



COMPUTER SYSTEMS ENGINEER

JC: EF102
PB: 05
FLSA: Exempt

PC: 724
BU: 92
September 2000

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

DEFINITION

Performs a variety of professional computer systems engineering duties in support of the development, modification and maintenance of the District's computerized equipment and systems; ensures work quality and adherence to specifications; and related duties as assigned.

CLASS CHARACTERISTICS

This is the full journey level class within the Computer Systems Engineer series. Employees at this level receive only occasional instruction or assistance as new or unusual situations arise, and are fully aware of the operating procedures and policies of the work unit. This class is distinguished from the Senior Computer Systems Engineer in that the latter possesses a specialized, technical or functional expertise within the area of assignment or may exercise lead supervision over assigned lower level staff.

EXAMPLES OF DUTIES - *Duties may include, but are not limited to, the following:*

1. Performs a variety of professional computer systems engineering duties in the development, modification and maintenance of the District's computerized equipment and systems; designs and tests computer control systems; monitors real time systems operations; and provides assistance to programmers and installation staff.
2. Designs hardware and software modifications of control and data collection systems; assists in the preparation of equipment specifications and procurement documents for purchasing hardware and software.
3. Resolves computer systems malfunctions; determines causes and takes corrective actions; recommends system modifications as required.
4. Provides other District departments and divisions with technical information relating to system capabilities and limitations; coordinates computer systems engineering work with that of other divisions and outside agencies.
5. Provides assistance to programmers, technical support staff and maintenance personnel in the installation of various computer systems.

6. Designs and tests computer report and documentation programs and software.
7. Develops computer operating manuals and test procedures; prepares procedures for installation and test plans and computer hardware and software installation, modification and testing.
8. Coordinates equipment designs with equipment specifications and user requirements; works with manufacturers and vendors to obtain specialized hardware and software; inspects and recommends approval of purchased items upon delivery and installation.
9. Designs and codes software changes; tests modified codes; documents software modifications; meets with system users to obtain feedback on program changes.
10. Assists in the preparation of plans for short and long term modifications to existing computer systems; assists in the preparation of estimates and budgets for assigned short and long term computer systems projects.
11. Conducts installation tests; prepares test re-certification documentation.
12. Attends and participates in professional group meetings; stays abreast of new trends and innovations in the field of electronics and computer systems engineering.

QUALIFICATIONS

Knowledge of:

- Operations, services and activities of a comprehensive computer systems engineering program
- Operational characteristics of electronic, computer systems and their sub-components
- Computer programming languages and operating systems used in a variety of systems and real time Applications
- Computer hardware and software equipment and materials
- Methods and techniques of programming and testing computer systems and applications
- Terminology, methods, practices, and techniques used in technical report preparation
- Advanced mathematical principles
- Related Federal, State and local laws, codes and regulations

Skill in:

- Performing a variety of professional computer system engineering duties
- Preparing and interpreting test reports and documents
- Applying principles and practices of computer systems engineering in assigned projects
- Interpreting and explaining District policies and procedures
- Analyzing technical problems, evaluating alternatives, and recommending solutions
- Reading and understanding technical drawings and specifications
- Preparing clear, concise, and complete reports
- Preparing computer hardware and software designs
- Monitoring project budgets and schedules
- Preparing computer hardware and software specifications
- Troubleshooting and diagnosing computer system malfunctions
- Understanding and following oral and written instructions
- Communicating clearly and concisely, both orally and in writing

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- Establishing and maintaining effective working relationships with those contacted in the course of work

MINIMUM QUALIFICATIONS

Education:

A Bachelor's degree in computer systems, electronics, electrical engineering or a closely related field from an accredited college or university.

Experience:

Two (2) years of (full-time equivalent) verifiable computer systems engineering experience.

Other Requirements:

Must possess a valid California driver's license and have a satisfactory driving record; may be required to work overtime or off hours to test hardware and software.

Substitution:

Additional professional experience as outlined above may be substituted for the education on a year-for-year basis. A college degree is preferred.

WORKING CONDITIONS

Environmental Conditions:

Office environment; exposure to computer screens.

Physical Conditions:

May require maintaining physical condition necessary for walking, standing or sitting for prolonged periods of time.

BART EEO-1 Job Group: 3000 – Engineers
Census Code: 1105 – Network Sys Admin
Safety Sensitive: No