

System Administrator/Programmer Analyst Job Family

JOB TITLE	SYSTEM ADMIN/ PROGRAMMER I Support Staff Grade 6)	SYSTEM ADMIN/ PROGRAMMER II Admin Level 2	SYSTEM ADMIN/ PROGRAMMER III Admin Level 3	SENIOR SYSTEM ADMIN/ PROGRAMMER Admin Level 4
Promotion Criteria	Typically < 2 years experience in system admin. Basic knowledge of operating system principles and software programming techniques for 1 platform.	Typically > 2 years experience in system admin; demonstrated ability to learn new technologies and effectively apply learning. Ability to work independently as well as part of a team. Effective communication skills.	Typically > 4 years experience in system admin, having developed In-depth knowledge and experience with all phases of operating systems HW, SW and concepts on at least one platform. Has taken leadership role in small projects or parts of larger projects.	Typically > 8 years experience having developed broad and expert knowledge and experience with all phases of operating systems HW, SW and concepts. Typically deep in at least one platform or broad in more than one platform. Has had people leadership and leadership role in mid-sized or complex projects
Position Overview Statement:	Under direct supervision, assists in maintaining the integrity of the operating systems environment (Windows, Unix, Linux, etc). Provides limited operations support, file restorations, backups, disk space maintenance, and problem resolution for operating systems platforms.	Under direct supervision, maintains the integrity of the OSs environment. Assists in installing, configuring and maintaining operating system workstations and servers, including web servers, in support of processing requirements. Provides extensive operations support, file restorations, backups, disk space management, and problem resolution for operating systems platforms.	Under minimal supervision, maintains the integrity of the OS environment. Responsible for installing, configuring and maintaining operating system workstations and servers, including web servers, in support of complex processing requirements.	Under general direction, is responsible for activities related to system administration, which may include multiple LAN/WAN operations, servers and sites. Responsible for capacity planning and vendor evaluations.
Principal Duties and Responsibilities	<ul style="list-style-type: none"> • Performs system software upgrades, including planning and scheduling, testing and coordination. • Performs workstation and server administration set up. • Adds/deletes user groups. • Configures printers; modifies configuration files. • Creates and modifies user menus. • Manages mail services. 	<ul style="list-style-type: none"> • Installs, modifies, implements, documents and maintains OS platforms/software, having general knowledge of component interrelationships within existing systems platforms/software. • Assists users in identifying difficult technical problems and devising solutions. • Provides basic contextual and technical information to users. • Analyzes systems 	<ul style="list-style-type: none"> • Performs software installations and upgrades to OS and layered software packages. • Schedules installations and upgrades and maintains them in accordance with established policies and procedures. • Analyzes system requirements and performance of hardware/software systems, and develops specific measures to increase the overall 	<ul style="list-style-type: none"> • Responsible for the overall installation, maintenance, configuration, and integrity of computer software. • In addition to daily administration, focuses on improving performance of network. Recommends and implements strategies to improve systems reliability and performance. • Analyzes more complex end-user issues and recommends fixes or improvements. • Conducts capacity analysis for storage requirements.

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	<ul style="list-style-type: none"> • Loads applications. • Coordinates disk space planning and management. • Performs data backups and recoveries. • Maintains workstation shells and requesters. • Troubleshoots and provides end-user support as directed. • Maintains network security. • Maintains growth statistics, space forecasts, tape libraries, and software and hardware inventories. • Maintains production control schedule and participates in change control. • Monitors and maintains continuity with system software licensing and maintenance agreements. • Provides recommendations regarding hardware and system software planning. 	<p>requirements and performance to optimize the overall use of network operating systems.</p>	<p>efficiency of these systems.</p> <ul style="list-style-type: none"> • Ensures workstation/server data integrity by evaluating, implementing and managing appropriate software and hardware solutions. • Ensures data/media recoverability by implementing a schedule of backups and database archive operations. • Supports media management through internal methods and procedures or through offsite storage and retrieval services. • Develops and promotes standard operating procedures. • Develops and maintains a comprehensive operating system hardware and software configuration database/library of all supporting documentation. • Investigates and resolves problems involving complex systems and/or networks of systems. • Often will act as project leader for projects involving complex operating systems. • Keeps current on hardware and software developments and recommends changes to meet the needs of installations. 	<ul style="list-style-type: none"> • Conducts evaluation and testing of vendor products. • Recommends acquisitions to senior management. • Assigns staff to various projects, provides technical leadership, guides their activities, and evaluates their work. • Ensures long-term requirements of systems operations and administration are included in the overall information systems planning of the organization. • Makes recommendations on long-range plans in support of IS&T objectives and prepares reports as necessary. • Interfaces with consultants and vendors.
<p>Supervision Received:</p>	<p>Work is generally monitored by supervisor/manager; detailed instructions and procedures are provided.</p>	<p>Work progress is generally monitored by supervisor/manager; incumbent follows precedents and procedures, and may set</p>	<p>Employee determines appropriate work methods, plans, schedules, and prioritizes work based on goals and objectives to be achieved,</p>	<p>Employee sets own goals and determines how to accomplish results with few or no guidelines to follow; precedents may exist; senior management provides broad</p>

