

The Maryland-National Capital Park and Planning Commission

Title: GIS Specialist III
Series: Information Technology

Grade: I Code: 2262
Date: 12/15/98 (rev.)

Class Definition

Under direction, serves as a project leader in the design, development, installation, maintenance, debugging, and customizing of large, department-specific GIS applications, which typically include many tables and other complex features. The work involves: analyzing and documenting system requirements; developing, testing, and prototyping GIS applications; designing and developing procedures for maintaining GIS databases. An employee in this class manages one or more of the major components of the Geographic Information System, coordinates activities of GIS staff, evaluates a section's operations and procedures, and performs similar work.

Examples of Important Duties

1. Plans, coordinates, monitors, and participates in the design, development, testing, and evaluation of GIS applications using standard methodology and practices including a variety of procedural and /or object oriented software; develops and executes a plan for the design, delivery, and implementation of the application including training requirements; prepares test data and tests programs to determine if specified requirements are met; modifies software until requirements are met; prepares documentation to include file relations, system operational assumptions, data flows, accesses and securities, maintenance procedures and user documentation; ensures that all documentation is completed.
2. Provides day-to-day administration of one or more systems (e.g., HP3000, HP 9000); participates in the planning and installation of operating system software; conducts analysis of system requirements to ensure that design corresponds to GIS needs and operational requirements; documents system and program work through use of flow charts and other standard formats; monitors the performance of the operating software after installation; identifies and makes changes to the operating system to enhance performance; reviews information regarding upcoming operating software releases and makes recommendations concerning the timing of installation; identifies and resolves problems with the system; coordinates maintenance contracts with vendors; keeps supervisor and others informed of unavoidable down times; ensures system maintenance tasks, such as backups, archiving of files, and maintenance of a tape library, are performed.
3. Coordinates, supervises or administers consultant/contractor work efforts including the development of specification packets and RFP's.

4. Manages one or more of the major GIS databases; provides technical expertise in implementation and maintenance, database design, AML or similar application scripting, modeling, and data processing; develops strategies for data management and distribution; designs, implements, and documents backup, archive, and restore procedures; administers GIS data structures providing continuing documentation to the data dictionary; performs record keeping and reporting for GIS production processes; coordinates efforts to link existing databases with spatial information.
5. Performs image processing and analysis and data analysis; works with a variety of spatial data including aerial photography, satellite imagery, and geographic information system and land databases.
6. Performs and coordinates data conversion, maintenance, and quality control in the production of digital coverages; conducts analysis involving error measurement, resolution and rectification on the geometric transformation or photogrammetry of data to produce cadastral, planimetric, topographic and thematic coverages.
7. Provides user support; resolves GIS hardware, software and application problems, and informs users of changes and potential problems.
8. Trains users in the capabilities and use of systems.
9. Stays abreast of GIS related information technology changes and innovations through training programs, journals, and other sources of information.
10. Coordinates and monitors work of GIS staff; identifies and recommends training; ensures proper application of GIS methods and techniques.
11. Identifies resources requirements. Recommends budget items. Initiates procurement of equipment, materials, and services. Writes RFP specifications. Plans and monitors work of consultants.

Important Worker Characteristics

Knowledge of: 1) photogrammetry, cartography, surveying, mapping, geodesy, research statistics to conceive, organize and conduct cartographic research in the development of techniques for mapping; 2) the principles, procedures, and methods used in information systems analysis, design, development, implementation, testing, evaluation and maintenance; 3) software tools and concepts, methods and techniques used in developing GIS applications and data; 4) uses and capabilities of computer hardware and software; 5) Commission organization and functions; 6) project management.

Skill in: 1) providing project leadership; 2) identifying system needs and requirements;

Ability to: 1) analyze and correct system and application problems; 2) develop detailed system specifications and documentation; 3) communicate effectively, both orally and in writing; 4) deal tactfully, effectively, and equitably with people; 5) plan, organize, monitor, and ensure quality of design and development projects.

Minimum Qualifications:

1. Bachelor's degree with a minimum of 24 credit hours in cartography, geography, computer science, information management, GIS, engineering, photogrammetry or related field;
2. Four years of experience in GIS operating on UNIX, DOS, and Windows platforms, including three years production and/or project management experience in GIS or other related surveying and mapping operations.
3. An equivalent combination of education and experience.

Working Conditions

Work is performed in an office setting.