SYSTEMS ADMINISTRATOR

DEFINITION

Under general direction, performs a variety of complex professional, technical, and analytical tasks related to the support and evaluation of the College's information technology systems, including installing, maintaining, and supporting servers, storage systems, network devices, and other components required for hosting enterprise applications; stays informed of new technology; provides recommendations, support, and assistance to the Director, Infrastructure and Data Security, other Information Technology support staff, and College users.

SUPERVISION RECEIVED AND EXERCISED

Receives general direction from the Director, Infrastructure and Data Security. May exercise technical and functional direction over and provide training to assigned staff.

CLASS CHARACTERISTICS

This is an advanced journey-level class responsible for performing the full range of routine to complex functions required to maintain the College's enterprise applications infrastructure in a safe and secure manner. Incumbents perform complex assignments and projects requiring advanced knowledge of the concepts, practices, procedures, and policies of assigned functions. Incumbents at this level provide technical and functional leadership to staff. This class is distinguished from the Enterprise Network Administrator in that it provides a subject matter expert level of support for the enterprise server operation systems and storage systems, with primary focus on supporting server hardware and software for enterprise application support. This class is distinguished from the Systems Analyst/Programmer by the advanced technical work and the provision of technical instruction to lower-level staff. This class is distinguished from the Director, Infrastructure and Data Security in that the latter has overall responsibility for all programs, operations, activities, and services of the Infrastructure and Data Security unit.

EXAMPLES OF ESSENTIAL FUNCTIONS (Illustrative Only)

1. Performs a variety of complex systems analyses in the installation, configuration, maintenance, and monitoring of servers, storage systems, network devices, and other components of the enterprise application systems infrastructure.
2. Manages computer servers, including installing, maintaining, and troubleshooting hardware and software upgrades to ensure effective server performance; identifies resource needs and allocates resources appropriately; installs and maintains software and tools on servers to ensure proper functioning of enterprise system applications; configures real-time monitoring to identify and resolve service outages and critical resource shortages in a timely and efficient manner.
3. Performs complex security control activities to protect systems from inappropriate access or destruction; configures and monitors security features and firewall rules; identifies and addresses vulnerabilities; researches and applies security updates as needed.
4. Administers storage area network (SAN), including configuring network storage directories, volume controllers, and redundant array of independent disks (RAID) arrays, creating managed disk pools and volumes, creating new allocations, and monitoring storage usage, performance, and access rules.
5. Configures and administers enterprise email infrastructure, including mail servers, routers, filters, and user account management.
6. Configures and monitors enterprise backup solutions to provide data backup services for servers and end users; develops and implements backup schedules; manages the tape library to ensure critical data

is sent off-site for disaster recovery purposes; configures and monitors backup procedures on servers and other components; verifies that back-ups are successful and data can be recovered.

7. Proposes and implements system enhancements that improve the performance and reliability of the system; installs new operating systems, applications, and features; researches and implements upgrades and fixes as needed.
8. Automates routine tasks such as file transfers, mailing list updates, and user account management.
9. Develops training materials and conducts training for end-users and other information technology support staff.
10. Provides second and third level support to help desk, operators, and programming staff.
11. Performs other related or lower classification duties as assigned.

QUALIFICATIONS

Knowledge of:

1. Advanced principles of computer system operations, enterprise infrastructure, and peripheral components including systems analysis and development techniques, and maintenance (GIT, Subversion, Puppet, Salt, Chef, Ansible).
2. Advanced principles and practices for identifying systems-related issues and actions needed to improve or correct performance.
3. Advanced principles, practices, procedures, and techniques involved in installation, configuration, operation, monitoring, and maintenance of enterprise level systems running multi-tiered and load balanced applications in high availability environments.
4. Advanced knowledge and experience with Unix (AIX, HP-UX), Linux (RedHat), and Windows operating systems used for business and campus applications.
5. Advanced knowledge implementing and maintaining enterprise storage area networks with FiberChannel and iSCSI protocols.
6. Advanced knowledge and experience with virtualization (VMWware, KVM, Xen, Citrix) and cloud environments (Software as a Service, Platform as a Service, Infrastructure as a Service).
7. Procedures for creating, modifying, and reporting systems security and event correlations.
8. Technical report writing practices and procedures.
9. Principles and procedures of record keeping.
10. Modern office practices, methods, and computer equipment and applications related to the work, including word processing, database, and spreadsheet software.
11. English usage, spelling, vocabulary, grammar, and punctuation.
12. Techniques for providing a high level of customer service by effectively dealing with the public, vendors, students, and College staff, including individuals of various ages, disabilities, socio-economic and ethnic groups.

Skills & Abilities to:

1. Perform a variety of routine to complex functions in the installation, implementation, testing, and maintenance of a variety of support servers, storage systems, network devices, and other components required to host enterprise application systems.
2. Evaluates and applies up to date and modern system administration and management best practices effectively, such as system automation and software defined networks and system.
3. Analyze data and develop logical solutions to problems.
4. Monitor system and server utilization and recommend appropriate revisions to processes, procedures, and operations.
5. Evaluates, updates, and maintains disaster recovery procedures for hardware, software, and systems.
6. Establish and maintain a variety of filing, record keeping, and tracking systems.

7. 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.
8. Operate modern office equipment, including computer equipment and specialized software applications programs.
9. Use English effectively to communicate in person, over the telephone, and in writing.
10. Understand scope of authority in making independent decisions.
11. Learns and applies emerging technologies and, as necessary, to perform duties in an efficient, organized, and timely manner.
12. Review situations accurately and determine appropriate course of action using judgment according to established policies and procedures.
13. Establish, maintain, and foster positive and effective 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 an Associate's degree from a regionally accredited college with major coursework in management information systems, computer science, or a related field, and four (4) years experience in supporting and implementing operating systems infrastructure and/or server administration.

OR

Equivalent to a Bachelor's degree from a regionally accredited four-year college or university with major coursework in management information systems, computer science, or a related field, and two (2) years experience in supporting and implementing operating systems infrastructure and/or server administration.

Licenses and Certifications:

The incumbent may periodically be required to travel to a variety of locations. If operating a vehicle, employees must have the ability to secure and maintain a valid California driver's license.

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 to visit various College and meeting sites; vision to read printed materials and a computer screen; and hearing and speech to communicate in person, before groups, and over the telephone. This is primarily a sedentary office classification although standing 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 frequently bend, stoop, kneel, reach, push, and pull drawers open and closed to retrieve and file information. Incumbents must possess the ability to lift, carry, push, and pull materials and objects up to 20 pounds.

ENVIRONMENTAL ELEMENTS

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