

COUNTY OF SOLANO
CLASS SPECIFICATION
INFORMATION TECHNOLOGY ANALYST IV
INFORMATION TECHNOLOGY ANALYST III
INFORMATION TECHNOLOGY ANALYST II
INFORMATION TECHNOLOGY ANALYST I

CLASS SUMMARY:

Depending upon assignment, plans, designs, customizes, updates, develops, and maintains assigned application, technology infrastructure component, and related systems including large and small data processing and application systems serving work unit, division, department, multi-departmental, and county-wide functions. Depending on the class level assigned, participate as a member of a team or lead a small team of application development, infrastructure, or systems support staff; works with users and troubleshoots and resolves system issues; implements system improvements and upgrades; and participates as a responsible, cooperative, and positive team member. Assignments may include software development, database administration, security administration, network, and server administration, service desk management, and GIS. Levels in this classification are flexibly staffed and are allocated based on the level, nature, and complexity of assignment.

DISTINGUISHING CHARACTERISTICS:

Information Technology Analyst I

This is the first level classification in the Information Technology series and characterized by the performance of the more routine duties including software development, software support, or infrastructure support under the direction of higher level information technology staff and responsible for analyzing and developing software programs or implementing infrastructure systems pursuant to a predetermined system design. This class is distinguished from the Information Technology Analyst II in that the latter performs the full range of application systems analysis and design, technology infrastructure development and support.

The Information Technology Analyst series differs from the:

- **Information Technology Specialist** job series in that the former performs systems analysis and project management functions requiring a high degree of technical expertise. The Information Technology Specialist job series is responsible for coordinating a variety of computer/data processing functions in support of one or more department's user population and/or provides technical application support.

SUPERVISION RECEIVED AND EXERCISED:

- Supervision is received from Information Technology Analyst staff.
- No supervision is exercised over others.

Information Technology Analyst II

This is the second level classification within the Information Technology Analyst job series. Incumbents in this job class perform the full range of information technology duties including application programming and support; troubleshooting, coding, and enhancing application systems; and basic systems analysis, and technology infrastructure support for the assigned information technology systems.

The Information Technology Analyst II differs from the:

- **Information Technology Analyst III** by the latter's primary focus on systems analysis, design and functional specifications.

SUPERVISION RECEIVED AND EXERCISED:

- Supervision is received from Information Technology Analyst staff.
- No supervision is exercised over others.

Information Technology Analyst III

This is the third classification level within the Information Technology Analyst job series. Incumbents in this job class perform work at the advanced level of logical phases of systems analysis, design, and programming in supporting moderately complex project assignments for multi-departmental processing and applications systems. Employees in this class work within a framework of established procedures. Incumbents in this job class participate as responsible members of a project team designing, developing, and/or maintaining moderately complex to complex, original on-site systems or commercial applications software systems. When assigned to infrastructure, employees in this class may have responsibility for database administration, security management, and network/system administration. Employees may also act as a project lead on smaller, less complex projects.

The Information Technology Analyst III classification differs from the:

- **Information Technology Analyst IV** job class in that the latter is assigned the most difficult and complex projects/systems and acts as a team leader in the design and implementation of these projects.

SUPERVISION RECEIVED AND EXERCISED:

- Supervision is received from Information Technology Analyst staff.
- May function as a project lead over smaller, less complex projects.

Information Technology Analyst IV

This is the fourth classification level within the Information Technology Analyst job series. Incumbents in this job class possess and apply advanced levels of specialized and technical analytical skills and knowledge while serving as team leader/project manager for designated major systems. Incumbents in this job class perform the most difficult and responsible duties including providing advanced technical support to system users. Incumbents in this job class provide lead direction to software development, network/systems administration, service desk, or

security and database systems, other Information Technology Analysts, and/or consultants on assigned systems design, or infrastructure and maintenance projects.

The Information Technology Analyst IV classification differs from the:

- **Principal Information Technology Analyst** job class in that the latter is responsible for a major section, program or initiative with a high level of independence and responsibility for significant resources.

