

Draft Classification Standards – Rev. 03/29/2024

Network and Communications Analyst

Class Title	Class Code	Issue Date	FLSA
<i>Network and Communications Analyst I</i>	XXXX	XXXX	<i>Non-Exempt</i>
<i>Network and Communications Analyst II</i>	XXXX	XXXX	<i>Exempt*</i>
<i>Network and Communications Analyst III</i>	XXXX	XXXX	<i>Exempt*</i>
<i>Network and Communications Analyst IV</i>	XXXX	XXXX	<i>Exempt*</i>

OVERVIEW:

Designs, implements, and maintains enterprise-class networking equipment (including software-defined networks), network enabling services, architecture, configuration, and associated network and telephone structured cabling systems. Performs support of enterprise data networks and equipment that provides the connectivity for all IT devices, telecommunications equipment, applications, LAN/WAN, cloud services, and the internet. Administers, monitors, troubleshoots, and documents network-related issues throughout the organization including virtualized and system-wide networks. Collaborates with cross-functional teams, technical staff, vendors, and stakeholders to lead/participate in process improvements and network development, deploy updates and fixes, as well as provide ongoing administration and technical support. Implement, manage, and support security software, hardware, and network-based appliances to protect the campus network.

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.

Network and Communications Analyst I – Entry-level professional who applies basic professional concepts to resolve problems of limited 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 networking and telecommunication equipment and infrastructure. Follows standard practices and procedures.

Network and Communications Analyst II – Professional who applies acquired network and communications skills and knowledge to complete significant assignments, projects, and tasks of moderate impact and complexity related to the design, management, and implementation of networking systems, architecture, and equipment. Draws from prior experience and knowledge of network and communication administration principles and concepts to exercise judgment while deploying and managing network and communications equipment, systems, and architecture.

Network and Communications Analyst III – Professional who applies advanced job skills, in-depth organizational and stakeholder acumen, and technical project planning skills to maintain and manage large or complex network and communications projects and complete the planning, development, and deployment of new network and

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communications solutions, and related work of significant technical scope and complexity. Exercises advanced discernment to lead teams in the development and configuration of networks and telecommunications systems. Demonstrates in-depth knowledge of network and communications principles and information technology policies, guidelines, and standard operating procedures to determine appropriate action. May require the development of new approaches, techniques, and innovation to address issues.

Network and Communications Analyst IV – Technical leader with a high degree of knowledge in network and communications administration and design. 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 optimal levels of performance, security, and availability for network infrastructure.

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

- *Network Installation and Maintenance* – Performs physical rack, stack, cabling, and interconnections of equipment in IT machine rooms or creates virtual software-defined networks. Performs basic configurations of network equipment and software. Validates proper product and software configurations.
- *Network Administration* – Monitors day-to-day network traffic and performance to ensure hardware and overall network infrastructure are effectively maintained and configured for ongoing operations and minimal interruption to service. Maintains network quality standards to achieve optimal levels of performance and availability. Assesses and implements requests for additions or modifications to network function and endpoint access.
- *Network Operations* – Monitors alarms and system failures, ensures timely incident response and troubleshooting. Resolves network issues, applies patches, and maintains the overall operational health of the network. Configures, administers, and updates network equipment.
- *Software or Virtual Network Architecture/Engineering* – Designs, configures, and implements virtualized networks supporting data center systems or hosted solutions.
- *Network Architecture/Engineering* – Designs networks that address the topology, protocols, and architecture of a computer network. Understands and transforms network requirements into a manageable solution architecture and designs specifications for reliability, scalability, security, and integration. Analyzes network trends and plans for optimal resource utilization and capacity planning. Implements and maintains network infrastructure using the latest technologies and develops internal processes for their deployment.
- *Wireless Network Architecture/Engineering* – Designs wireless networking infrastructure that addresses the topology, protocols, and coverage characteristics unique to a wireless network. Understands and transforms wireless coverage and service requirements into manageable solutions and design specifications for reliability, scalability, security, and integration. Analyzes wireless network trends and plans for optimal resource utilization, service coverage, and capacity planning.

