The Maryland National Capital Park and Planning Commission

Title: Information Systems Specialist III   Grade: 30   Date: 12/13/2020
Series: Information Technology   Code: 1326   EEO: Professional   FLSA: Exempt

Class Definition:

Under direction, leads and performs advanced level database design and development and information systems analysis work. Applies information systems analysis methods and techniques to ensure the design, development, installation, repair and configuration or customization of computer applications on various hardware and software platforms (i.e., Geographic Information Systems – IS/GIS, Enterprise Account Management - EAM, Financial Systems, Document Management). Confirms support is provided to users by monitoring and managing parameters, resolving problems and meeting requests for hardware and software upgrades and enhancements; analyzes business processes and workflows to determine development requirements and creates documentation. Enhances and customizes software and generates reports utilizing report writing tools such as, Crystal Reports and SQL Developer. Designs, develops and administers databases using development software (i.e., Visual Studio) and systems administration tasks. Integrates various hardware and software platform products and data sources to accomplish a business process; and installs, tests and evaluates new systems. Monitors database performance, integrity and security. Ensures data storage and archiving procedures are functioning correctly; performs database and schema exports and imports when required to refresh test environments and move data between different servers. Leads projects involving analysis and development of Commission-wide systems; mentors and leads junior staff members in completing complex information systems specialist activities. Plans, coordinates and monitors the design, development and implementation of application systems and databases with staff and vendors; takes initiative to plan and complete maintenance and related work and to resolve problems encountered according to established policies and procedures. Coordinates and communicates with management, development teams, vendors, systems administrators and other related service providers and users, as appropriate, to advise, research problems, identify solutions and ensure efficient system administration. Some work can be confidential. On a regularly recurring basis, the work has important impact on information systems, including high profile or high stakes matters, mainly department-wide. Applies expert knowledge of principles, procedures and methods used in information systems and software development tools and concepts, methods and techniques used in developing applications. Independently performs various types of analyses and solves conventional, non-standard and challenging problems to provide a full range of products and services, provides a full range of system administration and services from a systematic and project manager perspective. Interacts with people inside and outside the organization to exchange information, coordinate, instruct, guide, advise, obtain agreement or compliance and achieve other desired actions. Performs other duties, as assigned.

Work is assigned in terms of ongoing functional responsibilities, specific assignments requirements and anticipated problems. The incumbent independently plans and carries out the work in conformance with established best practices, policies and procedures, and resolves commonly encountered problems by selecting and applying, or implementing and adjusting, the applicable guides. The incumbent keeps the supervisor informed of assignment status, non-routine problems and issues, and seeks assistance for unusual administrative matters. Work is expected to meet objectives highly effectively – the incumbent is held responsible for results; work is evaluated in terms of effectiveness in meeting objectives, quality, quantity, timeliness, teamwork, customer service, and such other related factors like use of skill and ingenuity in overcoming technical and non-technical problems.

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<u>Examples of Important Duties (Estimated Percentages):</u>

1. Core Functions (±70%) – assigned functions vary by position

   - <u>System Administration.</u> Leads planning and scheduling of backups, upgrades and other maintenance operations of Information Systems (IS) and ensures minimal impact on agency operations. Confirms that automated system processes and reports are executing according to schedule and any issues are resolved. Validates vulnerability patching as directed by software vendors and addresses security issues. Resolves complex system hardware issues by working with staff and or vendors. Configures and customizes vendor systems as required to meet business practices using various systems administration tools.

   - <u>Project Administration and Management.</u> Assists with development of Request For Proposals (RFPs). Coordinates with vendors and consults to ensure contracted work tasks are defined with appropriate project plan and timeline. Performs and coordinates quality assurance and quality control of deliverables. Reports on progress to management and stakeholders regularly. Modifies project plans and timelines as requirements change. Establishes testing environment within project implementation plan. Coordinates and assists work by other lower level IT staff within projects.

   - <u>Software Development.</u> Leads analysis of business processes, workflows, requirements and data management problems. Re-engineers automation needs based on available resources, user requirements and processes. Coordinates and performs workflow development of department business processes in enterprise information systems. Integrates agency systems by web services and at the database level. Ensures the design, development, testing and evaluation of applications software and systems using standard methodology and practices including the current technology industry standards for programming languages and tools. Confirms the development and execution of a plan for the design, delivery, and implementation of a system including training requirements; prepares test data with many complex variables and tests programs to determine if specified requirements are met. Validates that software modifications meet requirements; ensures that documentation is prepared and completed to include file relations, system operational assumptions, data flows, access and security, maintenance procedures and user documentation. Utilizes development software such as, Visual Studio.

   - <u>Database Administration.</u> Leads the management of major databases or data warehouses and sets of related applications. Provides technical expertise in database design, implementation, maintenance, application scripting, modeling and data processing. Designs, implements and documents backups, archives and restore procedures. Develops and implements strategies for data management and distribution; ensures data workflows are automated between disparate systems. Confirms operations are monitored and evaluates recommendations for upgrading, enhancing or re-engineering procedures, or software; ensures data integrity. Ensures reporting routines are developed and coordinated among data owners. Evaluates and recommends upgrades and enhancements to the mini and micro applications. Reviews and evaluates reports documenting work activity and projected activities and needs; validates all changes are tested that are written in-house or by a software vendor.

