



GEOGRAPHIC INFORMATION SYSTEMS ANALYST I/II

DEFINITION

Under general supervision or direction, performs professional, technical, and analytical geographic information systems (GIS) duties, including application design, modification, programming, scripting, spatial database design and management, and user support; evaluates and personally participates in the functions necessary to implement and sustain the creation, maintenance, and use of the GIS databases and applications; and performs related duties as assigned.

SUPERVISION RECEIVED AND EXERCISED

Receives general supervision or direction from the Geographic Information Systems Manager. Exercises no direct supervision over staff.

CLASS CHARACTERISTICS

GIS Analyst I: This is the entry-level professional classification in the GIS Analyst series. Incumbents perform the more routine GIS duties. As experience is gained, assignments become more varied, complex, and difficult; close supervision and frequent review of work lessen as incumbents demonstrate skill to perform the work independently. Positions at this level usually perform most of the duties required of the positions at the II-level, but are not expected to function at the same skill level and usually exercise less independent discretion and judgment in matters related to work procedures and methods. Work is usually supervised while in progress and fits an established structure or pattern. Exceptions or changes in procedures are explained in detail as they arise.

GIS Analyst II: This is the fully qualified journey-level professional classification in the GIS Analyst series. Successful performance of the work requires advanced knowledge of GIS analytics, web programming, distributed platforms, and map services to assist GIS clients (internal, external, and the public) in defining their data requirements and developing and implementing systems that meet those requirements, and skill in proactively evaluating program goals and objectives to define and integrate the requirements of clients. Positions at this level are distinguished from the I-level by the performance of the full range of duties as assigned, working independently, and exercising judgment and initiative. Positions 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 Sr. GIS Analyst in that the latter is the advanced lead-level class and is responsible for planning, scheduling, prioritizing, and overseeing the work of assigned staff.

Positions in the GIS Analyst class series are flexibly staffed and positions at the II-level can be filled by advancement from the I-level, after gaining the knowledge, skill, and experience which meet the qualifications for and demonstrating the ability to perform the work of the higher-level class.

EXAMPLES OF TYPICAL JOB FUNCTIONS (Illustrative Only)

- Performs a variety of professional-level work, including modeling applications, spatial analysis, site selection, constraint modeling, maps, graphics, and related materials for internal and external clients in a variety of computing environments including desktop, cloud, and mobile.

- Consults with County departments and the Information Technologies Department, regarding GIS needs and requirements, including identifying, designing, and developing GIS applications, strategies, and procedures for the display, access, as well as the integration and access of geospatial data.
 - Performs complex GIS database and graphical user interface research, design, analysis, and programming for desktop, web, and mobile applications.
 - Develops spatially enabled applications using application templates, widgets, scripting languages, and development kits as appropriate
 - Develops new applications and queries to create and updates map and facilitate analysis.
 - Designs and programs web-based applications for use by in-house County staff as well as internet applications for County and public GIS users; creates and maintains webpages.
 - Installs, tests, and implements vendor supplied modifications to existing software; functions as a liaison with software vendors on user issues.
 - Serves as a technical resource to County departments, including providing assistance and training in the proper use of GIS data and systems, and recommending, troubleshooting, and providing support for GIS software, databases, and other related applications.
 - Approves and processes road name changes and enforces County ordinances regulating uniform address monitoring systems; provide address verification to title companies, lending institutions, property owners and other affected parties.
 - Maintains and updates computer database for addresses; assigns addresses to building permit applicants and new subdivisions.
 - Performs database administration duties related to table design, view creation, system backup, file maintenance, and user access.
 - Analyzes and maintains the GIS database, including gathering and incorporating data and creating tables or layers, standard data definitions, data dictionary, physical database design, security and privacy, and recovery.
 - Gathers and analyzes information regarding GIS user and system requirements and develops and/or modifies automated systems to fulfill these needs.
 - Monitors changes in GIS system utilization, technology, and applications, recommends improvements and upgrades, and implements changes after approval.
 - Maintains accurate records and files related to the GIS function; tracks and evaluates project and system progress.
 - Provides technical direction to GIS Analysts, GIS Technicians, and GIS-users on a project or day-to-day basis.
 - Implements policies, procedures, and standards to ensure County-wide consistency and carry-over of applications for multiple users.
 - Assists in the development and enforcement of GIS standards and operating procedures.
 - Prepares a variety of written correspondence, reports, procedures, documentation, instructions, and other material.
 - Attends meetings, conferences, workshops, and training sessions; reviews publications and audio-visual material to become and remain current on principles, practices, and new developments pertinent to GIS and the County.
 - Performs related duties as assigned.
 - ~~➤ Gathers and analyzes information regarding GIS user and system requirements and develops and/or modifies automated systems to fulfill these needs.~~
 - ~~➤ Assists in the development and enforcement of GIS standards and operating procedures.~~
 - ~~➤ Develops spatially enabled applications using application templates, widgets, scripting languages, and development kits as appropriate.~~
 - ~~➤ Performs a variety of professional level work, including modeling applications, spatial analysis, site selection, constraint modeling, maps, graphics, and related materials for internal and external clients in a variety of computing environments including desktop, cloud, and mobile~~
- ~~Performs database administration duties related to table design, view creation, system backup, file maintenance, and user access.~~