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- *Network Security and Integrity* – Develops, installs, configures, monitors, upgrades, and maintains network security applications and systems, such as protocols that mediate network access, firewalls, and intrusion prevention systems. Designs, implements, and maintains secure voice and data networks. Ensure data network equipment is securely deployed and protected against unauthorized access.
- *Telecommunications* – Configures and administers telecommunications systems software and hardware. Performs administration of traditional telephone switch equipment, internet-based system/station administration, call accounting systems, and call queue/automated call distribution functions. Performs station installations; moves, adds, and changes telecommunication equipment, wiring, and programming.

NETWORK AND COMMUNICATIONS ANALYST I

Under direct supervision, performs entry-level professional network & communications analyst duties to configure, deploy, maintain, monitor, and support network and communications systems and serve on project teams to develop and implement new or enhanced network and communication solutions. Performs less complex technical tasks following 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 network and communication administration tasks, including less complex installation, configuration, and management of network equipment, network operating systems, and network connectivity and integration.
- ◆ Performs physical rack, stack, cabling, and interconnections of equipment in IT machine rooms or creates virtual software-defined networks.
- ◆ Analyzes data to monitor network performance and capacity. Identifies, troubleshoots, and addresses issues or anomalies.
- ◆ Performs routine network maintenance tasks, such as applying network updates, patches, and software or hardware upgrades.
- ◆ Supports the development of operational procedures, documentation and training materials through research and document drafting.
- ◆ Provides technical support and assistance to end-users regarding network-related issues.
- ◆ Provides documentation, research, and analytical support for network and communications development and implementation project teams.
- ◆ Analyzes wireless network trends and plans for optimal resource utilization, service coverage, and capacity planning.
- ◆ Stays current on emerging network and communication concepts.

MINIMUM QUALIFICATIONS:

Knowledge and Skill:

- ◆ General knowledge of network architecture, configuration, protocols, interconnectivity requirements, communication transmission technologies, and related networking concepts, principles, and techniques.
- ◆ Organizational and time management skills to plan, organize, and prioritize work.

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- ◆ Demonstrated communication and interpersonal skills to gather information from users, communicate technical issues effectively, and draft documentation.
- ◆ Demonstrated knowledge and ability to configure and troubleshoot network and communication system issues.
- ◆ Ability to maintain confidentiality and appropriately handle sensitive data and information.
- ◆ Ability to work independently and 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.

NETWORK AND COMMUNICATIONS ANALYST II

Under general supervision, designs, configures, deploys, monitors, and maintains network and communication equipment, architecture, and systems. Applies network and communications knowledge to ensure the availability, reliability, and security of networks by maintaining 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 Network and Communications Analyst I, the Network and Communications Analyst II typically performs the following duties:

- ◆ Performs day-to-day network and communication administration tasks, including complex installation, configuration, and management of network equipment, network operating systems, and network connectivity and integration.
- ◆ Configures complex network and/or third-party software application programs to provide improved response time.
- ◆ 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 using embedded network routing, switching, and firewall equipment.
- ◆ Plans, designs, and engineers network installations and less complex network and communication systems enhancements.
- ◆ Plans, coordinates, and executes network or infrastructure upgrades and ensures compatibility with new software versions or hardware upgrades.
- ◆ Evaluates software/hardware network features.
- ◆ Researches and evaluates network/systems performance capacity and compatibility with existing systems.
- ◆ Monitors systems growth trends, assesses capacity requirements, and plans for future storage needs, including systems expansion, hardware upgrades, and resource allocation.
- ◆ Conducts regular network audits and vulnerability assessments to identify and address any potential security risks.

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- ♦ Evaluates user needs, systems, and new technologies to recommend the most effective communication and transmission systems.
- ♦ Provides lead work direction and training to technical or less experienced staff.

MINIMUM QUALIFICATIONS:

In addition to Network and Communications Analyst I knowledge and skill requirements, work assignments typically require:

- ♦ Strong working knowledge of network architecture, configuration, protocols, interconnectivity requirements, communication transmission technologies and related network and communications related concepts, principles, and techniques.
- ♦ Strong analytical skills to evaluate network and communications problems using appropriate test structures and related diagnostics and to perform analysis of network and communication efficiency.
- ♦ 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.
- ♦ Skill in leading the work of others.
- ♦ Proficiency in using applicable network and communications equipment, relevant security and system technologies, and software application programs.