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		priorities and organizes work within general guidelines established by supervisor/manager. As employee masters position, employee selects from existing practices to determine specific methods and carries out work activities independently; management is available to resolve problems or provide guidance as needed.	within standards of work unit; carries out work activities independently. Consults with senior management to resolve unusual problems or to provide general direction.	guidance and overall direction.
Supervision Exercised:	May direct the work of support staff, student interns or temporary workers.	May functionally supervise staff as a project leader.	Guides or directs work of others who may perform similar or related work. Plans, organizes, prioritizes, and schedules work. Reviews work quality and output and processes to follow. May participate in interviewing potential candidates, contribute to performance reviews, make recommendations for training, and other developmental plans. May provide project leadership.	Supervises work of others, including planning, assigning, and scheduling work. Reviews work and ensures quality standards are met. Trains staff and oversees their productivity. Coaches and manages people, and/or provides project leadership. May offer recommendations for hiring, termination and pay adjustments, but does not have responsibility for making these decisions.
JOB IMPACT				
Overall Impact	Work generally has limited immediate impact, affecting one or two individuals at any one time or affecting a large group as a result of a specific short term action (e.g., network outage). Individual contributes to team processes and procedures.	Work often requires multiple interactions with customers over time (e.g., providing both set-up and follow-up consulting). Individual efforts seen as representing and contributing to team results.	Role has short- to intermediate-term impact IS&T wide. Shares responsibility for the results of an entire functional area.	Work generally has longer term impact, and significantly affects how business is done in a functional area within IS&T or a major customer. Individual has significant share of responsibility for the results of team.
Complexity	Low	Low to moderate	Moderate, although may have high level of complexity in a particular area.	High level, including multiple areas with high levels of complexity.
Organizational/ Political	Understands how one's work relates to the mission and strategic direction of the team.	Understands the short-term goals and direction of own team. Is aware how IS&T strategic goals and initiatives apply to own team.	Balances the competing short- and long-term goals within one's team in alignment with IS&T goals and initiatives.	Involves multiple departments with significant political impact.
Change	Minimal.	Somewhat minimal. Exercises	Moderate. May lead and	Significant. Creates consensus base

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Management		flexibility and discretion in negotiating tasks and priorities with customers.	facilitate organizational change to improve strategic use of IT solutions.	for innovation. Assures that change “champions” are identified and engaged.
Contacts Required to Perform Job	Generally, minimal contact with customers.	Moderate contact with customers and vendors. Also maintains contact with staff in comparable or related areas.	Frequent contact with customers and vendors. Also maintains contact with staff in comparable or related areas.	Frequent contact with customers and vendors. Also maintains contact with staff in comparable or related areas.
QUALIFICATIONS/ TECHNICAL SKILLS:				
Qualifications	At least 1 year of systems administration/programming or related area required. Working knowledge of operating systems (e.g., UNIX, Mac, Windows, Linux). PC hardware and configuration, including storage array technology.	At least 2 years of experience in systems administration/ programming or related area required. Strong programming skills in various languages (e.g., C/C++, Perl, Java, or similar). Comfort operating on systems platforms, such as UNIX, Mac, Linux and/or Windows.	At least 4 years of experience in systems administration/ programming or related area required. Programming expertise, network experience and strong troubleshooting experience required. Bachelor’s degree preferred.	At least 8 years of experience in systems administration/programming or related area required. Programming expertise, network experience and strong troubleshooting experience in a large-scale, multi-vendor, client/server infrastructure required. Demonstrated effective technical and/or staff leadership. Experience in higher education environment desired. Bachelor’s degree preferred.
Knowledge, Skills & Expertise	Requires working knowledge, basic skills, and the ability to understand and follow simple written or oral instructions.	Requires knowledge of learned routines, procedures, practices and more complex skills. Training in certain procedures or equipment may be required. May require knowledge of MIT's policies and procedures.	Requires full working knowledge of job responsibilities, procedures, practices; advanced training, or basic knowledge in a professional field. Requires general understanding of purpose and operations outside own work unit.	Requires a thorough understanding of both theoretical and practical aspects of own professional discipline. Requires in-depth understanding of the purpose and operations outside own area. Understands internal/external clients; may require awareness of external trends and best practices.
Critical Thinking & Problem-Solving	Problems are simple and recognized as similar to past experiences and precedents. Chooses from established alternative approaches to find a solution. Makes suggestions to improve work methods and procedures.	Deals with somewhat complex problems that must be broken down into manageable pieces. Sees relationships between problem components and prioritizes them. Utilizes knowledge, experience and available resources to find solutions. May participate in development of improvements	Helps others in clarifying somewhat complex problems; adapts or modifies established approaches. Identifies and selects appropriate tools, data, and analysis techniques to diagnose problems and develop solutions. Balances competing short- and long-term goals within one's area in alignment	Recognizes problems or situations that are new or without clear precedent. Finds solutions using a systematic, multi-step approach. Primarily responsible for developing improvements and innovations to enhance performance.

