



**APPROVED BY: THE CHIEF
ADMINISTRATIVE OFFICER**

EFFECTIVE: November 2004

ENGINEERING SYSTEMS ANALYST

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

To plan, design, develop and implement complex or specialized information systems projects in an assigned engineering or scientific program area including, but not limited to, water supply simulation models, surface water gathering systems, Internet web site development and related programs; to provide communication and consulting services to users in assigned program areas; to provide technical support in systems design and maintenance; to provide direct supervision to a group of subordinates performing applications analysis and programming; and to perform a variety of highly complex technical and administrative duties relative to assigned areas of responsibility.

DISTINGUISHING CHARACTERISTICS

This class is distinguished from the Control Systems/Electrical Engineer series in that the latter is involved with hardware and software analysis and design for real-time control operations. The Engineering Systems Analyst is distinguished from the Information Systems Analyst job family in that the latter assumes responsibility for District business systems and database applications.

SUPERVISION RECEIVED AND EXERCISED

Receives direction from assigned supervisory or management personnel.

Exercises direct supervision over an assigned group of professional staff.

ESSENTIAL FUNCTION STATEMENTS

Essential responsibilities and duties may include, but are not limited to, the following:

1. Plan, develop and implement complex or specialized information systems projects in an assigned engineering or scientific program area including, but not limited to, water supply simulation models, surface water gathering systems, Internet web site development and related programs.
2. Manage, oversee, and evaluate assigned projects; assess client needs and translate into information systems solutions; define project scope, purpose and plans; establish goals and objectives; monitor project quality, performance and compliance with applicable specifications, rules, regulations and laws; ensure project quality, timeliness and effectiveness in meeting the District's business needs.
3. Provides direct supervision to professional staff performing systems analysis and programming duties; plans and directs the work of assigned staff; assigns work activities and projects; develops and implements work schedules and approves time off; reviews and evaluates work products, methods and procedures; meets with staff to identify and resolve problems; completes performance evaluations; recommends disciplinary actions; may participate in selection of staff.
4. Receive and analyze requests for system modifications or new application development or enhancement in assigned program area; recommend and implement solutions to problems or design systems as needed; coordinate or perform detailed analysis, development and testing of new applications; develop and recommend standards for the design and implementation of new systems applications; ensure integration into current or proposed systems or applications; design, test, perform quality control and implement new systems and applications;
5. Prepare project cost estimates and justification for new or enhanced system or application modifications; prepare requests for proposals for vendor services; evaluate bids and make recommendations on vendor selection.
6. Prepare and present project progress reports; identify problems and issues; recommend solutions.
7. Perform and update computer models in assigned program areas to keep application systems current with District operating procedures and standards.
8. Design, write and execute programs in a variety of programming environments; design, input and output related forms including screens, data storage records, forms and reports.

9. Design, develop, code, debug, test, install and maintain software applications; troubleshoot and rectify application software problems; evaluate new hardware/software and recommend changes as needed; review new application software for compliance with applicable quality assurance standards before implementation; prepare and update technical and training manuals as required.
10. Conduct research on new and evolving computer technologies; recommend systems and improvements for the District; conduct research and prepare and present staff reports; prepare analytical and statistical reports on operations and activities.
11. Perform technical writing duties in the development and production of system documentation, instructional and procedural manuals.
12. Attend and participate in professional group meetings; stay abreast of new trends and innovations in the field of information technology.
13. Perform related duties and responsibilities as required.

QUALIFICATIONS

Knowledge of:

Operational characteristics of operating systems in assigned program areas.

Modern and complex principles and practices of systems and database analysis.

Operational characteristics of various computer systems, applications and peripheral equipment.

Data processing technology trends, history and applications.

Principles and practices of information system project development, administration and management.

Principles and practices of programming engineering and scientific applications, including a working knowledge of a variety of computer programming languages.

Basic engineering or scientific principles, practices, mathematics and terminology in assigned program area.

Principles and practices of statistical analysis.

Methods and techniques of evaluating business needs and developing information systems solutions.

Principles and practices of project budget development and administration.

Principles of hardware and software configuration and installation.

Pertinent federal, state and local codes, laws and regulations.

Ability to:

Plan, design, develop and implement complex or specialized information systems projects in an assigned engineering or scientific program area.
Analyze business requirements to design and implement appropriate system solutions.
Analyze, upgrade and maintain system databases.
Manage information systems projects in assigned program area.
Apply technical principles and concepts to develop business solutions.
Plan, assign, review, direct and oversee the work of subordinate and contracted information systems staff.
Conduct highly technical presentations.
Develop and conduct simulation studies for assigned information systems projects.
Prepare and administer project budgets.
Prepare clear and concise administrative and financial reports.
Analyze problems, identify alternative solutions, project consequences of proposed actions and implement recommendations in support of goals.
Communicate clearly and concisely, both orally and in writing.
Establish and maintain effective working relationships with those contacted in the course of work.

Experience and Training Guidelines

Any combination of experience and training that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

Experience

Three years of increasingly responsible information systems analysis and programming experience including one year of lead experience or supervision of professional staff.

Training

Equivalent to a Bachelors degree from an accredited college or university with major course work in computer science, information systems, engineering or a related field. Directly related experience may be substituted for the college requirement on the basis of one and one-half years of experience for one year of education to a maximum of four years.

License or Certificate

Possession of, or ability to obtain, an appropriate, valid California driver's license may be required with determinations made on a case-by-case basis at the time of job posting.

WORKING CONDITIONS

Environmental Conditions

Office environment; exposure to computer screens.

Physical Conditions

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