SUPERVISION RECEIVED AND EXERCISED:

- Supervision is received from a Principal Information Technology Analyst or an Information Technology Manager. May receive functional direction from the Assistant Director and/or Chief Information Officer
- May function as a project manager and/or team leader over technical and professional staff.

ESSENTIAL DUTIES: *This class specification represents the core area of responsibilities; specific position assignments will vary depending on the needs of the department*

- Coordinates and/or participates in the selection, development, installation, and modification of software systems for a variety of County service areas and enterprise systems; consults with users to identify current operating procedures, clarify program objectives, and determine data requirements; customize user interfaces and reporting systems; participates in the creation and maintenance of data exchange between systems.
- Oversees, coordinates, and/or participates in organizational, operational, and procedural analyses to determine information input, work processes, and desired output for potential and/or up-dated computerization for users in support of section, division, department, multi-departmental or county-wide applications; reviews and analyzes a variety of forms, documents, reports, data output, and record-keeping requirements.
- Installs and administers database and file management software; customizes vendor database software to meet county requirements; provides technical design of databases; monitors performance of databases and corrects problems and/or improves performance; oversees, coordinates and installs hardware and software required for county-wide systems.
- Maintains operating systems, and environmental and data communications software; monitors performance of hardware and operation system software and corrects problems and/or improves performance; designs back-up and recovery procedures; supports computer operations.
- Consults with customer/user departments and advises on the feasibility of converting systems to computerized applications; analyzes departmental and County-wide operations, functions, services, interdepartmental relationships, and the information sharing needs in the development of new and/or up-dated systems and procedures; recommends improvements in operations and administration of existing systems.
- Consults with supervisor and users to resolve questions of application intent, data input and output requirements, and the inclusion of internal checks and controls; participates in

design meetings and consults with other staff to evaluate programs and determine feasibility of design within time and cost constraints; integrates complex and multi-functional systems for inter-operability over multiple platforms and technologies; prepares and analyzes flowcharts and diagrams exhibiting the sequence of steps the program must follow and the logical operations required.

- Higher level positions may act as project manager/team leader in support of large, complex, and multi-functional computerized system(s); assists in preparation of the computer services budget; monitors assigned budget(s) for designated data processing/applications systems as assigned.
- Collects information regarding capabilities and limitations of existing systems, and desired capabilities of future systems; recommends, schedules, plans, develops and implements new systems, system upgrades, and modifications to provide capability for proposed projects, ensure efficient operation, and use allotted space effectively.
- Confers with users, consultants, and programmers to plan data security for software; ensures compatibility of planned security measures with established security systems software; coordinates implementation of vendor-issued security software updates; reviews and addresses violations of computer security procedures.
- Analyzes various factors including number of users serviced by data processing equipment, reporting formats required, volume of transactions, time requirements, and security requirements to determine hardware configurations.
- Codes applications and routines using various computer programming languages; reviews programs to identify and correct errors; designs screen displays to meet user needs; submits plans and designs to user for approval; develops and maintains documentation of program development process.
- Designs project plans based on scope, resources, budget, and personnel; acts as liaison between implementation personnel, management, and vendors, reviewing project details and obtaining approval; oversees production of project deliverables; selects, oversees, and advises project team members; ensures that project adheres to deadlines and budget constraints; coordinates project development with affected groups.
- Plans, designs, installs, configures, upgrades, tunes, and maintains systems software, database and file management software; allocates, formats, and customizes vendor software releases to meet requirements; attends specification meetings with project team workers to determine scope and limitations of database project; establishes physical database parameters; confers with coworkers to determine impact and staff cost of database changes; oversees changes to database management system; communicates with development and end-user personnel to determine application data access requirements, transaction rates, volume analysis, and other pertinent data; creates, monitors, and maintains computer databases.
- Researches, identifies, evaluates, procures, tests, and configures network systems including hardware and software; oversees the acquisition, installation, and implementation of network equipment, components, infrastructure, and support systems; works with outside vendors to obtain, implement, and maintain data cabling, internet

access, data circuits, and other components.

