Draft Classification Standards – Rev. 03/29/2024
Systems Administrator

Class Title	Class Code	Issue Date	FLSA
Systems Administrator I	XXXX	XXXX	Non-Exempt
Systems Administrator II	XXXX	XXXX	Exempt*
Systems Administrator III	XXXX	XXXX	Exempt*
Systems Administrator IV	XXXX	XXXX	Exempt*

OVERVIEW:

Responsible for the deployment and management of on-premise and cloud-based computer systems, servers, storage, services, and infrastructure with substantial impact on enterprise services. These roles ensure availability, reliability, and security of systems to meet the needs of faculty, staff, and students. Monitors, troubleshoots, maintains, implements enhancements and upgrades, designs and improves systems, servers, infrastructure and computing resources. Collaborates with cross-functional teams, technical staff, vendors, and stakeholders to lead process improvements and system development, deploy updates and fixes, as well as provide ongoing administration and technical support. Implements security measures to protect data and systems.

Positions are assigned to classifications within the series based on the scope and complexity of technology strategy activities; degree of independence and judgement; experience, knowledge, skill, and ability required; degree of planning, analysis, and execution required by the position; impact and risk to the university; and nature of supervision received. Higher levels within the series build upon and include the knowledge and skill requirements and work assignments of lower levels within the series.

Systems Administrator I – Entry-level professional who applies basic professional concepts to resolve problems of limited technical scope and complexity. Normally operates under established guidelines. Assignments may be routine in nature and involve performing various duties related to installing, configuring, and maintaining computer systems, servers, and infrastructure. Follows standard practices and procedures.

Systems Administrator II – Professional who applies acquired systems administration skills and knowledge to complete significant assignments, projects, and tasks related to the deployment and management of computer systems, servers, and infrastructure of moderate impact and complexity. Draws from prior experience and knowledge of systems administration principles and concepts to exercise judgment while implementing system updates and deployments and developing or customizing system solutions.

Systems Administrator III – Professional who applies advanced job skills, in-depth organizational and stakeholder acumen, and technical project planning skills to maintain and manage large systems and complete the planning, development, and deployment of systems solutions, and related work of significant technical scope and complexity. Exercises advanced discernment to lead teams in the development and deployment of new and customized systems as well as system upgrades and enhancements. Demonstrates in-depth knowledge of systems administration principles and information technology policies, guidelines, and standard operating procedures to determine

* This classification as outlined in this document meets the duties test of the Administrative Exemption. An employee's actual exemption status may differ based on salary rate and actual duties performed.

appropriate action. May require the development of new approaches, techniques, and innovation to address issues.

Systems Administrator IV – Technical leader with a high degree of knowledge in systems administration and architecture. Problem-solving frequently requires analysis of unique issues or problems without precedent and/or structure and new approaches, methods, techniques, or innovation. Under the direction of management, creates strategies, guidelines, and procedures to ensure performance, availability, and security of systems.

TYPICAL PROGRAMS, ACTIVITIES, AND CORE FUNCTIONS/DISCIPLINES *(May include but are not limited to)*:

- *Systems Upgrades and Enhancements* – Ensures system availability, performance, and security by planning, testing, implementing, and validating new systems, system upgrades, and related projects. Collaborates with cross-functional teams, stakeholders, and vendors to assess system requirements; research and evaluate new technologies and solutions; design, develop, or deploy new solutions and enhancements.

- *Systems Development and Administration* – Provides system technical support to integrate, manage, and maintain system and cloud-based operations, including process automation, deployment of updates, and software fixes. Performs root-cause analysis for production errors; investigates, and resolves technical issues, and provides general system troubleshooting and administration. Ensures the uptime, performance, and resource availability of the computer resources and other IT systems.

- *Data Center and Cloud Infrastructure* – Performs work associated with installation, upgrades, and configuration of hardware and software infrastructure in either an on-premises data center (server infrastructure) or cloud computing environment. Installs, configures, secures, and maintains operating systems, application software, and compute resources utilized by software and server operating systems.

- *System Maintenance* – Installs, configures, and maintains computer systems, servers, and infrastructure. Ensures system availability, reliability, and security by performing regular updates, patches, and backups, as well as monitoring system performance and troubleshooting any issues that arise.