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.

NETWORK AND COMMUNICATIONS ANALYST III

Working independently under general supervision, designs and deploys network infrastructure, communication systems and interface programs that meet the university's evolving needs. Applies advanced technical knowledge and expertise in complex network and communication analysis and administration to provide advanced technical advice. Demonstrates advanced discernment in selecting methods and techniques for developing and optimizing network architecture and communications and obtaining network and communication administration solutions. Activities include the conceptualization, development, and implementation of complex network infrastructure and upgrades and communications solutions. Decision-making is based on network and communications best practices and standards; regulatory standards; university and information system 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 results.

In addition to duties performed by the Network and Communications Analyst II, the Network and Communications Analyst III typically performs the following duties:

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- ◆ Maintains and provides program management for a significant network architecture with critical and high impact services. Evaluates and deploys network and communication solutions.
- ◆ Collaborates with various stakeholders and cross-functional IT teams to plan and lead projects to optimize network architecture, communication systems, and upgrade network and communication technologies. Ensures technical solutions meet organizational needs as well as IT standards and protocols. Prepares cost analysis and justification for large network and communication projects.
- ◆ Designs new and recommends improvements to network design and infrastructure integration best practices.
- ◆ Leads and innovates network performance enhancements with an emphasis on increasing efficiency and effectiveness.
- ◆ Under the guidance of management, establishes and enforces network and communication governance policies and standards, and network and communication administration processes and procedures.
- ◆ Provides lead work direction, training, and mentorship to professional, technical, and other staff.

MINIMUM QUALIFICATIONS:

In addition to Network and Communications Analyst II knowledge and skill requirements, work assignments typically require:

- ◆ Thorough and advanced knowledge of network and communications administration, equipment and infrastructure and related network and communications concepts, principles, and technologies.
- ◆ Demonstrates competence in independently applying advanced judgment to plan, design, and deploy complex and integrated networks and communication solutions and resolve difficult and complex network and communication administration problems and issues.
- ◆ Advanced project management skills, with the ability to manage multiple, large, and/or complex projects.
- ◆ Advanced analytical skills to understand problems from a broad perspective and discern applicable underlying principles to conceive and develop strategic network and communications solutions.
- ◆ Advanced skill in mentoring or overseeing the work of others.
- ◆ Advanced communication and interpersonal skills to effectively convey technical knowledge and procedures and persuade stakeholders and management regarding network and communication solutions 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.

NETWORK AND COMMUNICATIONS ANALYST IV

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Working primarily independently with minimal supervision, leads project teams to determine, develop, and implement new and improved network infrastructure and communication solutions 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 may require the creation of new procedures and network and communication techniques. Serves as a technical expert in the conceptualization, development, and implementation of network architecture and communication solutions. Decision-making often requires integration and interpretation of diverse IT disciplines; expert network and communications knowledge and experience; and persuasion and negotiation with management. Functions with a high degree of autonomy. Work is performed without appreciable direction and often requires a high degree of technical expertise, persuasion, and leadership.

In addition to duties performed by the Network and Communications Analyst III, the Network and Communications Analyst IV typically performs the following duties:

- ◆ Leads the design of network architecture and network systems to ensure optimal performance, scalability, and security.
- ◆ Serves as an advisor for complex design and deployment of campus-wide network and communications solutions, requirements, and data compliance.
- ◆ Under the direction of management, serves as a key technical advisor within the network and communication 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.
- ◆ Develops future state roadmaps for network architecture and communication strategies based on best practices, university needs and guidelines, and vendor input to create high impact and/or complex plans for future network and communication technologies integration and deployment.
- ◆ Under the guidance of management, oversees process improvement efforts, often developing new strategic approaches, solutions, processes, and protocols.

MINIMUM QUALIFICATIONS:

In addition to Network and Communications Analyst III knowledge and skill requirements, work assignments typically require:

- ◆ Expert knowledge and understanding of network and communications administration, equipment, infrastructure, and related network and communications concepts, principles, and 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 network and communications development and improvement projects.
- ◆ Expert communication and interpersonal skills to effectively communicate complex technical systems and procedures as well as 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

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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.

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