



Office of Human Resources
GIS Analyst - CA1739
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General Statement of Duties

Performs standard level statistical and spatial analysis, Geographic Information System (GIS) mapping, Information Technology technical work supporting desktop, legacy systems, databases, and/or Information Technology GIS functions, produces relevant text and presentation graphics utilizing multiple GIS software packages and modules and applies analysis to routine situations involving a limited number of datasets (3 or less).

Distinguishing Characteristics

This is the second class in a three class series. GIS Analyst is distinguished from the GIS Technician because the main responsibilities of this position involve collecting, translating, and maintaining data within multiple databases. The GIS Technician is responsible for entry level Information Technology (IT) system and software support while the GIS Analyst is responsible for standard level system and software support. In addition, the GIS Analyst is responsible for the performance of standard level statistical and spatial analysis and GIS mapping.

GIS Analyst is distinguished from the Senior GIS Analyst because this position is responsible for performing full-performance level statistical and spatial analysis. The responsibilities for Senior GIS Analyst include working with more complex types of data, which involves using multiple modeling techniques to create geospatial surfaces. The Senior GIS Analyst is responsible for designing new databases and developing new methods of representing data. In addition, the Senior GIS Analyst is responsible for developing and recommending standards for GIS data development and cartography. Finally the Senior GIS Analyst is responsible for training employees/users in GIS concepts.

Essential Duties

Provides and presents reports, maps and charts of data displayed by geographical region for analysis and presentation to the public and agency staff, and generates statistical analysis on data provided by agencies.

Applies spatial interpolation techniques to create geostatistical surfaces, streets or facility networks that can be modeled, analyzed and applied to routine problems, and uses various modeling methods to answer questions and solve problems.

Utilizes spatial autocorrelation techniques to measure the association of various geographic features.

Installs and reviews desktop software and provides technical support in a formal or informal help desk setting to users with common problems on database issues and legacy software including logging, troubleshooting, resolving, or referring problems to the appropriate information technology resource.

Maintains computerized inventory of data, databases, software, applications and specialized services for users.

Performs minimal programming tasks to include modifications of existing code to fit specific agency needs.

Reviews, tests and recommends integrated technology software and documents usage.

Assists with the design, development, loading and maintenance of spatial databases to enable statistical analysis, geographic analysis and mapping using GIS software.

Interprets aerial photographs and satellite data to prepare new GIS data sets, and inputs spatial features into GIS databases by utilizing methodologies such as trace digitizing, coordinate geometry (COGO), surveyor notations and graphic input into digital formats.

Interprets existing spatial data and applies the appropriate mathematical and data conversion techniques to project, re-project, transform, rubber-sheet, conflate and accurately register it to city coordinates.

Updates and maintains existing map collections and applies data for map production, quality assurance and quality control (QA/QC) procedures, problem solving and analysis and assigns geographic coordinates to addresses and inputs the data into GIS systems for analysis.

Uses Global Positioning System (GPS), wireless GIS systems and field visits to collect or verify the accuracy of GIS data.

Assists with quality control procedures such as file integrity, positional and dimensional accuracy and metadata documentation.

Documents and logs metadata for data and database warehouses, and assists with the quality control procedures for file integrity, workflow analysis and position and dimensional accuracy.

Performs other duties as assigned.

Any one position may not include all of the duties listed. However, the allocation of positions will be determined by the amount of time spent in performing the essential duties listed above.

Competencies

Attention to Detail - Is thorough when performing work and conscientious about attending to detail.

Customer Service - Interacts with customers in a friendly and professional manner, works to resolve issues quickly and effectively, and is knowledgeable about products and services.

Information Management - Identifies a need for and knows where or how to gather information; organizes and maintains information or information management systems.

Reading - Understands and interprets written material, including technical material, rules, regulations, instructions, reports, charts, graphs, or tables; applies what is learned from written material to specific situations.

Spatial Reasoning - Knows one's location in relation to the environment; determines where other objects are in relation to one's self (for example, when using a map).

Technical Competence – Uses knowledge that is acquired through formal training or extensive on-the-job experience to perform one's job; works with, understands, and evaluates technical information related to the job; advises others on technical issues.

Writing - Writes in a clear, concise, organized, and convincing manner for the intended audience.

Knowledge & Skills

Knowledge of computer hardware and software sufficient to be able to perform a variety of duties as needed.

Knowledge of geographic information systems sufficient to be able to perform a variety of duties related to the work assignment.