- *User Support* – Provides systems support to end-users and technology staff, helping them with system performance and connectivity problems, and other technical issues. Ensures dependent services are well-supported by infrastructure and related systems. Provides technical support with user account management and access control. Responds to user inquiries, troubleshoots problems, and provides timely resolutions.

- *Server Administration* – Manages and maintains the organization's servers, including file, email, web, application, database, and systems servers. Installs and configures server software, monitors server performance, and ensures data backup and recovery.

- *Security and Disaster Recovery Management* – Implements and maintains security measures to protect systems, networks, and data. Monitors system logs, performs security audits, and implements security patches and updates. Develops, implements, and regularly tests disaster recovery plans to ensure the organization's systems and

data can be recovered in the event of a disaster. Backups and restores data to ensure data integrity. Participates in business continuity planning to minimize downtime and ensure the organization can continue its operations in case of disruptions.

- *System Documentation* – Creates and maintains system documentation, including system configuration guides, procedures, and user manuals to ensure that knowledge is shared and accessible within the organization. Ensures documentation is accurate, current, and accessible to relevant stakeholders.

DISTINGUISHING CHARACTERISTICS:

- For higher levels, the following apply:
  - Supports information systems used by core campus functions.
  - The information system is considered "enterprise class" and generally hosted in a central data center or in the cloud.
- Develops and executes combined development and operations role/strategy at the operating system and server level.
- For those who do not execute combined development and server-related roles, refer to the Business Systems Analysis or Software Development classifications.

SYSTEMS ADMINISTRATOR I

Under direct supervision, performs entry-level professional systems administration duties to install, configure, maintain, and support computer systems and serve on projects to develop and implement new systems or upgrades. Performs less complex technical tasks following detailed and established procedures. Work is reviewed for accuracy and soundness of technical concepts.

Work assignments typically include some or all of the following:

- Performs day-to-day systems administration tasks, including systems installation, configuration, maintenance, and troubleshooting for low-impact or less complex services.
- Analyzes data to monitor system performance and server health. Identifies, troubleshoots, and addresses issues or anomalies.
- Performs regular data backups and ensures the availability of backup systems. Monitors backup processes, verifies data integrity, and helps data recovery efforts.
- Performs routine system maintenance tasks, such as applying system updates, patches, and firmware upgrades.
- Coordinates access control to systems. Creates, modifies, and deletes user accounts in various systems and applications. Handles user permissions, password resets, and access control.
- Documents system configurations, procedures, and troubleshooting steps to maintain organized user/knowledge guides.
- Provides analytical support, research, and documentation for system development and implementation project teams.
- Stays current on emerging systems administration concepts.

MINIMUM QUALIFICATIONS:

Knowledge and Skill:

- General knowledge of operating systems, servers, and infrastructure and server administration as well as related system administration concepts, principles, and techniques.
- General knowledge of the assigned computer operating systems, systems analysis, and systems-level programming.
- Organizational and time management skills to plan, organize, and prioritize work.
- Demonstrated communication and interpersonal skills to gather information from users, communicate technical issues effectively, and draft documentation.
- Demonstrated knowledge and ability to configure data and troubleshoot system issues.
- Ability to use appropriate operating system and scripting languages and ability to perform systems level programming in a distributed, networked environment.
- Knowledge of applications programming techniques and procedures.
- Ability to maintain confidentiality and appropriately handle sensitive data and information.
- Ability to work independently as well as part of a team and build relationships with diverse stakeholders.
- Analytical skills to think critically to diagnose problems and recommend solutions.

Experience and Education:

Equivalent to a bachelor's degree in a related field. Relevant education, certifications, and/or experience which demonstrates acquired and successfully applied knowledge and abilities shown above may be substituted for the required education on a year-for-year basis.

SYSTEMS ADMINISTRATOR II

Under general supervision, deploys and maintains computer systems, servers, and network infrastructure. Applies systems administration knowledge to ensure the availability, reliability, and security of systems by deploying and managing systems and serving on teams to develop and implement new systems. Provides technical support and implements system enhancements. Works independently on most day-to-day assignments with general supervision on new assignments or projects to ensure alignment with objectives. Handles multiple work priorities and is accountable for own work results.