- ~~Installs, tests, and implements vendor-supplied modifications to existing software; functions as a liaison with software vendors on user issues.~~
~~Develops new applications and queries to create and updates map and facilitate analysis.~~
- ~~Analyzes and maintains the GIS database, including gathering and incorporating data and creating tables or layers, standard data definitions, data dictionary, physical database design, security and privacy, and recovery.~~
- ~~Serves as a technical resource to County departments, including providing assistance and training in the proper use of GIS data and systems, and recommending, troubleshooting, and providing support for GIS software, databases, and other related applications.~~
- ~~Designs and programs web-based applications for use by in-house County staff as well as internet applications for County and public GIS users; creates and maintains webpages.~~
- ~~Implements policies, procedures, and standards to ensure County wide consistency and carry-over of applications for multiple users.~~
- ~~Provides technical direction to GIS Analysts, GIS Technicians, and GIS users on a project or day to day basis.~~
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- ~~Performs related duties as assigned.~~

QUALIFICATIONS

Some knowledge and abilities may be gained by employees at the entry (I) level while in a learning capacity.

Knowledge of:

- The function and role of the County in developing and coordinating a broad-based GIS program with applications for County departments, public agencies, private clients, and the general public.
- Technology, hardware and software, and current applications related to GIS systems, including database management, cloud computing and services, implementation, access, security, mapping, report generation, and desktop publishing systems.
- Principles and practices of spatial technology, including geo-databases, feature classes, raster and image processing, event processing, remote sensing, LIDAR, and UAS/URV integration.
- Principles and practices of developing field and mobile data collection applications.
- Principles and practices of publishing, consuming, and securing cloud and internet-based services.
- Principles and techniques in programming, and programming languages used in the County's GIS operations.
- Principles, techniques, methods, and terminology of geography, cartography, geographic information systems, and cartographic composition.
- Principles and practices of identifying technology needs and issues; researching and evaluating technology and applications, identifying the most effective course of action; and implementing solutions.
- Mathematics used in the creation of maps, tables, and reports showing geographic and topographic information and to manipulate tabular/spatial data.
- Topological relationships and principles of geodatabase design.
- Applicable federal, state, and local laws, regulatory codes, ordinances, and procedures relevant to assigned area of responsibility; GIS-related ethical issues.
- Principles and practices of Global Positioning Satellite (GPS) systems, Global Navigation Satellite Systems (GNSS), and other location detection systems.

