



Amherst College
Office of Human Resources

**JOB
DESCRIPTION**

Title: Senior Network Engineer

Department: Systems and Networking Reports to title: Director of Infrastructure

Full Time: X Part Time: _____ Date Prepared: 7/22/2019

Job Group & Level: PT-5 Regular Daily Work Schedule: _____

Pay Type: Weekly _____ Monthly X Months Per Year: 12 Hours Per Week: 40

(Summer Months) Months Per Year: _____ Hours Per Week: _____

1. Summary of Position:

Reporting to the Director of Infrastructure, the Senior Network Engineer works with the colleagues in Information Technology to design, implement and maintain the network to meet all defined network requirements and other security-related requirements. The Senior Network Engineer is responsible for developing and maintaining "best practices" procedures and policies, as well as creating and implementing network security design and systems integration. The Senior Network Engineer will utilize multiple technologies (Palo Alto, Juniper, and Aruba) to support the College's network infrastructure.

The Senior Network Engineer is responsible for maintenance of directory services, network operating systems, network security practices, and network problem troubleshooting. The Senior Network Engineer will implement distributed applications, ensure network authentication, and lead network security design and implementation. The incumbent will install and troubleshoot problems dealing with network communications hardware, ensure systems integration and optimization and provide supporting and monitoring services.

The Senior Network Engineer functions in a high performing team to strategically implement best industry practices and support builds best-in-class networks in an on-premise, cloud and hybrid environments.

The Senior Network Engineer will be working in a diverse workforce and participate in the College's efforts to create a respectful, inclusive, and welcoming work environment.

2. Principal Duties and Responsibilities:

55% Infrastructure Management:

- Implements network security, including configuring firewalls, managing host security, backup and disaster recovery planning.
- Makes recommendations on changes in hardware and network configuration to improve delivery and availability of service. Troubleshoots potential network architecture/design problems before they occur and communicates solutions.
- Creates and maintains existing documentation as it relates to network configuration, network mapping, and processes.
- Recommends, maintains, and implements policies and procedures for network administration, usage, and disaster recovery. Documents work completed within tracking system. Creates project implementation documentation.
- Installs, monitors, maintains, supports and optimizes network hardware, such as wired, wireless or other network equipment.
- Supports software, systems and communication links such as structured cabling and single and multi-mode fiber.
- Analyzes and resolves hardware and software problems.
- Interacts with vendors and service providers to resolve network related problems, and implement solutions.
- Reviews work for compliance within the established guidelines of national and international standards organizations.
- Assists system users in learning the use of new network applications/services. Assists with the training and development of less experienced Network Engineers.
- Serves as essential personnel and provides assistance in the event of an emergency on campus.

20% Design and Implementation:

- Implements network design changes, and builds the enterprise's computing networks including data centers and local area networks.
- Analyze, evaluate, and recommend new network hardware, software, and communications products for compatibility and applicability.

20% Systems Monitoring and Security:

- Monitors and analyzes network performance and availability against expectations, implements performance tuning, and troubleshoots a variety of moderate to complex network problems.
- Provides network performance statistics and reports.

5% Perform other duties/functions as requested.

All employees are expected to participate in the College's efforts to create a respectful, inclusive, and welcoming work environment.

3. Internal-External Interaction/Communication:

Frequent interaction and communication with administrative, faculty and academic department staff, as well as regular communication with software and hardware vendors and external service contractors negotiating contracts, licenses, fees, etc.

4. Education:

Required:

- Bachelor's Degree, or 10 years of relevant experience in lieu of a degree.

5. Experience:

Required:

- 8+ years' experience with core systems/network technologies in a network administrator or equivalent role.
- Cisco Certified Network Associate (CCNA) or equivalent.
- Experience configuring ethernet switches, IP routers, and network security appliances in an enterprise environment.
- Familiarity with and experience managing access control models and network security.
- Knowledge of scripting languages (ex Python, Perl).
- Experience with network monitoring, diagnostic, and analysis.
- Experience with network performance assessment and reporting.
- Excellent written and verbal communication skills, including experience with production of technical documentation.
- Great troubleshooting skills.
- Commitment to or experience working with a diverse community

Preferred Additional Skills/Experience:

- Cisco Certified Internetwork Expert (CCIE), or equivalent.
- Experience in:
 - Software Defined Networking (SDN), Openflow, SD-WAN, Dense Wavelength Division Multiplexing (DWDM), VoIP, High Performance Computing (HPC) networking, Border Gateway Protocol (BGP)
- Excellent written and verbal communication skills.
- Great customer service skills.
- Experience with Aruba and Juniper networking equipment.
- Experience mentoring network engineers
- Excellent working knowledge of Linux or Unix-based operating systems.
- Working knowledge of Microsoft Windows-based operating systems.

6. Environmental and Physical Demands:

- Repetitive hand motions - fingers, hands and wrists.
- Ability to operate, activate, prepare, position, inspect and assess the proper functionality of computer, keyboard, mouse and A/V systems

- Traverse campus throughout the year regardless of weather
- Occasional exposure to outdoor elements, and fluctuations in temperature and humidity
- Frequent standing, sitting, stooping, kneeling, bending, crawling, reaching
- Ascending and descending stairs
- Ability to access small spaces
- Ability to lift, carry, push and pull up to 25 lbs.
- Visual – normal concentration

7. Decision Making:

- The Senior Network Engineer makes decisions individually and jointly in team environments within IT and in collaboration with campus administrative staff.
- The job requires performing leading-edge work in the field. Displays a high level of critical thinking and analysis in bringing resolution to high-impact, complex and/or cross-departmental and division problems.

8. Supervision Exercised/Received:

- Works with a high degree of independence.

Supervisory Responsibility: Yes _____ No X _____

Number of Employees Supervised: _____