

Jurisdiction: City of Ithaca  
Jurisdictional Class: Competitive  
Adopted: 11/07/07  
Revised: 09/15/10, 09/07/22

## **GEOGRAPHIC INFORMATION SYSTEM SPECIALIST**

**DISTINGUISHING FEATURES OF THE CLASS:** The work involves responsibility for the development, maintenance and operation of a Geographic Information System (GIS). The duties vary according to assignment; however, in general, the duties focus on the daily development and operation of the GIS. This class differs from Geographic Information System Map Technician in that a Geographic Information System Specialist performs a greater scope of duties, has greater independence of action and greater technical knowledge of the GIS field as well as specific GIS software programs. This class differs from Senior Geographic Information System Specialist in that the work of the Geographic Information System Specialist is focused on the daily operation of the GIS, rather than program implementation, system modification, or the management of the GIS program. The work is performed under the general supervision of the Geographic Information System Administrator with leeway encouraged in exercising independent judgment in carrying out the details of the work. Does related work as required.

### **TYPICAL WORK ACTIVITIES:**

Creates and maintains geographic data in geographic or database formats; updates geographic features using GIS software from electronic or paper sources such as service cards, lists, forms, shapefiles, maps, databases and GPS devices or files;

Designs and implements cartographic projects and spatial analyses including address matching (geocoding); responds to map and data requests from City staff, officials and the public;

Creates or customizes GIS interfaces in ArcPad Application Builder, ArcGIS desktop, Arc Reader, ArcExplorer, Google maps and similar interfaces and platforms;

Designs and documents methodologies for data collection, maintenance and documentation projects including quality control plans; implements such projects under the supervision of GIS Administrator or Senior GIS Specialist;

Investigates and evaluates potential sources of data and assesses their quality, accuracy and completeness; designs processes to link databases and corresponding geographic features; meets with City staff to assess the usability of data sources for creating or updating GIS files;

Assists GIS administrator and Senior GIS Specialist in project design and management for large data and analysis projects;

Documents methodologies, processes and project operations; compiles electronic map and data catalogs and creates and maintains metadata for GIS files;

Designs and coordinates work done by the GIS Map Technician and/or a GIS Intern;

Installs and configures software programs;

Assists the GIS Specialist and GIS Administrator in performing system-wide assessments and implementing new programs and procedures.

May perform fieldwork to obtain and/or verify data.

### **FULL PERFORMANCE KNOWLEDGES, SKILLS, ABILITIES, PERSONAL CHARACTERISTICS:**

Good knowledge of the theory, principles, methods, terminology and practices of GIS technology; good knowledge of ArcGIS or Mapinfo software, and GIS interfaces such as ArcPad, ArcReader, Arc Explorer or GPS devices; good knowledge of data sources and data evaluation techniques; good knowledge of cartographic conventions and ability to design presentation quality, accurate, clear and communicative maps using GIS; good knowledge of the principles and practices of data collection and editing, including data quality control and quality assurance; good knowledge of advanced analysis tools such as surface/3D, network analysis, or routing; ability to perform close, detail work involving considerable visual effort and concentration; ability to assess and document client needs;

**Full Performance Knowledges, Skills, Abilities, Personal Characteristics - continued**

ability to understand and interpret complex oral instructions and written directions; ability to communicate effectively both orally and in writing; ability to analyze and organize data and prepare records and reports; ability to design methodologies for data collection and analysis project and lay out work for others; ability to effectively utilize common office software programs including word processing, spreadsheets and databases; ability to establish and maintain effective working relationships with others, including staff, public officials and the general public; ability to effectively work with and serve a diverse local community; physical condition commensurate with the demands of the position.

**MINIMUM QUALIFICATIONS:** Either:

- (a) Possession of a Bachelor's degree in Geographic Information Systems, Geospatial Analysis, Spatial Information Technology or a closely related field with similar course curriculum; or
- (b) Possession of a Bachelor's degree in Geography, Planning, Engineering or a closely related field with similar course curriculum, and one (1) year of full-time paid experience, or its part-time paid and/or volunteer equivalent, creating and editing geographic data, computer mapping, performing GIS analysis, using a GIS or other computerized mapping system, or training others in the use of GIS or other computerized mapping system; or
- (c) Possession of an Associate's degree in Engineering Science, Cartography, Geography or a closely related field, and three (3) years of full-time paid experience, or its part-time and/or volunteer equivalent, as indicated in (b); or
- (d) Graduation from high school or possession of a high school equivalency diploma and successful completion of a college or university certification program in Geographic Information Science and one (1) year of full-time paid experience, or its part-time paid and/or volunteer equivalent, as indicated in (b); or
- (e) An equivalent combination of training and experience as defined by the limits of (a) through (d) above.

Note: College degrees must have been awarded by, and college coursework completed at, a college or university accredited by a regional, national, or specialized agency recognized as an accrediting agency by the U.S. Department of Education and/or U.S. Secretary of Education. If an applicant's degree was awarded by, or college coursework completed at, an educational institution outside the United States and its territories, the applicant must provide independent verification of equivalency. A list of acceptable companies who provide this service can be found at <https://www.cs.ny.gov/jobseeker/degrees.cfm>. Applicants are responsible for payment of the required evaluation fee.

**SPECIAL REQUIREMENT:** Possession of a valid driver license appropriate to the vehicles operated or otherwise demonstrated ability to meet the transportation needs of the job.