

## College of the Redwoods

## Position Description

Position: Database Analyst	Position Number:
Department/Site: Information Technology	FLSA: Exempt
Reports to/Evaluated by: Director, Institutional Research	Salary Grade: 125

### **Summary**

Defines, develops, analyzes, and modifies complex databases and associated master files that support software applications. Performs the technical design and development of computer database systems, associated master files, and applications, including those associated with student information and business. Plans, establishes, and maintains allocation controls over the availability of disk space for current and future database needs.

### **Essential Duties and Responsibilities**

- Designs, develops and tests computer applications and systems related to database administration.
- Administers an SQL or equivalent server, containing databases, and related operating systems.
- Consults with a variety of staff to determine database needs and requirements and coordinates database administration services. Assists with user implementation of database and report processing systems and applications.
- Coordinates conversion of applications to integrated relational database formats. Participates in developing data models and standards, determining the data base fields of information, development of programs, troubleshooting of data input and output, and training of departmental staff and end users.
- Defines database items, structures and relationships, including redundancy. Develops and maintains data dictionaries. Monitors and tunes database performance such as record storage accuracy and efficiency. Monitors and adjust file system capacities.
- Periodically upgrades and tunes operating systems governing databases to achieve optimum performance. Develops techniques for migrating information from and to centralized databases.
- Analyzes problems with database applications through consultation with users. Diagnoses networking, hardware, and software issues and problems, contacting applications and hardware vendors as necessary.
- Designs, develops, and tests computer applications and systems related to relational databases. Prepares system design specifications and documentation for all data input, output, and structures.
- Analyzes, modifies, tests and debugs existing database structure, systems and programs. Analyzes problems and makes modifications to systems and individual programs.
- Designs inputs, including data entry screens, scanner forms, and files. Designs outputs,

including reports, files, and display screens. Designs, develops, and implements logical and physical database structures and relationships.

- Ensures security and integrity of database structures and content. Administers access security to database tables including adding/deleting users, controlling database login passwords, and authorization access to tables.
- Troubleshoots application errors. In conjunction with users, isolates problems from symptoms, determines alternatives and develops and implements solutions. If problem is user error, works with staff to improve user instructions or train for better understanding.
- Assists users with database related problems. Analyzes cause of problems. Redesigns queries, forms, links and other solutions.
- Prepares documentation/descriptions of how users access data. Documents physical database descriptions, such as location, space requirements and access method to protect data resources against unauthorized access and accidental destruction.
- Works with external agencies, independent contractors, vendors, and organizations on technology services, applications, and/or data requirements.
- Maintains up-to-date knowledge of evolving computer technologies, including hardware, software releases, languages, problem solving techniques, and development tools.
- Performs other duties as assigned that support the overall objective of the position.

## **Qualifications**

- **Knowledge and Skills**

Requires specialized knowledge of the principles and procedures of computer systems, including relational database analysis and design. Specialized knowledge of the specific relational database programs used by the District. Requires a working knowledge of host computer database management system concepts, methodologies, analysis, and design. Requires specialized knowledge of database design techniques and host computer logical and physical database structures and relationships, including those for networked microcomputer systems. Requires in-depth knowledge of database planning, program development standards, procedures, tools, and documentation requirements. Requires knowledge of standard query language (SQL) extensions to access relational databases as well as database definition and manipulation languages. Requires knowledge of multiple operating systems such as Windows and Novell. Requires knowledge of industry standard software for tracking and report generation. Requires sufficient language and writing skill to read, understand, and prepare system documentation and instructions. Requires sufficient math skills to record sums, fractions, and statistical data. Requires sufficient communication skills in order to convey technical concepts and consult with a wide range of internal contacts for purposes of training, conversion of data, and problem solving.

- **Abilities**

Must be able to perform a full range of database systems analysis and related programming duties. Requires the ability to install, configure, and troubleshoot database and application software. Must be able to analyze and evaluate the needs of users and

develop the most effective program or solution to meet those needs. Must know how to operate the computers, operating systems, peripherals, and other equipment used by the District for information retrieval, storage, analysis, and processing. Requires the ability to write basic SQL extensions to access a relational database and library and lexical functions. Requires the ability to design host computer logical and physical database structure and relationships, including those for microcomputer and network systems. Requires the ability work independently and collaboratively, follow logical progressions of program systems and to think logically, creatively, and in abstract terms. Requires the ability to analyze and solve technical problems under extreme time pressure. Must be able to read, interpret and apply complex technical information. Requires the ability to learn and apply emerging languages and applications within a reasonable time.

- **Physical Abilities**

Requires the ability to function indoors in an office environment engaged in work of primarily a sedentary nature. Requires the near visual acuity to write and to read written materials and computer screens. Requires arm-hand-finger dexterity to use a keyboard and pointing device for operating a microcomputer. Requires the ability to use hearing and speech for personal and telephone conversations, hear sound prompts from equipment, and to facilitate discussions with small groups.

- **Education and Experience**

The position typically requires a Bachelors Degree or equivalent in computer sciences, information services or a related field and two years of related experience in applications development from database structures and database technical design. Alternatively, the position may accept an Associates Degree and 6 years of progressive experience. Additional in-depth experience or specialized industry training may substitute for some higher education.

- **Licenses and Certificates**

May require a valid driver's license.

- **Working Conditions**

Work is performed indoors where minimal safety considerations exist.