GUILFORD COUNTY SCHOOLS JOB DESCRIPTION

JOB TITLE: SUPERVISOR – SYSTEMS & PROGRAMMING
TECHNOLOGY SERVICES DEPARTMENT

GENERAL STATEMENT OF JOB

Under occasional supervision, performs specialized technical and supervisory work in the preparation of computer programs and the operation of the central computer facility for the Technology Services Department. Employee is responsible for reviewing, overseeing, and participating in data processing projects which include designing detailed and intricate programs according to user requests or defined needs; diagnosing and resolving operational problems in programs and developing formats for various reports or documents. Work also involves assisting personnel in the use of computer software. Systems work involves installation, testing and maintenance of computer operating system, software systems, hardware components and communication installations. Work includes supervision of all central computer operations, remote processing and the responsibility for ensuring that all users have access to the required system. Employee is also responsible for overseeing subordinate Programmer/Analysts and Computer Operators, ensuring work flow and standard quality levels are met with respect to projects. Employee reports to the Director – Technology Services.

SPECIFIC DUTIES AND RESPONSIBILITIES

Oversees and ensures proper procedures with respect to subordinate employees performing various data processing projects including computer programming.

Supervises the operating personnel and the operation of the central computer facility.

Plans for, designs, installs and manages all equipment in the central computer facility.

Reviews data processing project needs and requests for schools and central office departments, determines scope of project and appropriateness, reviews users needs, responds to request and schedules implementation if approved.

Designs, installs, tests and maintains computer operating systems, communication installations, hardware components and various software packages for the central computer facility.

Assembles computer-related equipment according to schematic diagrams and written instructions.

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Designs, writes, tests, de-bugs, and documents computer programs; evaluates and modifies existing programs or develops new applications, corrects program deficiencies by revising instructions or altering the sequence of operations.

Designs and develops complex enterprise-wide applications utilizing database design techniques, web-based applications and communication methods.

Selects modeling techniques, designs and writes procedures to populate relational databases and data warehouse structures.

Works closely with users to identify/recommend/redesign business strategies to enhance computerized applications and automated processes.

Writes, modifies, and maintains computer programs using various programming languages, query methods or standard report writers.

Uses job control language commands to submit jobs and apply corrective actions.

Uses query or business intelligence tools to create ad hoc queries and complex reports.

Uses web development tools to write interactive web applications that support, interface with or provide end user access to various computer applications.

Writes and modifies computer programs ensuring data integrity.

Works with groups of users to define needs, establish system parameters, include state or federal requirements, determine financial and audit requirements and to develop formats for various reports and documents.

Translates user requirements into effective program designs.

Troubleshoots hardware and software problems and errors in computer equipment or software, determines cause of error or stoppage and applies corrective steps or standard operational techniques in cases where problems can be corrected.

Evaluates performance of existing computer systems and modifies software/hardware for optimal performance.

Performs daily system administration tasks that ensure users have appropriate access to required systems such as creating user ids and access lists, resetting passwords and maintaining groups.

Monitors new data processing projects to ensure proper function and output of computer programs,

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the computer system and its peripheral equipment.

Establishes and enforces standards, policies and procedures for central computer facility.

Develops and manages system security and backup/recovery procedures for central computer facility.

Maintains documentation regarding configurations, operating procedures and addressing for the central computer facility.

Maintains software license agreements and inventory of equipment and components as required for the central computer facility.

Schedules processing to ensure efficient use of computer equipment.

Participates in long and short range technology planning.

Reviews and tests hardware components and operating systems and makes recommendations concerning acquisitions.

Reviews and tests software packages and makes recommendations concerning acquisitions.

Trains programming and operational staff.

Prepares instructions to guide users and prepares instructions to guide the computer operations personnel during production runs.

Assists users with developing coding systems, establishing system parameters, or defining reporting options in purchased or in-house programmed computer software.

Assists users by printing special reports and forms, restoring databases, and resolving communications problems.

Must be available outside of normal working hours which may include research, technical assistance, maintenance, emergencies, and meetings.

ADDITIONAL JOB FUNCTIONS

Performs other related work as required.

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MINIMUM TRAINING AND EXPERIENCE

Bachelor's degree in computer science or a related field, and 3 to 5 years of experience in computer programming, preferably with some supervisory experience; or any equivalent combination of training and experience which provides the required skills, knowledge, and abilities.

