WEB SOFTWARE ENGINEER

DEFINITION
Under the general direction of the Information Technology administrator, participates in systems analysis, design, programming, documentation, installation, implementation, and maintenance of complex and integrated web solutions in a networked, multiple web server environment.

ESSENTIAL DUTIES
Uses software engineering standards and tools to design, develop, implement, and maintain multi-user secure web-based applications to meet extranet and intranet needs.
Integrates web functionality, content, and methods using SQL and Microsoft.NET frameworks.
Writes and maintains BuildingBlocks, manages automated snapshots, and provides integration support for Blackboard.
Prepares and updates operating documentation, including production job control procedures and job narratives.
Writes, edits and reviews project documentation using various office automation tools.
Develops testing plans to test data sets.
Tests and corrects web-based applications using various browsers with extended plug-in functionality.
Develops and applies both unit and integrated tests and debugs programs and systems using object and source analyzing and debugging software tools.
Develops software in Microsoft Windows and OpenSource networked operating environments.
Consults with organizational users to determine application design needs.
Develops web-based and thick client software solutions using various GUI, OpenSource and/or .NET integrated development environments and languages with accepted standards of object-oriented programming and object models.
Applies software engineering methodology to software development projects.
Designs formats for data input and output, storage and retention of data and control procedures for computer program specifications.
Analyzes and prepares detailed program specifications and processing requirements.
Integrates in-house designed student and business systems with other third-party applications.
Performs other related duties as required.

DISTINGUISHING CHARACTERISTICS AMONG RELATED CLASSES
An Assistant Software Engineer participates in programming, documentation and implementation of complex application software.
A Software Engineer participates in systems analysis, design, programming, documentation, implementation and maintenance of complex application software in a networked client/server environment.
A Web Software Engineer participates in systems analysis, design, programming, documentation, implementation, and maintenance of complex and integrated web solutions in a networked, multiple web server environment.

MINIMUM QUALIFICATIONS
Education:
Graduation from high school, or equivalent. A minimum of 60 semester credits (90 quarter units) of coursework from an accredited college or university, including coursework in software engineering, computer science, or closely related field.
Experience:
One year of experience in dynamic web software development using SQL, Microsoft.NET, or similar object-oriented language. A bachelor’s degree in software engineering, computer science, or closely related field may be used as a substitute for the experience requirement.
Special:
Possession of a valid California Class C Driver License.
Evidence of adequate insurance for a motor vehicle which meets the California legal liability insurance
requirement and continual insurance coverage during employment.

EMPLOYMENT STANDARDS

Knowledge of:
- Standards and models of software engineering.
- Relational database design and management system concepts.
- Accepted practices of OpenSource software development.
- Development and data access languages including SQL, and C# or C++ within the scope of Microsoft.NET frameworks.
- OpenSource development and deployment software tools.
- Principles of human interface design, GUI forms, reports and other electronic documents used in client/server applications.
- Concepts and techniques of object-oriented programming, object modeling and reusable software.
- Microsoft Internet Information Server (IIS).
- Current Microsoft operating systems.
- Structured programming and design techniques.
- Programming theory and operating system constraints.
- Uses and limitations of information technology hardware, software and services.
- Block and flow chart diagrams, theory and application, and use of change management and version control software tools.
- Modeling, prototyping, simulation and web client/server performance analysis.
- Project management and project tracking.
- Distributed systems.
- Computer aided software engineering tools.

Ability to:
- Analyze and define problem situations, identify relevant factors and relationships, and formulate solutions and recognize the implications of those solutions.
- Express difficult concepts orally and in writing in a clear and concise manner that is understandable to both data-processing and non-data-processing personnel.
- Work independently with minimal supervision.
- Think creatively in developing new procedures, methods or approaches.
- Interact responsibly with other employees and those in user departments.
- Analyze problems in machine operations and program logic.
- Reengineer work flow for users.
- Represent the organization positively in collaboration with all users.
- Demonstrate a positive customer service attitude.
- Manage multiple concurrent tasks.
- Work under pressure of constant deadlines with frequent interruptions.
- Understand and carry out oral and written instruction.
- Use logic and reasoning to identify strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.
- Establish and maintain effective relationships with those contacted in the course of work.

PHYSICAL DEMANDS

Employees in this classification stand, walk, sit for extended periods of time, repetitively use fingers and wrists or hands in a twisting motion or while applying pressure, use both hands simultaneously, reach overhead, have rapid mental/muscular coordination, speak clearly, hear normal voice conversation, have depth perception and color vision, distinguish shades, see small details, drive a vehicle, and use a computer and telephone.

WORK ENVIRONMENT

Employees in this classification work directly with District staff and students, primarily indoors, alone, in the absence of supervision, over 40 hours a week, with high volume and tight deadlines, continuously changing priorities, continuous interruptions, electrical hazards, minimal exposure to minor contagious illnesses (colds, flu, etc.), and occasional driving to District sites.

Revised: 6/7/11

Salary Range: 50-B