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		and help implement change.	with the larger area's direction and objectives.	
Collaboration	Contribution is limited to performing own duties on a timely basis in an effective manner. Expresses one's ideas and listens to ideas of others. Keeps appropriate people informed and up-to-date.	Collaborates with team; shares relevant information with those who may be affected by decisions. Participates in formal or informal group problem solving for immediate issues.	Within one's unit or sphere of operation, determines people who are critical to accomplishing results, and may bring them together to problem solve or share workload. May lead groups through process of problem solving, soliciting ideas and opinions to form recommendations or action plans. Works to identify and solve issues in the group.	Actively seeks help in gathering resources, solicits input, and uses a variety of techniques to reach a solution. Leads groups in setting goals and monitors progress. Identifies need for outside support.
Communication Effectiveness	Interacts with others, employing a communication style appropriate to the person or audience. Seeks additional information to enhance understanding. Communicates basic established processes and procedures, formally or informally. May initiate and compose various types of basic business communication.	May develop factual presentations in order to inform and educate. Translates technical or procedural information into specifications or action plans. Conveys technical or complex information to others in non-technical terms.	Writes and presents reports, contracts and/or proposals for internal and/or external audiences. Interprets other viewpoints and assimilates them into work processes. Formally transfers technical or administrative knowledge to others.	Motivates others to action or addresses delicate situations, requiring tact and diplomacy using written and verbal skills. Identifies common themes, makes inferences and draws conclusions. Promotes knowledge of own area to gain support for on-going and future initiatives.
Decision Making	Duties and activities covered by specific instructions, standard practices and established procedures that generally require little or no interpretation.	Duties and activities covered by specific instructions and established work practices that require some interpretation.	Decision making guided by general instructions and practices requiring interpretation. May make recommendations for solving problems of moderate complexity.	Decision making guided by specific policies and objectives within which frequent decisions are required. Assists in formulating recommendations on difficult problems.
Influencing and Leading	Seeks opportunities and sets goals for own development. Identifies and learns from mentors/developmental advisors.	Serves as a mentor/developmental advisor and/or training resource to less experienced staff, providing an example with regard to quality of work. May ensure that others comply with established standards within one's own work unit. May provide	May have formal supervisory and/or coaching responsibility in a work unit. Actively supports diversity initiatives and awareness. Establishes and leads project timelines or short-term goals. Motivates others towards completion of tasks and assignments. Helps others	Has formal people management responsibilities and/or provides process and project leadership. Provides performance feedback and assists employees with plans for development and training. Actively seeks ways to recruit, hire, retain and manage a diverse workforce. Creates work standards for unit and

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		guidance in routine tasks.	to think through alternatives and choices.	holds individuals accountable for completing assignments.
Responsibility & Accountability	Work affects own work unit. Established IS&T methods are followed; works within job specific deadlines and schedules set by supervisor. Escalates more complex issues.	Develops specific goals for one's own work. Seeks out and identifies multi-faceted problems and opportunities, taking immediate action to address them. Recognizes immediate obstacles to completing work. Initiates action to address a need without being directed.	Work significantly affects multiple units within IS&T. Job has short- to intermediate-term impact. Follows IS&T procedures to complete work, but may recommend changes to departmental processes. Often prioritizes own work; work is reviewed at key stages by manager/administrative officer or team. Anticipates consequences of actions, potential problems, or opportunities for change.	Work significantly affects a department or large functional area within a School or Central Administrative area. Prioritizes projects; follows departmental processes. Typically directs the work of others. Acts decisively in critical situations or to circumvent a potential problem.