

JOB TITLE: Senior Software Programmer
PAY GRADE: CL 29
LAST REVISED: July 2025

*Job Descriptions/Class Specifications are intended to present a descriptive list of the range of duties performed by employees in the job and are **not** intended to reflect all duties performed within the job.*

Sierra College has a strong commitment to the achievement of equity and inclusion among its faculty, staff, and students and values the rich, diverse backgrounds that make up the campus community. A strong candidate for this position must have the understanding and ability to successfully support individuals with varying backgrounds. This includes persons with disabilities, various gender identities and sexual orientations, as well as individuals from historically underrepresented communities and other groups. Our District is committed to providing strategies for success and proactive student-centered practices and policies focused on eliminating equity gaps to ensure the District provides an inclusive educational and employment environment focused on strategies for success and equitable outcomes for all.

SUMMARY DESCRIPTION

Under general supervision from assigned manager, responsible for the functional and technical aspects of one or more modules of the District's Banner Enterprise Resource Planning (ERP) system used to support and maintain college business and academic practices; responsible for functions associated with project management and liaison, data modeling, and systems development, and for providing future architectural direction of computer systems, applications, and external interfaces on multiple platforms; performs advanced analysis, requirements gathering, software development, coding, testing and documentation of software applications on multiple platforms; and provides technical support, documentation, and troubleshooting for District staff on computer applications.

REPRESENTATIVE DUTIES

The following duties are typical for this classification. Incumbents may not perform all of the listed duties and/or may be required to perform additional or different duties from those set forth below to address business needs and changing business practices.

1. Serves as a project leader by coordinating and involving District staff from multiple organizational units; follows systems development life-cycle techniques; utilizes joint application development processes; employs project management techniques and knowledge about specialized software packages, applications, and industry standard programming languages; coordinates and guides the work of project team members in converting or integrating applications among platforms; installs, integrates, tests, and tunes software to maximize performance according to test results and internal software design principles.
2. Troubleshoots application errors; isolates problems from symptoms; determines alternatives and develops and implements solutions; works with user community to improve instructions and training.
3. Defines the scope and objectives for applications, along with constraints and system requirements; analyzes and defines current organizational functions, processes, sources, and uses of information, and data to determine application needs and requirements.
4. Analyzes user business processes; designs applications and solutions to optimize use of systems; documents work and information flow using organization and data flow charts and other related materials; designs and produces application specifications and documentation on inputs, outputs, and data structures.
5. Designs inputs, including data entry screens, and files; designs outputs, including reports, files, and display screens; designs, develops, and implements logical and physical database structures and corresponding internal relationships.
6. Programs and modifies in-house and third-party applications by creating and editing CSS, HTML, JavaScript, Groovy, and related files to meet specifications of web design.

7. Designs, codes, tests, and maintains application software, including District's Banner Enterprise Resource Planning (ERP) administrative and integrated systems; consults with users on applications and data requirements.
8. Coordinates and implements data conversions, integrations, and transitions; develops user and system documentation; plans and conducts user training, including preparation of training materials.
9. Provides technical support, problem resolution, and data research for end users; provides support and training for integrated data management applications.
10. Participates in and facilitates planning and implementation of long-range systems goals; researches and participates in the development of system requirements, including evaluating and selecting of information systems.
11. Establishes Standard Operating Procedures (SOP); provides inputs to and follows Support Level Agreements (SLA).
12. Conducts feasibility studies for proposed applications and prepares recommendations for customers; estimates value-added potential in enhanced service, productivity, and financial benefit.
13. Maintains up-to-date knowledge of evolving computer technologies, including hardware, software, languages, problem solving techniques, and development tools; prepares periodic briefings on technologies that would have relevance to the District.
14. Coordinates with vendors and users to integrate third-party software into District systems and databases.
15. Designs, codes, tests, and maintains data transformation services between the primary ERP system and database and auxiliary operating systems, databases, and third-party applications.
16. Reviews, develops, enhances, and modifies code in software applications using database, object-oriented, and emerging programming languages along with data integration and migration processes.
17. May provide onboarding support, general work training, guidance, supervision assistance, and directs activities of students or temporary employees.
18. Performs related duties that support the overall objective of the position.