- Utilizes network monitoring tools to monitor servers, firewalls, and network components for errors, security issues, and other problems; reviews device, network, and application logs; reviews usage and utilization statistics; coordinates network operations, support, and disaster recovery.
- Perform network and engineering planning duties; assesses growth requirements; conducts capacity, life-expectancy and feasibility analyses; identifies areas of operation that require upgrades; integrates new technologies with existing technologies by creating detailed system migration plans prior to implementation; studies the integrity and security of data to establish system configurations; monitors system to control and monitor traffic; plans configuration changes and resolves complex installation problems; devises and implements strategies for connectivity to other systems through the use of routers, bridges and gateways.
- Troubleshoots and resolves software, hardware, operating system, and networking problems; communicates with vendor, supervisor, and other staff as necessary to research and resolve problems; contacts programmers to convey software errors or to recommend alterations to programs; contacts vendors to request service for defective products.
- Assists users with operating issues; performs software and system testing procedures, programming, bug verification, release testing, and beta support.
- Trains users in the operation and procedures of the application; consults with users regarding application and maintenance of the software; assists users with problems as they arise.
- Schedules, performs, and monitors system backups; as necessary, performs data recoveries.
- Monitors operations to ensure compliance with government regulations.
- Maintains professional knowledge in applicable areas and keeps abreast of changes in job-related rules, statutes, laws and new business trends; makes recommendations for the implementation of changes; reads and interprets professional literature; attends training programs, workshops and seminars as appropriate.
- Acts as liaison between and primary resource to vendors, technical support consultants, and departments in the resolution of complex system and networking problems; initiates, coordinates, and implements appropriate and corrective measures.
- Provides on-going guidance and advice to team members, technical and programming staff, and users; assigns work to staff, reviews team members' work on a regular and as needed basis; ensures adherence to Information Services standards and County policies; coordinates appropriate training for team members; monitors productivity and quality of work.
- Attends and conducts a variety of planning and project meetings; develops cost, and time estimates; prepares progress/status reports, presentations and other documentation.

REQUIRED KNOWLEDGE, SKILLS AND ABILITIES:

Information Technology Analyst I:

Knowledge of:

- Programming language applicable to specific assignment.
- Principles and practices of electronic data processing and programing methods including problem and functional analysis of computer software applications.
- Program development, implementation, testing, and debugging.

Skills and/or Ability to:

- Utilize basic office equipment and various software related equipment and machinery.
- Collect and analyze data and draw logical conclusions; analyze, design, code and/or alter programs.
- Research and interpret technical reference materials and apply concepts to programming solutions.
- Prepares test data.
- Writes customer/user documentation for assigned systems; identifies and resolves software application problems.
- Writes and interprets job coding language; develops application documentation.
- Makes decisions and independent judgments.
- Establishes and maintains cooperative working relationships.
- Understands program objectives in relation to departmental goals and procedures; demonstrates tact and diplomacy.
- Maintains accurate records and documents actions taken; proofreads and/or edits for errors in program coding.
- Project consequences of decisions; maintains confidentiality of information.

EDUCATION AND EXPERIENCE:

Education: Equivalent to an Associate's degree, preferably in information technology.

Experience: Depending upon assignment: One year of software development experience which includes problem and functional analysis of computer software applications.. Or, one year of experience in systems infrastructure support administering servers, storage,

networks, security, databases, or desktops.

Note: Additional experience may substitute on a year for year basis for the educational requirement.

REQUIRED KNOWLEDGE, SKILLS AND ABILITIES:

Information Technology Analyst II (in addition to the requirements for I level):

Knowledge of:

- Practices and techniques of preparing customer/user and operational documentation analysis.
- Correction of programming and/or equipment errors.
- Organizational systems analysis and its application to the development of automated information systems.
- User training methods.
- Program design methodology.