In addition to duties performed by the Systems Administrator I, the Systems Administrator II typically performs the following duties:

- Performs day-to-day systems administration tasks, including systems installation, configuration, maintenance, and troubleshooting for medium impact services.
- Configures and optimizes server and/or cloud infrastructure to ensure optimal performance and resource utilization. Fine-tunes system settings. Identifies and implements optimizations to improve system efficiency.
- Implements monitoring tools to proactively identify and resolve performance issues.
- Identifies and implements security measures to protect systems and data from unauthorized access, malware, and other threats. Configures firewalls, intrusion detection systems, and implements security best practices.
- Develops and implements automation scripts and tools to streamline system administration tasks. Uses scripting language(s) to automate routine tasks.
- Develops and maintains systems backup and recovery strategies, performs regular backups, and tests restore procedures to ensure data integrity in the event of system failures or data loss.

- Performs root-cause analysis for production errors or issues. Investigates and resolves systems-related issues, such as data corruption, connectivity problems, or performance degradation.
- Plans, coordinates, tests, executes, and validates system upgrades and ensures compatibility with new software versions or hardware upgrades.
- Monitors systems growth trends, assesses capacity requirements, and plans for future storage needs, including systems expansion, hardware upgrades, and resource allocation.
- Generates reports on systems performance, capacity utilization, and security compliance.
- Provides lead work direction and training to technical or less-experienced staff.

MINIMUM QUALIFICATIONS:

In addition to Systems Administrator I knowledge and skill requirements, work assignments typically require:
- Working knowledge of operating systems, server administration, scripting languages, virtualization technologies and cloud technologies, and related system administration concepts, principles, and technologies.
- Working knowledge of troubleshooting hardware and software issues and providing technical support.
- Working knowledge of applications programming techniques and procedures.
- Strong organizational skills to plan, organize, and manage multiple time sensitive assignments and smaller projects.
- Strong communication and interpersonal skills with the ability to present technical information to technically diverse audiences in a clear and concise manner.
- Strong analytical skills to evaluate, monitor, and resolve systems issues and design, develop, and implement systems solutions.
- Skill in leading the work of others.
- Proficiency in using applicable software, server, and system technologies and programs.
- Knowledge of higher education policies, data needs, and data privacy regulations.

Experience and Education:
Equivalent to a bachelor's degree in a related field and two years of relevant experience. Additional experience which demonstrates acquired and successfully applied knowledge and abilities shown above may be substituted for the required education on a year-for-year basis. An advanced degree in a related field may be substituted for the required experience on a year-for-year basis.

SYSTEMS ADMINISTRATOR III

Working independently under general supervision, designs and implements systems solutions that meet the university's evolving needs. Applies advanced technical knowledge and expertise in complex systems administration to provide technical advice on systems. Demonstrates advanced discernment in selecting methods and techniques for obtaining system administration solutions. Activities include the conceptualization, development, and implementation of complex systems and infrastructure. Decision-making is based on systems administration best practices; system standards; university and information system and security policies, guidelines, and protocols; and university needs and goals. Work is focused on ensuring alignment with overall

objectives. Handles multiple work priorities and may provide lead work direction with accountability for results.

In addition to duties performed by the Systems Administrator II, the Systems Administrator III typically performs the following duties:

- Maintains and manages large systems with critical and high impact services.
- Architects moderately complex systems.
- Architects and oversees the design and implementation of cloud environments, virtualization infrastructure, backup systems, and other enterprise applications.
- Collaborates with various stakeholders and cross-functional IT teams to plan and lead systems administration projects. Ensures technical solutions meet system needs and IT standards and protocols. Prepares cost analysis and justification for large systems administration projects.
- Designs new and recommends improvements to system administration processes and procedures.
- Leads and innovates process automation with an emphasis on increasing efficiency and effectiveness of systems setup and configuration, processes, and workflows.
- Under the guidance of management, establishes and enforces systems governance policies, standards, and procedures.
- Provides lead work direction, training, and mentorship to professional, technical, and other staff.

