

University of Virginia

Job Summary

Job Code:	Job Title:	Computer Engineer IV
UVA Survey Code:	UVA Survey Code Title:	
Pay Band:	Career Path:	Systems & Network Administration
FLSA Status:	Management or Individual Contributor:	Individual Contributor

Position Summary: Describe below the primary purpose and function of this job.

Design and implement complex architectures supporting computing, storage, backup and recovery, database and web infrastructures; administer all aspects of a distributed computer system supporting a specified functional area of university operations. Plan and coordinate system utilization, system upgrades, system security, and perform growth analysis and capacity planning. Develop scripts to automate and manage system processes and performance. Provide advanced solutions to solve complex system administration and client/server or application performance problems. Coordinate application installation, maintenance, training, and user support, as required; plan and coordinate projects to meet future needs.

Key Roles & Responsibilities: List up to 6 key roles and responsibilities of this job.

1. Administer and design university systems to include secure access, data safety and integrity, disaster recovery, and physical security. Serve as a subject matter expert and consultant to University departments.
2. Maintain networked servers, workstations, peripherals and terminals, ensuring proper integration of these components with existing university computer systems. Plan and implement system security policy, to include firewalls, host and client access, file permissions, and user accounts. Troubleshoot networks, systems, and applications to identify and correct malfunctions and other operational problems. Regulate and monitor file and system access to ensure confidentiality and proper use. Maintain file services and backup/recovery processes and procedures.
3. Conduct growth analysis and capacity planning, and develop capital and operating budget proposals.
4. Design and program specific system management utilities in response to University/department/client needs; install and debug new and/or upgraded software on server and client platforms, ensuring compliance with current site licenses; coordinate the documentation of all supported systems; manage websites and associated pages.
5. Research, evaluate, purchase, install, configure, and troubleshoot all hardware, peripherals, and equipment necessary to meet integrated systems objectives.
6. Develop and implement various training and instruction programs for users on the use of operating systems, networking, applications, and databases.

Expertise: Describe the requirement for knowledge and expertise about the subject area as well as how various parts of the University work together to achieve objectives. Explain the degree of understanding required of the industry and university environment.

As a senior staff member, incumbent is required to have an advanced understanding of his/her discipline including all required certifications as well as an advanced understanding of the business environment of a large university system. Incumbent must demonstrate an in-depth understanding of the University system, its policies, and its operating procedures. Incumbent must have demonstrated project management skills and the ability to work within a matrixed environment if necessary. Incumbent is expected to maintain currency of knowledge with respect to relevant state-of-the-art technology, equipment, and/or systems.

Incumbent should have advanced knowledge of computer architectures and applied skills and abilities for: data security and disaster recovery systems and procedures; advanced system administration; advanced system performance tuning; applications; database and web server infrastructures; integration with middleware systems; network protocols and services; a broad range of relevant client operating systems, applications, and equipment; understanding of LAN administration in a secure environment; systems growth analysis and capacity planning processes and techniques; data management techniques; a variety of scripting languages and system management utilities; computer site licensure regulations and requirements; and customer service standards and procedures. Incumbents at this level should demonstrate ability to design, develop and implement specialized server infrastructures supporting large numbers of users or systems. Incumbents must have ability to identify problems and coordinate hardware and/or software recovery, installation and upgrades; implement and troubleshoot system performance, changes and modifications; write complex technical instructions in the use of the supported systems and applications; communicate with and interpret the operational requirements of end-users; investigate and analyze information and draw conclusions; and process computer data and format and generate reports.

Problem Solving: Describe the nature and complexity of the problems this position encounters on a recurring basis. Include information

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regarding the level of innovation required, if any, and include mention of environmental factors that may add to the complexity of resolving issues.

Incumbent will address complex problems and will use experience and judgment in creating solutions. Incumbent seeks assistance when significant deviations are proposed, or when unprecedented problems arise. Incumbent develops approaches to problem-solving and anticipates/mitigates potential issues.

Nature & Area of Impact: To what degree does this job affect the University (i.e., through interactions with faculty or students, making decisions, defining or setting strategy, etc.)? What is the breadth of the impact that this job has, either positive or negative (i.e., affects own team, department, function, business unit, entire university, etc.)?

Impact is felt within the team/department for which the incumbent works and within multiple, coordinating departments. Work quality, decision-making and long-term project management can affect the productivity of students, faculty and/or staff. Impact of errors is substantial and usually university-wide though mostly short-lived.

Interactions / Interpersonal Skills: Describe the nature and level of interactions this job has with others, both internally and externally. Explain any specific interpersonal skills necessary to successfully perform this role (i.e., negotiation skills, represents business at external events or to governmental bodies, etc.).

Interactions are with fellow team members and coordinating team members, but the incumbent will also have interactions with assigned student, faculty, or staff clients. Incumbent works with and may manage external vendors and service providers. Incumbent should possess superior verbal and written communication skills to convey technical guidance and information to users and to provide excellent customer service. Incumbent will train and provide guidance to more junior staff members and provide management with input into performance evaluations. Incumbent may provide guidance to management on critical technology issues. Incumbent is recognized as an technical authority within the University.

Distinguishing Characteristics

This is the senior or lead level for the discipline. Incumbent possesses all requirements and skills for Level 3 and has achieved proficiency in the typical tasks assigned to Level 3.

- **Skills:** Distinguished from Level 3 skills in that the Level 4 incumbent has fully developed and regularly applies his/her advanced technical skills.
- **Level of Work:** Distinguished from Level 3 work by highly complex and strategically significant activities. Assignments at Level 4 are usually long-term and the incumbent has significant latitude to devise the approach and method to performing the assignment.
- **Supervision:** Distinguished from Level 3 by the complexity and duration of assignments. Level 4 assignments are typically multi-faceted, may be cross-discipline and require significant coordination and planning by the incumbent. Level 4 incumbents regularly perform long-term and non-routine assignments with only general supervisory intervention. Also distinguished from Level 3 in that the incumbent serves as a resource to Level 1, 2 and 3 incumbents on complex problems. Level 4 incumbents will often train Level 1, 2 and 3 incumbents on work processes and policies and assist management with developing their technical skills. Level 4 has input into hiring decisions and staff performance assessments, but does not directly supervise.
- **Interactions:** Distinguished from Level 3 in that the Level 4 incumbent regularly works beyond his/her own team and often externally. The Level 4 incumbent regularly works with related teams, client groups, management and vendors and interactions may include influencing others.
- **Focus:** Distinguished from Level 3 in that the Level 4 incumbent regularly works toward specific team goals and client goals, and assists in establishing department processes and standards.

Job Requirements And Qualifications: Indicate the minimum and preferred education and experience for this job and any licenses and certifications required.

Minimum Education:	Bachelor's degree or equivalent experience in Computer Science, MIS, Computer Engineering or related disciplines.	Preferred Education:	Master's degree in Computer Science, MIS, Computer Engineering or related discipline.
Minimum Experience:	5-7 years	Preferred Experience:	7-10 years

Required Licenses/Certifications: