



## Career Service Authority

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# Geographic Information System Technician

### GENERAL STATEMENT OF CLASS DUTIES

Performs standard level paraprofessional work compiling, verifying, maintaining and inputting information into multiple databases; utilizes Geographic Information System (GIS) software and hardware to digitize and enter data. Performs entry level Information Technology (IT) technical work supporting desktop, legacy system, database, and/or IT GIS functions. Generates schematics, maps and plats from data in order to provide information regarding different infrastructure systems.

### DISTINGUISHING CHARACTERISTICS

This is the first class in a three class series. The main responsibilities for the GIS Technician involve collecting, translating, and maintaining data within multiple databases. The GIS Technician is distinguished from the *GIS Analyst* because this position is responsible for performing standard level statistical and spatial analysis and GIS mapping. A GIS Technician may perform basic geographic analysis and map production under well established guidelines where work is under continual review.

GIS Technician 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.

### ***Guidelines, Difficulty and Decision Making Level:***

Guidelines are generally numerous, well established and directly applicable to the work assignment. Work assignment and desired results are explained by general oral or written instructions. Duties assigned are generally repetitive and restricted in scope but may be of substantial intricacy. Employee primarily applies standardized practices. Decisions or recommendations on non-standardized situations are limited to relating organizational policies to specific cases. Problems that are not covered by guidelines or are without precedent are taken up with the supervisor.

### ***Level of Supervision Received and Quality Review:***

Under normal supervision, within a standardized work situation, the employee performs duties common to the line of work without close supervision or detailed instruction. Work product is subject to continual review.

***Interpersonal Communications and Purpose:***

Contacts with the public or employees where explanatory or interpretive information is exchanged, gathered or presented. Some degree of discretion and judgment are required within the parameters of the job function.

***Level of Supervision Exercised:***

None

**ESSENTIAL DUTIES**

Digitizes information and creates, maintains, updates, queries and views GIS data to provide easier access and retrieval of processed information on multiple databases to support valid statistical analysis and accurate map, plat and schematic making utilizing methodologies such as trace digitizing, coordinate geometry (COGO), surveyor notations and graphic input in digital formats and legal descriptions.

Creates accurate grid references utilizing appropriate GIS software, coordinate geometry and graphics to correspond with the information and/or design drawing, legal surveys, maps and addresses needed to update information for infrastructure mapping.

Creates, updates and maintains spatial data using digitization, COGO and other scanning techniques and ensures data accuracy.

Interprets and prepares data such as field notes, plats, legal descriptions and address information for use in analyzing data and updating maps.

Verifies, corrects and updates GIS data layers and databases utilizing coordinate geometry and graphics to correspond with the information on design drawings, maps, plans and reports and prepares and maintains metadata for all spatial data layers and databases.

Converts hardcopy-engineering drawings into electronic formats.

Assists and provides interested parties with specific processed spatial data including reports, maps and charts.

Compares field and office mapping to resolve incongruous information issues, and may utilize Global Positioning System (GPS) or wireless GIS systems to collect or verify the accuracy of the GIS data.

Creates and updates various map types using planimetric and thematic mapping techniques and aerial and satellite data, and maintains map collections.

Utilizes vector or grid overlay techniques to generate new GIS layers from existing ones.

Under instruction, installs, reviews and maintains desktop software and spatial database connections.

Assists GIS users with IT questions for retrieving GIS information.

By assignment maintains computerized inventory of electronic field equipment and specialized services for users.

Performs other related duties as assigned or requested.

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.

## MINIMUM QUALIFICATIONS

### ***Competencies, Knowledges & Skills:***

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

**Customer Service** - Works with clients and customers (that is, any individuals who use or receive the services or products that your work unit produces, including the general public, individuals who work in the agency, other agencies, or organizations outside the Government) to assess their needs, provide information or assistance, resolve their problems, or satisfy their expectations. Knows about available products and services; is committed to providing quality products and services.

**Flexibility** - Is open to change and new information; adapts behavior or work methods in response to new information, changing conditions, or unexpected obstacles; effectively deals with ambiguity.

**Interpersonal Skills** - Shows understanding, friendliness, courtesy, tact, empathy, concern, and politeness to others; develops and maintains effective relationships with others; may include effectively dealing with individuals who are difficult, hostile, or distressed; relates well to people from varied backgrounds and different situations. Sensitive to cultural diversity, race, gender, disabilities, and other individual differences.

**Oral Communication** - Expresses information (for example, ideas or facts) to individuals or groups effectively, taking into account the audience and nature of the information (for example, technical, sensitive, controversial); makes clear and convincing oral presentations; listens to others, attends to nonverbal cues, and responds appropriately.

**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.

**Reasoning** - Identifies rules, principles or relationships that explain facts, data or other information; analyzes information and makes correct inferences or draws accurate conclusions.

**Teamwork** - Encourages and facilitates cooperation, pride, trust, and group identity; fosters commitment and team spirit; works with others to achieve goals.

**Writing** - Recognizes or uses correct English grammar, punctuation, and spelling; communicates information (for example, facts, ideas, or messages) in a succinct and organized manner; produces written information, which may include technical material that is appropriate for the intended audience.

Ability in numerical reasoning sufficient to learn new information regarding information technology.

Ability in reasoning sufficient to learn new information regarding information technology.

Ability in spatial reasoning sufficient to learn new information regarding geographic information technology.

Ability in symbolic reasoning sufficient to learn new information regarding information technology.

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

Knowledge of databases sufficient to be able to perform a variety of duties related to the work assignment.

Knowledge of GIS and GIS software 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 and troubleshoot problems.

Skill in comparing two or more sources of information for consistency.

Skill in constructing and interpreting maps and grid references.

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

Skill in examining information related to the work assignment for completeness, correctness and accuracy.

Skill in using computers for data entry and retrieval.

Skill in using desktop computer software for data entry and retrieval.

Skill in utilizing a geographical database.

Skill in visual speed and accuracy sufficient to learn new information regarding information technology.

***Physical Demands:***

Sitting: remaining in the normal seated position.

Reaching: extending the hand(s) and arm(s) in any direction.

Feeling: perceiving attributes of objects by means of skin receptors.

Hearing: perceiving the nature of sounds by the ear.

Repetitive motions: making frequent movements with a part of the body.

Eye/hand/foot coordination: performing work through using two or more.

Near Acuity: ability to see clearly at 20 inches or less.

Accommodation: ability to adjust vision to bring objects into focus.

Memorization

Oral Comprehension

Written Comprehension

***Working Environment:***

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

***Education Requirement:***

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

***Experience Requirement:***

Two years of hands on experience working with geographical or land information systems to input and present agency or client data.

***Education/Experience Equivalency:***

A certificate in GIS or Land Information Systems (LIS) or 12 semester hours completed in GIS/LIS coursework may be substituted for the minimum education requirement. **OR** Additional appropriate experience and education may be substituted for the minimum education and experience requirement.

***Licensure and/or Certification:***

None

**CLASS DETAIL**

***FLSA CODE:*** Non-Exempt

***ESTABLISHED DATE:*** 01/16/2005

***REVISED DATE:*** 03/01/2007

***REVISED BY:*** Melissa Palmer

***CLASS HISTORY*** 1/16/05 - This specification updates, replaces and modernizes the original GIS Technician written during JAJE and revised on 8/16/2003.  
2/13/07 - Revisions were made to the minimum qualifications and the distinguishing characteristics. The GIS Technician will be incorporated into the GIS progressive series.