MINIMUM QUALIFICATIONS:

In addition to Systems Administrator III knowledge and skill requirements, work assignments typically require:

- Thorough and advanced knowledge of operating systems, server administration, scripting languages, virtualization technologies, and cloud technologies.
- Demonstrates competence in independently applying advanced judgment to resolve difficult and complex system administration problems and issues.
- Advanced project management skills, with the ability to manage multiple, large, and/or complex projects, including project design and planning; ongoing resource, materials, and time management; and implementation.
- Advanced analytical skills to understand problems from a broad perspective and discern applicable underlying principles to conceive and develop strategic systems solutions.
- Advanced skill in mentoring or overseeing the work of others.
- Ability to partner with business and academic stakeholders to ensure dependent systems meet institutional needs.
- Advanced communication and interpersonal skills to effectively convey technical knowledge and procedures and persuade stakeholders and management regarding systems design and development.

Experience and Education:

Equivalent to a bachelor's degree in a related field and four years of relevant experience. Additional experience which demonstrates acquired and successfully applied knowledge and abilities shown above may be substituted for the required education on a year-for-year basis. An advanced degree in a related field may be substituted for the required experience on a year-for-year basis.

SYSTEMS ADMINISTRATOR IV

Working primarily independently with minimal supervision, leads project teams to develop and implement new and improved systems infrastructure that meets critical needs and requirements for performance, scalability, security, and reliability. Uses technical expertise to provide expert advice and guidance to professional and technical staff. Problems are highly complex and solutions may require the creation of new procedures and systems administration techniques. Serves as a technical expert in the conceptualization, development, and implementation of systems administration. Decision-making often requires integration and interpretation of diverse IT disciplines; expert systems administration knowledge and experience; functionality, and user experience impact on systems design; and persuasion and negotiation with management. Understands institutional business and academic needs, and guides work and outcomes to meet core needs and values. Functions with a high degree of autonomy. Work often requires a high degree of technical expertise, persuasion, and leadership.

In addition to duties performed by the Systems Administrator III, the Systems Administrator IV typically performs the following duties:
- Leads the design and architecture of complex and high-impact systems to ensure optimal performance, scalability, and security.
- Responsible for enterprise-level configuration management.
- Collaborates with cross-functional/technical teams to ensure successful updates and implementation of new technical systems.
- Serves as an advisor for complex system requirements and data compliance.
- Under the direction of management, serves as a key technical advisor within the systems administration discipline. Provides technical insights and oversight to the implementation of complex integrated and unique systems solutions and resolution of highly complex problems and issues.
- Recommends new solutions and integrated problem resolutions to management.
- Under the guidance of management, oversees process improvement efforts, often developing new strategic approaches, solutions, processes, and protocols.

MINIMUM QUALIFICATIONS:

In addition to Systems Administrator III knowledge and skill requirements, work assignments typically require:
- Expert knowledge and understanding of operating systems, server administration, and virtualization technologies.
- Expert knowledge and skill in applying and interpreting applicable standards, guidelines and, as appropriate, recommend new procedures, protocols, and standards.
- Expert analytical and organizational skills to organize, prioritize, and coordinate the successful completion of large, complex, and strategic systems development and improvement projects.
- Expert communication and interpersonal skills to effectively convey complex technical systems and procedures and persuade stakeholders and management regarding system administration design and development options and procedures.

Experience and Education:
Equivalent to a bachelor's degree in a related field and five years of relevant experience. Additional experience which demonstrates acquired and successfully applied knowledge and abilities shown above may be substituted for the required education on a year-for-year basis. An

advanced degree in a related field may be substituted for the required experience on a year-for-year basis.

NOTES:

All IT professionals protect the confidentiality and integrity of data and electronic information from incidental, intentional, unauthorized release and/or preventable misuse or loss to the university. IT professionals at the university are collectively responsible for ensuring the security and protection of sensitive information, systems, and digital assets. This includes upholding data confidentiality, integrity, and availability and actively contributing to a culture of cybersecurity awareness and compliance throughout the university's technological ecosystem

The California State University has a long-standing commitment to make its programs, services, and activities accessible to the public and the entire campus community. All professionals classified within the Information Technology Series have the expectation to support practices and techniques that align with federal and state law, as well as the CSU initiatives, coded memorandums, and executive orders.

Acronyms and technical terms used in this classification document are current as of the publication date. Subsequent technical, functional, and usage terminology and acronyms should be substituted as appropriate.