Position:	Senior Software Engineer	**FLSA:**	Exempt
Department/Site:	Information Technology Services	**Salary Grade:**	43
Reports to/Evaluated by:	Application Development & Support Services	**Salary Schedule:**	Classified

SUMMARY

Conceptualizes designs, develops, and troubleshoots computer software and systems. Supports or enhances, and maintains existing programs, concentrating on instructional and business information systems. Writes intricate code, performs systems modeling, simulation, and analysis in designing operating system utilities, and working programs containing numerous sub-elements. Organizes, designs, and leads projects that require significant consultations with customers/users to develop enhancements and custom features above the normal program features.

DISTINGUISHING CAREER FEATURES

This is the fourth and most senior position in a broad-based technical and professional systems analysis and applications programming career track. Advancement along this track occurs through mastery of multiple applications, software packages, programming languages as well as the ability to work on all platforms used by the District.

The Systems and Applications Analyst, Consulting is expected to provide advanced software applications programming and support, along with project leadership. At this level, incumbents should possess the skills and expertise to design and develop applications in all District platforms, both administrative and academic. The incumbent should be fully competent in many industry standard programming languages, relational database functions, toolsets, and Business Intelligence/Content management applications, as well as, be proficient in all aspects of system configuration with minimal or no vendor assistance. The Consulting individual should have demonstrated the ability to design data architecture, integrate all combinations of academic and administrative information to develop advanced decision support applications across multiple platforms.

ESSENTIAL DUTIES AND RESPONSIBILITIES

- Organizes, facilitates, and participates in applications development projects for administrative and academic needs. Works directly with users to determine current and future program needs and designs/develops programs to meet those needs. Interviews users to determine requirements. Creates new programs and processes or modifies existing business practices by coordinating with division/department administration.

- Conceptualizes, analyzes, designs, and programs highly diverse and complex programs for administrative and academic users. Delegates, reviews, and writes the code and completes the documentation to include specifications and miscellaneous notes for all programs. Develops user documentation.

- Researches alternative methods, designs, and programming concepts

- Organizes the features included in applications by determining the sequence of detailed operations, program outcomes, and designing internal program processes. Sequences program steps and operations, prepares code, and performs testing and installations.

- Implements the design of programs by preparing written code, compiling and testing to ensure performance according to design.

- Develops specialized tests, performs tests, and debugs written code prior to release to users. Reviews written code, including that of others, to ensure that it meets the intended purpose and user requirements. Assigns and performs module level testing as well as other analyses that enable verification of program outcomes.

- Participates with others to troubleshoot systems and applications. Diagnoses and resolves difficult software problems from general, often vague, descriptions of the symptom or trouble report. Troubleshoots to determine problem, corrects problems and trains users as needed on procedural changes or proper use. Makes sure that any changes to critical areas are accurate and functioning properly.

- Develops decision support models for business and instructional simulations, "what-if" scenarios, cost-benefit analysis, and forecasting. Develops statistical, linear programming, valuation, and other models in spreadsheet, database, and standalone executable formats.

- Troubleshoots application errors or applications not operating. In conjunction with users, isolates problems from symptoms, determines alternatives and develops and implements resolution. If problem is user error, works with operator to improve user instructions or train for better understanding.

- Creates database elements for project development and performance enhancements. Assures data integrity when developing, maintaining or enhancing applications.

- Creates utilities for the technology staff to enhance department and staff productivity.

- Utilizes the District's Project Management software for maintaining the status of projects assigned, ensuring accuracy of the project timeline, storing project documentation including statement of work (SOW), Requirement document and communicating with project team.

- Acts as project team lead or as a team member on projects by coordinating and otherwise involving staff members from multiple organizational units.

- Maintains current technical skills and systems knowledge while learning to use new technologies in a self-directed environment.

- Performs other duties as assigned that support the overall objective of the district.

QUALIFICATIONS

Knowledge and Skills: Requires advanced, specialized knowledge of application development methodologies, complex principles and procedures of computer systems, including application system design, analysis, testing, and implementation. Requires advanced progressive knowledge in systems design and development in order to respond to potential language changes or new requirements. Requires advanced knowledge and skill with multiple programming languages. Requires specialized knowledge of multiple finance, payroll, academic support, and student data applications as well as business content

management/collaboration and business intelligence tools. Requires advanced problem solving and analytical skills to design and troubleshoot programs. Requires sufficient communication skills to consult with all levels of staff, conduct individual instruction, technical assistance, and apply understandable lines of questioning when trying to understand department needs or problems.

Abilities: Must be able to perform all of the relevant duties of the position with only general direction. Can work effectively in a team environment. Must be able to operate a variety of computer terminals, printers, and peripheral equipment. Requires the ability to analyze unique and highly technical problems and to develop and apply appropriate solutions. Requires the ability to perform a full range of systems analysis and complex applications programming duties. Must be able to analyze, design, program, install and maintain highly technical and complex stored procedures and applications programs. Requires the ability to analyze data and develop logical solutions. Must be able to design and implement computer systems. Requires the ability to discuss technical information with users, discern their needs and develop programs, systems, screens, etc., which meet those needs. Requires the ability to develop clear and precise documentation of technology procedures as it pertains to the systems supported. Must be able to communicate technical and complex information to 'non-technical' users. Requires the ability to provide training to on-line users in use of computer equipment and operating procedures. Must be able to read, understand and apply information from technical manuals. Must be able to prioritize work in order to meet deadlines and maintain schedules. Requires the ability to flow chart, organize, and lead development projects.

Physical Abilities: Incumbent must be able to function effectively indoors engaged in work of primarily a sedentary nature. Requires the ability to sit for extended periods of time to accomplish data entry and desk work. Requires sufficient arm, hand, and finger dexterity in order to use a personal computer keyboard, multi-media presentation, and other office equipment. Requires normal hearing and speaking skills to communicate with staff in one-on-one and small group settings, and distinguish sound prompts from equipment. Requires visual acuity to read printed materials and computer screens.

Education and Experience: Position requires a combination of education and experience equivalent to a Bachelor's degree in a computer science or engineering discipline plus six years of experience within a rapidly changing setting, designing and programming applications, databases, and operating systems. Two of the six years must be in a product development capacity. Alternatively, a Master's Degree and two years of development experience will meet the requirements of the position.

Licenses and Certificates: May require a valid driver's license.

Working Conditions: Work is performed indoors where minimal safety considerations exist.