General Statement of Duties

Performs complex full-performance statistical and spatial analysis, display location (mapping), produces relevant text, presents graphics and makes recommendations utilizing multiple Geographic Information System software packages and modules and applies analysis to complex situations based upon multiple (3 or more) complex datasets. Performs Information Technology (IT) technical work supporting desktop software, legacy systems or databases and Geographic Information System (GIS) functions. Performs documentation of workflows and business standards.

Distinguishing Characteristics

This is the third class in a three class series. Senior 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 Senior GIS Analyst is responsible for full-performance system and software support. In addition, the Senior GIS Analyst is responsible for the full-performance statistical and spatial analysis.

This class is distinguished from the GIS Analyst by the level of independence and the complex nature and number of data sets. In addition, The Senior GIS Analyst is responsible developing and recommending standards for GIS data development and cartography. Finally the Senior GIS Analyst is responsible for training employees/users in GIS concepts and creating documentation of workflows and business standards.

Essential Duties

Participates in and assists in coordinating the planning, development, implementation, and training of automated applications in an effort to align information technology solutions with customer business requirements and initiatives.

Creates, develops and presents processes, 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 complex data provided by agencies.

Applies spatial interpolation techniques and multiple modeling methods to create geostatistical surfaces, street and/or facility networks that can be modeled, analyzed and applied to multiple complex problems to provide and present recommendations and solutions.

Acts as a liaison between a "user group" or a department and an Information Technology unit to communicate problems and possible solutions.

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

Designs, develops and loads spatial databases to enable statistical analysis, geographic analysis and mapping using GIS software and maintains GIS databases.

Develops and initiates new methods of representing spatial data cartographically to support agency initiatives; develops and recommends standards for GIS data development and cartography (implements with supervisor approval), 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 system for analysis.

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

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 new and complex 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.

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

Under instruction modifies software programs including coding, testing and documentation for use with multi-application, multi-user database systems.

Trains employees and users in GIS concepts and data maintenance and cartographic techniques, and demonstrates successful application of training.

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

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, retrieval and analysis.

Knowledge of information technology systems analysis, including system design, sufficient to be able to maintain current systems.

Knowledge of training techniques sufficient to be able to train others 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

By assignment may perform lead work.

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

Three (3) years of professional hands-on GIS analyst experience.

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

Subject to many interruptions.
Pressure due to multiple call and inquiries.

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.):

Accommodation: Ability to bring objects into focus.
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.
Fingering: Picking and pinching, through use of fingers or otherwise.
Handling: Seizing, holding, grasping, through use of hands, fingers, or other means.
Hearing: Perceiving and comprehending the nature and direction of sounds.
Lifting: Moving objects weighing no more than 100 pounds from one level to another.
Reaching: Extending the hands and arms or other device in any direction.
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: I-810
FLSA Code: Y
Established Date: 9/21/2018
Established By: LS
Revised Date:
Revised By:
Class History: