



PERSONNEL COMMISSION

Class Code: 5072
Salary Range: 42 (M2)

SOFTWARE APPLICATIONS ENGINEER, RESEARCH, PLANNING & EVALUATION

JOB SUMMARY

Under immediate supervision, provide technical expertise in the conceptualization, design, development and deployment of a variety of software applications used in online data collection and reporting; perform related duties as assigned.

EXAMPLES OF DUTIES

The classification specification does not describe all duties performed by all incumbents within the class. This summary provides examples of typical tasks performed in this classification.

- Design, implement, administer and maintain secure relational databases. **E**
- Assist in the control of activities for reorganization of databases and back-up recovery. **E**
- Provide information and assist in the development of technical reports, summaries, protocols and quantitative analyses related to software development and applications. **E**
- Design, implement and monitor projects involving database programming and analysis using web tools to create interfaces **E**
- Provide scientific and technical support of database software and web development initiatives including assessment, integration and data conversion. **E**
- Develop data mining tools and interface with existing online applications. **E**
- Create software documentation, ongoing maintenance, upgrading and administration of databases, servers and other hardware and software systems. **E**
- Participate in review and analyses of information technology system capacity for existing software and hardware requirements and make recommendations for future needs. **E**
- Maintain databases on complex, large-scale projects; troubleshoot reported software problems and assure database performance resolves problems. **E**
- Maintain and improve systems to monitor website users and analyze a variety of data such as number of user visits, paths utilized and time spent on each site; evaluate user trends and recommend modifications to provide ongoing improvement of the data collection/reporting website. **E**
- Participate in the assessment of new industry standards, technologies and trends and formulate strategies for enhancing District sites by promoting uniform fonts, formatting, icons, images, layout techniques and modularization. **E**

- Participate in recommending District policy as it relates to information access. *E*
- Provide technical support to District and school offices to assure data security and integrity. *E*
- May participate in and conduct training in data access, input and interpretation.

Note: At the end of some of the duty statements there is an italicized "E" which identifies essential duties required of the classification. This is strictly for use in compliance with the Americans with Disabilities Act.

DISTINGUISHING CHARACTERISTICS

The Software Applications Engineer, Research, Planning & Evaluation, is the entry-level classification in a professional series of web application development engineers. Incumbents in this class provide technical support in the design, development, implementation and upgrading of software applications for computer database programming functions, including manipulation and conversion of data. Incumbents focus on client needs and satisfaction and provide responsiveness to client requests as well as performing technical development work.

EMPLOYMENT STANDARDS

Knowledge of:

SQL, ASP.Net, C/C+, C++ programming languages, HTML, JavaScript, Visual Basic, VB Script, Active Server Page and related software.
FTP-HTTP concepts and technologies.
Database indexes, primary and foreign keys, validation and logic flow.
User interface issues, navigation and computer software architecture.
Troubleshooting strategies for PC platforms and various Internet browsers and versions
Accepted design concepts, graphical user interfaces and W3C standards.
Entity/Relationship diagram technique for data modeling.
Relational database design and implementation, database query design, interface design, web-multimedia design.
Oral and written communication skills.

Ability to:

Write stored procedures and complex queries
Create and apply sequential query language and database triggers.
Perform routine unit integration and load test code or application to meet quality assurance standards.
Apply version control for written code.
Update application models or entity relationship diagrams and apply object-oriented programming.

Understand and apply the principles of the software development life cycle, follow the methodology of iterative development and be skilled in writing technical application documentation or prepare outline help facilities.

Validate use cases, prepare functional requirements and recommend application system security models.

Create and use forms for data collection.

Learn and transition to new technology quickly and easily.

Apply web programming languages and technologies.

Train users on web-based applications, concepts and techniques.

Analyze situations accurately and adopt an effective course of action.

Identify and analyze customer business requirements in order to write system technical requirements.

Analyze, interpret, evaluate and summarize complex data to produce reports.

Adapt to changing priorities and work assignments.

Work on multiple projects simultaneously.

Communicate effectively with technical and non-technical users, both orally and in writing.

Provide excellent customer service to District personnel.

Develop code in a clean and consistent manner with proper supporting documentation.

Work within a team environment, following and maintaining the specifications, guidelines and standards set by the department.

Education and Training:

Bachelors degree in computer science, engineering or a related field.

Experience:

One year of experience with relational databases, primarily using SQL or Oracle, is required. Software development, web applications, or online applications experience is preferred.

A Master's degree in one of the above fields may substitute for the required experience.

An Associate of Arts degree in one of the above fields and two additional years of experience which specifically include SQL or Oracle, and software development, web applications and online applications may substitute for the required education.

Any other combination of training and experience that could likely provide the desired skills, knowledge or abilities may be considered.

WORKING ENVIRONMENT

Office environment.
Constant interruptions.
Extended viewing of a computer monitor.

PHYSICAL DEMANDS

Hearing and speaking to exchange information.
Dexterity of hands and fingers to operate a computer keyboard.
Seeing to read a variety of materials.
Sitting for extended periods of time.

AMERICANS WITH DISABILITIES ACT

Persons with certain disabilities may be capable of performing the essential duties of this class with or without reasonable accommodation, depending on the nature of the disability.

APPOINTMENT

In accordance with Education Code Section 45301, an employee appointed to this class must serve a probationary period of one (1) year during which time an employee must demonstrate at least an overall satisfactory performance. Failure to do so shall result in the employee's termination.

PCA: 7/15/2004