- Recordkeeping principles and procedures.
- Principles and techniques for working with groups and fostering effective team interaction to ensure teamwork is conducted smoothly.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors, external agencies, and County staff.
- The structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.
- Modern equipment and communication tools used for business functions and program, project, and task coordination.
- Computers and software programs (e.g., Microsoft software packages) to conduct, compile, and/or generate documentation.

Ability to:

- Coordinate a broad-based GIS program that includes effective database development, management, and accessibility through internal local area network (LAN), the County's GIS website, and cloud-based facilities for a variety of County departments, external agencies, and the public.
- Assess user needs and recommend appropriate hardware, software, and systems to meet these needs; translate GIS user needs into operational programs or systems.
- Interpret and understand data in various forms, including GIS files, computer-aided drawing files, database files, images, events, and associated metadata, as well as printed maps of various types and sources.
- Perform modeling, mapping, database maintenance, and other GIS professional-level tasks.
- Analyze, design, code, test, and implement GIS and related application software.
- Implement, update, and maintain GIS software, hardware, and related supplemental equipment.
- Understand, interpret, apply, explain, and ensure compliance with federal, state, and local policies, procedures, laws, and regulations; technical written material; and departmental policies and procedures.
- Understand the organization and operation of County departments and outside agencies as necessary to assume assigned responsibilities.
- Instruct both technical and non-technical user staff in the operation of new or revised GIS applications, system modifications, or database structure, including explaining system concepts to non-technical users.
- Prepare clear and effective reports, correspondence, policies, procedures, and other written material, including reports of work performed and tables and/or summaries of analytical results.
- Make accurate arithmetic and statistical computations.
- Analyze situations and identify pertinent problems/issues; collect relevant information; evaluate realistic options; and recommend/implement appropriate course of action.
- Effectively represent the office and the County in meetings with governmental agencies; community groups; various business, professional, and regulatory organizations; and in meetings with individuals.
- Independently organize work, set priorities, meet critical deadlines, and follow-up on assignments.
- Effectively use computer systems, software applications, and modern business equipment to perform a variety of work tasks.
- Communicate clearly and concisely, both orally and in writing, using appropriate English grammar and syntax.
- Use tact, initiative, prudence, and independent judgment within general policy, procedural, and legal guidelines.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Education and Experience:

Any combination of the required experience, education, and training that would provide the essential knowledge, skills, and abilities is qualifying.

Equivalent to graduation from an accredited four-year college or university with major coursework in geographic information systems, computer science, management information systems, GIS, geography, or a closely related field;

AND

One (1) year of responsible experience using GIS software.

Geographic Information Systems Analyst II:

Equivalent to graduation from an accredited four-year college or university with major coursework in geographic information systems, computer science, management information systems, GIS, geography, or a closely related field;

AND

Two (2) years of professional GIS experience performing systems analysis, design and maintenance, spatial database analysis and design, or application development and programming in an automated mapping environment at a level equivalent to the County's class of Geographic Information Systems Analyst I.

Licenses and Certifications:

- Possession of, or ability to obtain and maintain, a valid California or Nevada Driver's License and a satisfactory driving record.

PHYSICAL DEMANDS

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer; may need to operate a motor vehicle and visit various County and meeting sites; vision to read printed materials and a computer screen; and hearing and speech to communicate in person, before groups, and over the telephone. This is primarily a sedentary office classification although standing and walking between work areas may be required. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment. Positions in this classification occasionally bend, stoop, kneel, reach, push, and pull drawers open and closed to retrieve and file information. Employees must possess the ability to lift, carry, push, and pull materials and objects weighing up to 15 pounds. Reasonable accommodations will be made for individuals on a case-by-case basis.

ENVIRONMENTAL CONDITIONS

Employees work in an office environment with moderate noise levels, controlled temperature conditions, and no direct exposure to hazardous physical substances. Some positions may be work in the field and occasionally be exposed to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, and hazardous physical substances and fumes. Employees may interact with members of the public or with staff under emotionally stressful conditions while interpreting and enforcing departmental policies and procedures.