Knowledge of information technology hardware and software sufficient to be able to perform basic functions, troubleshoot problems, and perform data entry and retrieval.

Knowledge of training techniques sufficient to be able to train technicians to perform the duties of the work assignment.

Skill in checking information for accuracy and completeness and correcting errors.

Skill in computing geometric areas.

Skill in establishing and maintaining effective working relationships with other employees, organizations and the public.

Skill in evaluating existing policies, procedures, and objectives and recommending changes for improvement.

Skill in exercising initiative, judgment, and decision making in solving problems and meeting organizational objectives.

Skill in independently adapting, interpreting and applying written guidelines, precedents and standardized work practices to a variety of unprecedented or problematic situations.

Skill in performing GIS database backups.

Skill in reading and interpreting detailed geographical maps.

Skill in using geographical databases.

Skill in utilizing the principles and practices of effective and persuasive communications to elicit and/or present explanatory or interpretive information.

Level of Supervision Exercised

None

Education Requirement

Bachelor's Degree in Geography, Urban Planning, Engineering, GIS, Geology, Computer Science, Information Technology, Cartography, Landscape Architecture, Remote Sensing or a related field.

Experience Requirement

Two (2) years of hands-on experience at the type and level of a GIS Technician.

Education & Experience Equivalency

One (1) year of the appropriate type and level of experience may be substituted for each required year of post-high school education.

Additional appropriate education may be substituted for the minimum experience requirements.

Licensure & Certification

None

Working Environment

Handles absentee replacement on short notice.
Occasional pressure due to multiple calls and inquiries.
Pressure due to multiple calls and inquiries.

Subject to long, irregular hours.
Subject to many interruptions.
Subject to pressure for multiple calls, inquiries, and interruptions.

Level of Physical Demand

1-Sedentary (0-10 lbs.)

Physical Demands

(Physical Demands are a general guide and specific positions will vary based on working conditions, locations, and agency/department needs.):

Agility: Ability to move quickly and easily.
Balancing: Maintaining equilibrium.
Carrying: Transporting or moving an object.
Color vision: Ability to distinguish and identify different colors.
Crawling: Moving about in a low or crouched position.
Crouching: Positioning body downward and forward.
Depth Perception: Ability to judge distances and space relationships.
Eye/Hand/Foot Coordination: Performing work through using two or more body parts or other devices.
Feeling: Perceiving attributes of objects by means of skin receptors, communication, or otherwise.
Field of Vision: Ability to sharply detect or perceive objects peripherally.
Fine Dexterity: Sufficient coordination to operate a vehicle and manipulate objects.
Fingering: Picking and pinching, through use of fingers or otherwise.
Handling: Seizing, holding, grasping, through use of hands, fingers, or other means.
Hearing/Talking: Perceiving and comprehending the nature and direction of sounds/ability to communicate ideas.
Hearing: Perceiving and comprehending the nature and direction of sounds.
Kneeling: Assuming a lowered position.
Lifting: Moving objects weighing no more than 10 pounds from one level to another.
Neck Flexion: Perceiving objects located above or below.
Oral Comprehension: Ability to discern the meaning of oral speech.
Pulling: Exerting force upon an object so that it is moving to the person.
Pushing: Exerting force upon an object so that it moves away from the person.
Reaching: Extending the hands and arms or other device in any direction.
Repetitive motions: Making frequent or continuous movements.
Sitting: Remaining in a stationary position.
Standing: Remaining in a stationary position.
Stooping: Positioning oneself low to the ground.
Talking: Communicating ideas or exchanging information.
Vision Far Acuity: Ability to perceive or detect objects clearly at 20 feet or more.
Vision Near Acuity: Ability to perceive or detect objects at 20 inches or less.
Vision: Ability to perceive animal behavior, comprehend signs, and detect color.
Walking: Ability to move or traverse from one location to another.
Written Comprehension: Ability to discern the meaning of written words.

Background Check Requirement

Criminal Check
Education Check
Employment Verification
By position, Motor Vehicle Record

Assessment Requirement

None

Probation Period

Six (6) months.

Class Detail**Pay Grade: EX-06****FLSA Code: Y****Established Date: 9/21/2018****Established By: LS****Revised Date: 1/24/2021; 8/5/2021****Revised By: JH****Class History: 1/24/2021 – FLSA Project: Reclassified from non-exempt (I-620) to exempt (I-807) per duties and responsibilities in alignment with professional career path.****8/5/2021 - Revised the job code to general administrative.**