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2. Other (±30%)

- Proactively maintains familiarity with current industry methods, software and technology, including reading trade journals, participation in regional user groups, conferences and technical online forums. Regularly identifies self-development and training opportunities. Takes initiative to identify needed information and obtain appropriate resources; maintains knowledge and skills.

- Provides technical assistance and support to staff and users; resolves problems. Identifies, diagnoses and resolves technical issues with systems. Works with software vendors to resolve technical problems. Establishes, maintains or enhances working relationships with internal and external contacts. Ensures training is provided to staff, end users and division team staff.

- Operates computers and peripheral equipment with office automation suite software (e.g. word processing, spreadsheets, graphics, statistical, database packages) to enter data, perform data analysis, design and produce reports, tables, graphs, and charts. Reviews established Internet and Intranet access and HTML addresses; evaluates potential applications. Ensures WEB pages are designed and upgrades and revisions are coordinated.

Important Worker Characteristics:

A. (1) Expert knowledge of, and skill in applying (a) the principles, procedures, and methods used in information systems, functional and data analysis, design, development, implementation, security, monitoring, data integration, testing, evaluation and maintenance (i.e., systems administration); (b) software development tools and concepts, methods and techniques used in developing computer applications, including programming languages (i.e., SQL and PLSQL*) and report generators (i.e., Crystal Reports and SQL Developer); (c) reporting and analysis; (d) networking, web services, proxy architecture and database constructs (i.e., Microsoft .NET programming*, JavaScript/HTML*; networking, domain name system (DNS) and proxy structure; (e) monitoring database server to identify bottlenecks and remedy them; (f) analyzes or determines the impact of release upgrades and how to plan for minimal disruption; (g) uses and capabilities of computer hardware and software; (h) system analysis and project management tools, methods and principles; (i) identify, initiate, plan and direct recommendations to improve systems and applications performance; (j) procedures for monitoring and reporting work completion on vendor contract*; (k) methods and principles related to project/task management; and (l) state and local government applications;
(2) Knowledge of Commission organization, policies and procedures*.

Typically acquired or fully developed primarily after employment in this job class.

B. Advanced skills and abilities in:
- Identifying system needs and requirements;
- Determining appropriate tools and concepts to apply to different programming and systems analysis situations;

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- Installing and testing new database versions;
- Controlling access permissions and privileges of database management systems (DBMS);
- Troubleshooting and solving software issues;
- Writing and modifying software applications using industry standard languages;
- Utilizing database diagnostics and tuning;
- Collecting, analyzing, organizing, and documenting information concerning the automation of work processes;
- Working with various operating systems on the mini, microcomputer, and client and server platforms;
- Use of spreadsheets, word processing, graphics, communications, DBMS and integration of data between diverse systems;
- Monitoring log files and understanding errors to report or correct;
- Writing programs in SQL, PLSQL and EAM, if applicable and script languages to extract or modify data in database;
- Providing technical advice to consultants in the field, staff and users;
- Understand database design, data normalization theory, and relational database security (i.e., role based security);
- Data flow diagrams and data dictionary techniques;
- Analyzing and correcting complex system and application problems;
- Analyzing user requirements and translating into system solutions;
- Working with multiple and varied operating systems;
- Mining data and performing quality control checks;
- Planning, organizing, monitoring and ensuring quality of projects;
- Developing detailed system specifications and documentation for desktop and web applications;
- Designing, creating and maintaining websites (i.e., Smartlink Systems) and software; and,
- Developing, administering and delivering systems training.

C. Knowledge of, and skill in assigning or reviewing tasks, setting the pace, and otherwise assisting the supervisor by performing group leader work; or ability to rapidly acquire knowledge and skill set.

D. Considerable skill in problem solving to select, organize and logically process relevant information (verbal, numerical or abstract) to solve a problem. This includes skill in identifying subtle aspects of problems and making recommendations and decisions.

E. Skill in communication to understand verbal and written information (including facts, assertions and arguments), draw inferences, form hypotheses and develop logical arguments, and to express such information so that others will understand and, in some situations, agree, comply or take other desired actions. This includes skills in actively listening to ascertain key information, including perspectives, concerns, wants and needs of others, and in coordinating to obtain desired results including agreement or compliance. Examples include reading, writing, interpreting, and applying technical instructions and documentation.

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F. Interpersonal skills to interact with business contacts in a businesslike, customer service-oriented manner; this includes skill in establishing and maintaining effective working relationships and working as a member or a leader of a team.

G. Skill in using a computer, modern office suite software (such as MS Office), enterprise software and specialized software.

Minimum Qualifications (MQs):

1. Bachelor's Degree in Information Systems, Computer Science, Geographic Information Systems or any related field.

2. Four (4) years of experience in applications support and development.

3. An equivalent combination of education and experience may be substituted, which together total eight (8) years.

4. Depending upon area of assignment, a valid driver's license in accordance with both State and Commission rules and regulations. Driver's license must be unencumbered by restrictions, revocations, suspensions, or points that could limit the employee's ability to drive Commission vehicles or perform driving duties required by the position of assignment.

Working Conditions:

Work is usually performed in an office setting. Works in an environment with high volume and moderate pressure to meet deadlines. Work must be performed accurately and may require occasional overtime, after-hours, weekend or on-call work.