverse range of systems hardware and software and make or recommend modifications.
- Install, configure, maintain, and administer networked systems hardware and software including servers.
- Monitor systems performance and recommend changes to optimize system reliability and availability.
- Performs database management and administration tasks including tuning, storage, and backup and recovery measures.
- Develop and implement security measures in assigned technology area.
- Configure, maintain, and manage data and voice communication networks and infrastructure to achieve optimal technical performance and user support.
- Analyze and define user requirements and recommend efficient, cost-effective hardware, software, and network/communication solutions.
- Conduct comprehensive research in a diverse range of technology topics.
- Conduct analysis and feasibility studies; analyze complex problems, evaluate alternatives, and make sound recommendations.

- Apply critical thinking techniques for a broad range of situations.
- Prepare clear, concise, and accurate documentation, user guides, reports of work performed, and other written materials.
- Use modern, state-of-the-art precision and diagnostic instruments, computers, and specialized software to test, calibrate, and diagnose complex telecommunication systems, devices, and equipment.
- Independently organize work, set priorities, meet critical deadlines, and follow-up on assignments.
- Use tact, initiative, prudence, and independent judgment within general policy, procedural, and legal guidelines.
- Effectively use computer systems, software applications relevant to work performed, and modern business equipment to perform a variety of work tasks.
- Communicate clearly and concisely, both orally and in writing, using appropriate English grammar and syntax.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Experience:

Any combination of experience and education that provides the required knowledge and abilities is qualifying, along with the specific licenses/certifications as outlined below:

- Information Systems Engineer I (I): Two (2) years of professional experience in supporting an information systems program in assigned technology area.
- Information Systems Engineer II (II): Four (4) years of progressively responsible professional experience in supporting an information systems program in assigned technology area.

Education:

- Information Systems Engineer I/II (I/II): Equivalent to a bachelor's degree from an accredited college or university with major coursework in information technology, computer science, or a closely related field.

Licenses/Certifications:

- A valid California driver's license and the ability to maintain insurability under the District's Vehicle Insurance Policy.
- Microsoft certifications may be required in certain assigned areas.
- Oracle certifications may be required in certain assigned areas.
- Cisco certifications are required in certain assigned areas.

PHYSICAL DEMANDS

The physical demands described here are representative of those that must be met by employees to successfully perform the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer; to operate a vehicle 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 work areas and walking between work areas may be 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 occasionally 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 up to 40 pounds.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

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.

FLEX REQUIREMENTS

Positions in the Information Systems Engineer class series are flexibly staffed; positions at the Information Systems Engineer II level are normally filled by advancement from the Information Systems Engineer I level; progression to the Information Systems Engineer II level is dependent on (i) management affirmation that the position is performing the full range of duties assigned to the classification; (ii) satisfactory work performance; (iii) the incumbent meeting the minimum qualifications for the classification including any licenses and certifications; and (iv) management approval for progression to the Information Systems Engineer II level.

Eastern Municipal Water District
Job Title: Information Systems Engineer I/II
Last Update: March 2020

This job description has been reviewed and approved by all levels of management in cooperation with the union (if applicable):

Approved by:	<i>Board of Directors</i>
Date adopted:	<i>March 29, 2020</i>
Date modified:	
FLSA determination:	<i>Exempt</i>

Job Description Acknowledgment

I have received, reviewed, and fully understand the job description for Information Systems Engineer I/II. I further understand that I am responsible for the satisfactory execution of the essential functions described therein, under any and all conditions as described.

Employee Name (print): _____ *Date:* _____

Employee Number: _____

Employee Signature: _____