

City of Bellingham

Classification Specification

CLASS TITLE	GIS Analyst, Senior
DEPARTMENT	Interdepartmental
UNION:	231
SG:	S-10
CS:	N
FLSA:	N
EE04CODE:	PR

NATURE OF WORK:

Performs a wide variety of advanced process and analysis functions to develop the City's geographic information system (GIS) and is responsible for its operation, administration and information quality and integrity. This position provides technical consultation to a wide range of technical and non-technical employees using the GIS to compile reports and studies. The GIS Analyst, Senior is responsible for documentation and ensures the integrity and security of the data stored in the GIS and related/integrated databases.

DISTINGUISHING CHARACTERISTICS:

The GIS Analyst, Senior is the second in a two-level series. The GIS Analyst, Senior classification is distinguished from the GIS Specialist by the responsibility in providing technical leadership to other, lower-classified technical staff, setting GIS program goals and objectives, acting as project manager for GIS projects and serving as interdepartmental technical consultant on projects involving GIS needs. The Senior GIS Analyst also has an advanced understanding of GIS theory and GIS software and uses programming skills for development and design of databases and applications. The Senior GIS Analyst works independently and is responsible for documentation and ensuring the integrity and security of the data.

SUPERVISORY RELATIONSHIPS:

Reports to a manager or supervisor in the assigned department. Provides technical leadership and direction to other, lower-classified, GIS staff. Works independently in performing duties. Works under applicable City and departmental policies, procedures, protocols and technical standards.

ESSENTIAL FUNCTIONS:

1. Assists the manager or supervisor in the coordination of GIS application development projects including analysis of requirements, scheduling of work, and reviewing the work of others.
2. Some positions in this classification design, develop and administer the City's GIS spatial database (ArcSDE) and Intranet/Internet GIS mapping and data publishing system (ArcIMS).

3. Performs needs and system analysis for GIS and related business applications. Creates system/application development, quality assurance and implementation plans based on the analysis.
4. Designs and develops GIS and related application procedures and programs as required; tests procedures and programs to ensure that desired results are achieved; makes necessary changes to correct deficiencies. Designs, prepares and coordinates logical data models, definition structures, standards, procedures and documentation for the database system. Researches and provides recommendations on application development software, add-ins and components.
5. Responsible for integrating a variety of databases into a central database for use in the GIS system. Defines, develops, modifies and maintains databases and files to support GIS software application programs. Assists others in identifying database requirements and develops standards for technical implementation. Develops and maintains an applications dictionary. Coordinates and develops procedures for data and map integration.
6. Develops and maintains a system of data quality standards and assists others in understanding and using data quality assurance methods. Ensures accuracy, integrity, security and completeness of data files and various support tools such as data dictionaries.
7. Provides high quality, detailed consultation, technical support and troubleshooting on approved database products to internal clients using the GIS systems. Performs research on GIS-related tools and provides recommendations. Consults with outside vendors and managers from various departments including Public Works, Information Technology Services, Planning and Community Development and others when needed. Assists users in database design and selection of application programs to access the database. May be assigned to analyze, design and implement interfaces between GIS hardware and software and other computer systems as necessary to automate business functions.
8. Performs advanced GIS analytical and geoprocessing functions including input, editing, manipulation management, analysis and output of spatial and tabular data sets. Operates GIS computer equipment such as workstations, tape drives, digitizers, plotters and printers as required. Coordinates data and map integration and troubleshoots hardware and software problems.
9. Some positions in this classification coordinate and administer the City's GIS software licensing. Develops GIS software and hardware specifications and technical documentation and administers GIS software updates and configurations.
10. Some positions in this classification coordinate and oversee GIS system development, administration and/or mapping contracts with outside vendors and consultants.
11. Prepares written reports and documentation that describe application procedures, data requirements, software functions and work that will be performed or has been completed.

ADDITIONAL WORK PERFORMED:

1. Performs related duties within the scope of the classification.

KNOWLEDGE AND SKILLS:

Interpersonal and Communication:

- Excellent interpersonal skills for establishing and maintaining effective working relationships with clients, vendors and associates.
- Skill in working both as a member of a team and as a project leader.
- Skill in writing in clear, concise language to produce reports and other required documentation.
- Good oral communication skills, including good listening skills, to communicate with technical and non-technical internal clients.
- Working knowledge of the functions of City departments, office operations and interdepartmental working relationships.

Technical Competencies:

- Demonstrated skill in operating, installing and maintaining GIS hardware, software and related peripheral equipment as required to accomplish assigned duties.
- Working knowledge of advanced GIS concepts, geoprocessing functions and techniques, and spatial database management procedures. Comprehensive working knowledge of database concepts.
- Skill in using ESRI GIS software including ArcInfo and ArcView for analysis and mapping.
- Demonstrated knowledge of GIS programming and scripting languages .
- Strong knowledge of operating systems (Windows 2000/XP, Linux, UNIX), products and concepts involved in the operation of desktop and miniframe computers.
- Strong knowledge of the Structured Query Language (SQL) and its applications with GIS analysis and application development.
- Knowledge of Oracle DBMS and ESRI ArcSDE Spatial Data Server administration.
- Knowledge of ESRI ArcIMS Internet mapping design and administration.
- Knowledge of web programming, markup and development languages.
- Demonstrated knowledge of GIS database design (geodatabase) including the use of CASE tools and database modeling using UML.
- Strong knowledge of GIS application design concepts, procedures and techniques. Working knowledge of GIS application design tools.

Problem Solving:

- Demonstrated ability combining knowledge of GIS databases and software with common sense and insight in solving problems and making decisions.
- Ability to systematically identify and analyze the important dimensions of a problem, determining potential causes, obtaining relevant information, and specifying alternate solutions, then carrying out solutions or referring to the appropriate authority.

Organization and Management:

- Good planning, organizing, decision making and time management skills.
- Working knowledge of principles and procedures of project coordination.

- Skilled at working independently under pressure and with minimal supervision to solve problems and meet deadlines.

WORKING ENVIRONMENT:

Work is performed in an office environment at a computer workstation.

EXPERIENCE AND TRAINING REQUIREMENTS:

- Bachelor's degree with coursework in cartography, civil engineering, geography, GIS, or related field.
- Four (4) years of GIS experience with at least 2 years at the analyst level in a field directly related to the specific position or performing equivalent work.
- A combination of experience and training that provides the applicant with the knowledge and skills to perform the work will be considered.

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2/05

JOINT CLASSIFICATION COMMITTEE ADOPTION: _____ March 22, 2005