QUALIFICATIONS

The following generally describes the knowledge and ability required to enter the job and/or be learned within a short period of time in order to successfully perform the assigned duties.

Knowledge of:

- Concepts, methodologies, analysis, and design of computer and relational database management systems.
- Enterprise Resource Planning (ERP) systems, such as Ellucian Banner with Linux operating system.
- Program development techniques, procedures, tools, documentation requirements, and System Development Life Cycles (SDLC).
- Programming languages, including PL/SQL, SQL*Plus, Java, CSS, JavaScript, MySQL, Perl, HTML, APIs, and Web Services.
- Principles and procedures of computer systems, including analysis and design.
- Relational database concepts, design techniques, and tools.
- Computer file methods and structured testing techniques with object-oriented software development techniques and tools.
- Software applications, operating systems, hardware, telecommunications, and networking principles.
- Federal, state, and local laws, codes, and regulations, including, but not limited to, the Family Educational Rights and Privacy Act (FERPA) and the Americans with Disabilities Act (ADA).
- Basic mathematical concepts.
- English usage, grammar, spelling, punctuation, and vocabulary, including proofreading and formatting techniques.

Ability to:

- Coordinate systems development functions and steps and follow logical progressions for programming systems.
- Design, program, install, and maintain programs for original and purchased applications and systems, including databases.
- Analyze technical problems and develop and apply appropriate solutions.
- Evaluate user interfaces for compliance with accessibility standards and principles.
- Identify resources necessary to provide any information and assistance required to complete tasks.
- Develop and implement project plans leading to the successful, on-time completion of tasks.
- Conduct information interviews through individual conferences and group processes and then translate user requirements into computer programs and systems.
- Design database schemas and analyze relational database tables, triggers, and procedures.
- Use entity relationship (ER) and data modeling tools to document designs.
- Provide training to online users in use of computer equipment and operating procedures.
- Communicate technical and complex information to non-technical users.
- Read, understand, and apply information from technical manuals and education code regulations.
- Perform technical and operational duties to support students, including providing complex case management services and sensitivity to individuals students from varying diverse backgrounds.
- Plan and organize work to meet changing priorities and deadlines.
- Maintain a high level of attention to detail.
- Utilize office procedures, methods, and equipment, including computers, technology, and applicable software applications sufficiently to perform the duties of the classification, including the District's Enterprise Resource Planning (ERP) system and those used for application and system programming. Operate a variety of computer terminals, printers, and peripheral equipment.
- Adapt to changing technologies and learn functionality of new equipment and systems.
- Maintain confidentiality of information.
- Follow oral and written directions.
- Communicate clearly and concisely, both orally and in writing.
- Provide onboarding support, general work training, guidance, supervision assistance, and direct activities of students or temporary employees.
- Establish and maintain effective working relationships with those contacted in the course of work.
- Coordinate with staff and others to minimize delays or interruptions to District activities.
- Respond to emergencies.
- Work independently and collaboratively.
- Apply District policies and procedures.

EDUCATION AND EXPERIENCE GUIDELINES

Any combination of education and experience that demonstrates the required above knowledge and abilities is qualifying. Examples of ways to obtain the above knowledge and abilities could include, but are not limited to, the following:

Education/Training

- Four years of college with major course work in computer science or a related field.
- Industry certifications in cybersecurity may substitute for some education.

Experience

- Four years of increasingly responsible analysis and programming experience.

PHYSICAL DEMANDS AND WORKING ENVIRONMENT

The conditions herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential job functions.

Environment: Work is performed primarily in a standard office setting.

Physical: Primary functions require sufficient physical ability and mobility to work in an office setting; to stand or sit for prolonged periods of time; to occasionally walk, stoop, bend, kneel, crouch, reach, and twist; to lift, carry, push, and/or pull light to moderate amounts of weight; to operate office equipment requiring repetitive hand movement and fine coordination, including use of a computer keyboard; and to verbally communicate to exchange information.

Vision: See in the normal visual range with or without correction; vision sufficient to read computer screens and printed documents; and to operate assigned equipment.

Hearing: Hear in the normal audio range with or without correction.

Board Approved: July 15, 2025