

GEOGRAPHIC INFORMATION SYSTEMS SPECIALIST

*Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are **not** intended to reflect all duties performed within the job.*

DEFINITION

Under general direction, to perform professional level analytical duties in support of the City's Geographic Information Systems (GIS) programs, including the development, maintenance and complex analysis of digital spatial data to support decision-making. Applies knowledge of GIS to a variety of projects for analytical, land use, and environmental purposes; designs, compiles and analyzes data; and prepares data, analysis, maps and mapping applications for various City departments and the general public.

CLASS CHARACTERISTICS

This is a professional journey level class. Employees within this class are fully trained in all procedures related to the assigned area of responsibility, receive minimal supervision and may be assigned lead and/or supervisory duties. Positions at this level work independently, performing the most difficult and responsible types of duties within the GIS Division, including project management, testing, implementing, maintaining and modifying computer programs and applications, performing high level technical troubleshooting, analyzing of spatial data for planning and engineering, mapping, cartography, GPS data processing techniques, quality assurance and quality control. Advancement to this level is solely at the discretion of the Department Director and the organizational needs of the department. Advancement is not based on time in grade.

EXAMPLES OF DUTIES - *Examples of duties performed by employees in this class may not include all required duties, nor are all listed tasks necessarily performed by everyone in this class.*

Manages assigned projects related to GIS operations including interpreting work requisitions, analyzing geographic data, developing computer applications to assist employees in the use of spatial data, prioritizing and assigning work and training employees on work methods; maintains and enhances geographic information system data sets, according to evolving needs and resources including digitizing, editing, research, creation, calculation and editing of attributes and merging of data from different sources; operates and maintains a variety of GIS equipment including computer workstations, plotters, global positioning system (GPS) receivers and data loggers and other related equipment; creates and maintains GIS database metadata to support enterprise GIS efforts throughout the City; tests, implements, maintains, and modifies computer programs and applications; reviews, categorizes and compiles a variety of data; tests, installs, implements, and maintains software/applications; creates, maintains and conducts Quality Assurance/Quality Control of geographic data sets using a variety of software and source data; Creates final map products using a variety of GIS software for various departments for City Council meetings and/or reports; produces specialized maps for various City departments as necessary;

conducts Global Positioning System (GPS) surveying and data post-processing for GIS database development efforts; writes sophisticated Visual Basic for Applications (VBA) scripts to automate GIS processes; performs research and analysis of geographic and tabular data from public and private sources for integration to the city's enterprise GIS; prepares user documentation including flowcharts, user guides, and training materials; trains and instructs users in the use of applications; leads lower level staff on problem and/or process identification, definition, and solution development; recommends improvements, modifications, and automated solutions; analyzes application issues; takes corrective action to resolve problems; performs advanced technical troubleshooting and leads multiple discipline team for complex problem resolution; develops and customizes GIS applications; responds to public inquiries in a courteous manner; provides information within the area of assignment; resolves complaints in an efficient and timely manner; attends and participates in professional group meetings; stays abreast of new trends and innovations in the field of geographic information systems; performs related duties as required.

MINIMUM QUALIFICATIONS

Knowledge of:

- Operations, services and activities of a comprehensive geographic information systems program.
- Operational characteristics of specialized geographic information systems.
- Principles and techniques of GIS to support the City's enterprise GIS effort.
- GIS software and programming languages such as Visual Basic for Applications (VBA).
- Spatial technologies and geographical concepts
- Use, capabilities, characteristics and limitations of geographic information systems including hardware and software applications.
- Engineering and planning principles in the context of providing municipal services.
- Analytical methods and techniques.
- Mathematical and statistical theories and research techniques;
- Basic principles of supervision and training;
- Data collection, capture and maintenance techniques, including GPS.
- Map production.
- Methods and techniques of conducting and analyzing research.
- Principles and practices of customer service.
- Pertinent Federal, State and local laws, codes and regulations.

Ability to:

- Provide support in the implementation and maintenance of various geographic information systems applications
- Operate a variety of systems and equipment including printers, digitizers, scanners and plotters.
- Apply GIS software and programming skills.
- Gather, interpret and analyze data to a superior degree.
- Conduct research and prepare complete and accurate analysis, reports and recommendations on a variety of issues.
- Create and maintain a variety of geographic datasets.
- Create, edit and update maps and charts from multiple layers of data.
- Gather and compile data.
- Read and interpret plans, specifications, survey notes, maps and various statistical data.
- Maintain mental capacity, which allows for effective interaction and communication with others.

- Maintain effective audio/visual discrimination and perception to the degree necessary for the successful performance of assigned duties;
- Interact effectively with all levels of staff, other agency representatives and the general public;
- Understand and follow oral and written instructions.
- Communicate clearly and concisely, both orally and in writing;
- Exercise sound judgment and common sense;
- Plan and organize work with a high degree of independence of action;
- Plan and supervise the work of others;
- Utilize computer systems to enter and retrieve data;
- Read, understand, interpret and apply laws, policies, rules, contracts, guidelines and professional practices;

Experience and Training Guidelines

Experience: A minimum of two years of increasingly responsible professional and technical/analytical GIS experience including experience using GIS software, computer-aided design, and GIS equipment and programs.

Training: Associates Degree or equivalent coursework in geography, GIS, computer science or a related field.

WORKING CONDITIONS

Environmental Conditions: Office environment; exposure to computer screens.

Physical Conditions: Essential and marginal functions may require maintaining physical condition necessary for sitting for prolonged periods of time.