Skills and/or Ability to:

- Research, analyze and document work processes and information requirements.
- Understand and employ programming languages.
- Understand, interpret and explain laws, regulations and policies governing department program operations.
- Develop and implement operational procedures.
- Identify and analyze administrative problems and implement operational changes.
- Collect and analyze data to establish and identify needs and evaluate program effectiveness.
- Prepare narrative and statistical reports.
- Use proper coding and programming techniques.
- Proofread and/or edit for errors in coding or logic.
- Research regulations, procedures and/or technical reference materials.

EDUCATION AND EXPERIENCE:

Education/Training:

Equivalent to an Associate's degree, preferably in information technology.

Experience: Depending upon assignment: Two (2) years of software development and design experience which includes some system analysis. Or, two (2) years of experience in systems infrastructure support administering servers, storage, networks, security, databases, or desktops.

Note: Additional experience may substitute on a year for year basis for the educational requirement.

REQUIRED KNOWLEDGE, SKILLS AND ABILITIES:

Information Technology Analyst III (in addition to the requirements for II level):

Knowledge of:

- Standard and accepted principles and methodologies of computer programming and logic.
- Current systems/programming methods and procedures.
- Standard and accepted design and workflow principles.
- Standard and accepted applications programming, coding and testing.
- Standard and accepted data organization and access methods in computerized systems.
- Standard and accepted data base management systems, data communications and on-line and interactive systems.
- Advanced concepts, principles and practices of network and operating system architecture, design, development, protocols, implementation and administration.
- Principles, practices and protocols of network file servers, connectivity and associated devices including file and terminal servers, cabling, telecommunications equipment/lines, bridges, switches, routers, gateways, hubs, firewalls and internetworking.
- Methods and techniques of evaluating business requirements and developing network solutions.
- Principles and network security and administration.
- Basic methods of estimating/cost analysis.
- Standard and accepted budget development and tracking methods and techniques.
- Standard and accepted bidding and procurement methods and techniques.

Skills and/or Ability to:

- Learn and understand designated systems, processes, and operations in relation to users' goals, needs, and priorities.

- Prepare feasibility and needs studies/surveys and narrative and statistical reports.
- Research regulations, procedures, and/or technical reference materials.
- Perform a variety of technical and specialized tasks and functions in an independent, competent, and timely manner.
- Direct and participate in the design, development and administration of network systems and ensure the availability and functionality of network systems.
- Apply technology concepts, principles and theories to current or planned network and infrastructure systems.
- Identify and define business needs and apply integrated technology solutions across multiple networks, platforms and computing environments.
- Recommend, evaluate, design, develop, test and install complex network systems hardware and software.
- Establish and maintain designated documentation and records in an accurate and timely manner.
- Maintain confidentiality of records and information per pertinent laws and regulations.
- Collect and analyze data to identify needs and/or problems; evaluate system effectiveness; research and analyze alternative solutions; draw logical conclusions; recommend and implement most appropriate actions to be taken.
- Conduct and integrate assigned functions and activities in a cohesive and effective service delivery system; secure cooperation and teamwork among departmental staff and other departments/contractors.

EDUCATION AND EXPERIENCE:

Education: Equivalent to an Associate's degree, preferably in information technology, or a closely related field. A Bachelor's degree from an accredited college or university, preferably in information technology, management information systems may be substituted for two years of experience.

Experience: Depending upon assignment: Four (4) years of experience performing progressively responsible software development, or infrastructure management duties and functions.

Note: Additional experience may substitute on a year for year basis for the educational requirement.

REQUIRED KNOWLEDGE, SKILLS AND ABILITIES:

Information Technology Analyst IV (in addition to the requirements for III level):

Knowledge of:

- Standard and accepted principles and methodologies of computer programming and logic.
- Standard and accepted principles, methods, and techniques of systems analysis, design and implementation.
- Capabilities and potential uses of large scale computers and complex, multifunctional software applications.
- Interrelationships of computer hardware and software, Local Area Networks (LAN), Wide Area Networks (WAN), and other information technology equipment.
- Database structures, database design, applications programming, distributed processing, end-user computing, database query software and on-line programming software.
- Computer programming languages and techniques.
- Design and workflow principles.
- Applications, programming, coding and testing.
- Data organization and access methods in computerized systems.
- Data base management systems, data communications and, on-line and interactive systems.
- Methods of estimating/cost analysis.
- Budget development and tracking methods and techniques; standard and accepted bidding and procurement methods and techniques.
- Working Knowledge of principles of governmental accounting and fiscal systems.
- Supervisory and motivational standards and guidelines.
- Business and governmental record-keeping and procedures.