MINIMUM QUALIFICATIONS OR STANDARDS REQUIRED
TO PERFORM ESSENTIAL JOB FUNCTIONS

Physical Requirements: Must be physically able to operate a variety of equipment and tools including computers, adding machines, computer software, etc. Must be able to exert up to 20 pounds of force occasionally, and/or up to 5 pounds of force frequently, and/or a negligible amount of force constantly to move objects. Physical demand requirements are in excess of those for Sedentary Work. Light Work usually requires walking or standing to a significant degree. However, if the use of arm and/or leg controls requires exertion of forces greater than that for Sedentary Work and the worker sits most of the time, the job is rated for Light Work.

Data Conception: Requires the ability to compare and/or judge the readily observable, functional, structural or composite characteristics (whether similar or divergent from obvious standards) of data, people or things.

Interpersonal Communication: Requires the ability to speak and/or signal people to convey or exchange information. Includes giving instructions, assignments or directions to assistants or subordinates.

Language Ability: Requires the ability to read a variety of correspondences, technical manuals, trade journals, newsletters, etc. Requires the ability to prepare reports, forms, program specifications, system documentation, etc. using prescribed formats and conforming to all rules of punctuation, grammar, diction, and style. Requires the ability to speak to people with poise, voice control and confidence.

Intelligence: Requires the ability to apply principles of logical or scientific thinking to define problems, collect data, establish facts, and draw valid conclusions; to interpret an extensive variety of technical instructions in mathematical or diagrammatic form; and to deal with several abstract and concrete variables.

Verbal Aptitude: Requires the ability to record and deliver information, to explain procedures, to give oral and written instructions. Must be able to communicate effectively and efficiently in a variety of technical or professional languages including computer terminology.

Numerical Aptitude: Requires the ability to utilize mathematical formulas; to add and subtract; multiply and divide; utilize decimals and percentages; and to apply the theories of algebra.

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Form/Spatial Aptitude: Requires the ability to inspect items for proper length, width and shape.

Motor Coordination: Requires the ability coordinate hands and eyes rapidly and accurately in using computer equipment.

Manual Dexterity: Requires the ability to handle a variety of items such as computer equipment. Must have minimal levels of eye/hand/foot coordination.

Color Discrimination: Requires the ability to differentiate between colors and shades of color.

Interpersonal Temperament: Requires the ability to deal with people beyond giving and receiving instructions. Must be adaptable to performing under stress and when confronted with persons acting under stress.

Physical Communication: Requires the ability to talk and hear: (Talking: expressing or exchanging ideas by means of spoken words. Hearing: perceiving nature of sounds by ear.) Must be able to communicate via telephone.

KNOWLEDGE, SKILLS AND ABILITIES

Considerable knowledge of mainframe computer components, connectivity and operating systems.

Considerable knowledge of capabilities, limitations and service requirements of mainframe computers and auxiliary equipment.

Considerable knowledge of the operation of a centralized computer and all peripheral equipment.

Considerable knowledge of various methods and approaches to debugging system and program errors.

Considerable knowledge of several programming languages and of Job Control Language.

Considerable knowledge of relational database structures and data warehouse concepts.

Considerable knowledge of web-based programming tools.

Considerable knowledge of network communications programming for incorporating data from various databases and computer platforms.

Considerable knowledge of automated processes within the school system.

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Considerable knowledge of department standards and procedures regarding programming and security.

Considerable knowledge of system development methodology.

Considerable knowledge of the current literature, trends and developments in the field of information systems and data processing.

General knowledge of the principles of supervision, organization and administration.

Ability to evaluate the performance of hardware/software and make recommendations for improvement.

Ability to systematically determine the source of problems in a computer system and to take appropriate action.

Ability to translate user requirements into effective program designs.

Ability to evaluate requests for changes and/or updates to they system.

Ability to evaluate packaged software for use in the school system.

Ability to schedule and monitor development projects.

Ability to estimate the manpower and time required for data processing projects.

Ability to determine and document user requirements.

Ability to develop clear, effective instructions for subordinates and for users.

Ability to design, develop and schedule programs to ensure efficient processing.

Ability to maintain complete and accurate records.

Ability to communicate effectively both orally and in writing.

Ability to establish and maintain effective working relationships as necessitated by work assignments.

DISCLAIMER

The preceding job description has been designed to indicate the general nature and level of work

performed by employees within this classification. It is not designed to contain or be interpreted as a comprehensive inventory of all duties, responsibilities, and qualifications required of employees to this job.