Skills and/or Ability to:

- Understand designated systems, processes, and operations in relation to users' goals, needs, and priorities.
- Prepare feasibility and needs' studies/surveys and narrative and statistical reports.
- Research regulations, procedures, and/or technical reference materials.

- Perform responsible project management, establish realistic project schedules and controls utilizing one or more of the several charting and scheduling techniques available.
- Perform a variety of complex and multi-functional technical and specialized tasks and functions in an independent, competent, and timely manner.
- Collect and analyze data to identify needs and/or problems; evaluate system effectiveness; research and analyze alternative solutions.
- Coordinate, evaluate, and motivate assigned staff in a positive and effective manner.
- Operate a variety of usual and specialized software programs to include word processing, spreadsheets, and specialized databases at a level sufficient for successful job performance.

EDUCATION AND EXPERIENCE:

Education: Equivalent to an Associate's degree, preferably in information technology, or a closely related field.

Experience: Depending upon assignment: Five (5) years of experience performing progressively responsible software development, or infrastructure management duties and functions.

Note: A Bachelor's degree from an accredited college or university, preferably in information technology, management information systems may be substituted for two years of experience.

Note: Additional experience may substitute on a year for year basis for the educational requirement.

LICENSING, CERTIFICATION AND REGISTRATION REQUIREMENTS:

- Applicants may be required to possess a valid California Driver's License, Class C.

Note: All licenses, certificates and registrations must be kept current while employed in this class.

PHYSICAL REQUIREMENTS:

- **Mobility and Dexterity:** Positions in this class typically require stooping, kneeling, reaching, standing, walking, fingering, grasping, feeling (i.e. sense of touch), and repetitive motion.
- **Lifting, Carrying, Pushing and Pulling -- Light Work:** Employees in this class will be exerting up to 20 pounds of force occasionally and/or up to 10 pounds of force frequently, and/or a negligible amount of force constantly to move objects.
- **Vision:** Positions in this class require the employee to have close visual acuity, with or without correction, to prepare and analyze data and figures, transcribe, view a computer terminal, read, etc. Positions in this class also may require employees to have depth perception in order to operate a motor vehicle.
- **Hearing/Talking:** Positions in this class require the employee to perceive the nature of sounds at normal speaking levels with or without correction, and have the ability to receive

detailed information through oral communication. Positions in this class require the employee to express or exchange ideas by means of the spoken word.

WORKING CONDITIONS:

- Office Work: Employees in this class will most often be working in an office setting.
- Traffic Hazards: Employees in this class may be required to operate a vehicle and thus will be subject to traffic hazards while driving.
- Disruptive/Confrontational Human Contacts: Employees in this class may be subject to disruptive and confrontational people.

OTHER REQUIREMENTS:

- Background Checks: The County may conduct a background check and a reference check on candidates prior to appointment to a position within this class. The background check may include the State of California Department of Justice, the Federal Bureau of Investigation (FBI), the Child Abuse Central Index (CACI), and criminal checks in any City/County where the applicant has lived, worked or gone to school.
- Independent Travel: Incumbents are required to travel independently, for example, to perform work at other work sites, to attend meetings with other County employees, to attend meetings with community organizations, etc.
- Hours of Work: Incumbents may be required to work weekends, holidays, irregular hours, on-call, and after normal business hours.

CLASS HISTORY AND CLASS INFORMATION:

- Date Approved by the Civil Service Commission: December 2017
- Date Adopted by the Board of Supervisors: December 2017
- Date(s) Revised: August 2017
- Date(s) Retitled and Previous Titles of the Class: Systems Analyst, Senior Systems Analyst, Programmer Analyst