The Maryland-National Capital Park and Planning Commission

Title: GIS Specialist II   Grade: H   Code: 2261
Series: Information Technology   Date: 12/15/98 (rev.)

Class Definition

Under direction, performs professional Geographic Information System work in developing and maintaining GIS databases and applications. Employees apply knowledge of programming, database management, and systems analysis methods and techniques to support and customize department specific GIS applications. The work involves: analyzing and documenting system requirements; developing, testing, and prototyping GIS applications; and designing and developing procedures for maintaining GIS databases. An employee in this class serves as an individual contributor with day-to-day responsibility for administration of one or more major GIS components such as a major database including many tables or a hardware/software system.

Examples of Important Duties

1.   Designs, develops, tests, and evaluates major 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, access and security, maintenance procedures and user documentation; ensures that all documentation is completed.

2.   Assists in providing 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 downtimes; ensures system maintenance tasks, such as backups, archiving of files, and maintenance of a tape library, are performed.

3.   Provides support for one or more GIS databases; designs and maintains GIS databases using AML or similar application scripting; customizes user menus, database design, data entry forms, and data conversion; develops and implements strategies for data

management and distribution; designs, implements, and documents backup, archive, and restore procedures; performs record keeping and reporting for GIS production processes; coordinates efforts to link existing databases with spatial information.

4. 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.

5. Performs 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.

6. Provides user support; resolves GIS hardware, software and application problems, and informs users of changes and potential problems.

7. Trains users in the capabilities and use of systems.

8. Stays abreast of GIS related information technology changes and innovations through training programs, journals, and other sources of information.

9. Assists in training GIS staff.

10. May serve as project leader. Coordinates activities of GIS technicians or less experienced specialists. Assigns and monitors work of technicians. Determines resources required. Recommends budget items. Initiates procurement of equipment and materials. Reviews and approves work of consultants. Participates in developing contracts and RFP specifications.

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) geocoding; 3) the principles, procedures, and methods used in information systems analysis, design, development, implementation, testing, evaluation and maintenance; 4) software tools and concepts, methods and techniques used in developing and maintaining GIS applications and data; 5) uses and capabilities of computer hardware and software; 6) Commission organization and functions; 7) project management.*

Skill in: (1) applying programming and data base administration principles and methods to GIS applications; (2) using and customizing specialized GIS software applications; (3) developing, implementing, testing, evaluating, an maintaining GIS applications and systems.

Ability to: 1) assimilate information and arrive at reasonable course of action; 2) develop detailed system specifications and documentation; 3) communicate effectively, both orally and in writing; 4) deal tactfully, effectively, and equitably with people.

*This skill may be developed on the job.

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 with two years of experience in GIS operating on UNIX, DOS, and Windows platforms, including one year production and/or project management experience in GIS or other related surveying and mapping operations; or

An Associates degree including work in cartography, geography, computer science, information management, GIS, engineering, photogrammetry or related field with four years experience in GIS operating on UNIX, DOS, and Windows platforms.

2.   An equivalent combination of education and experience.

Working Conditions
Work is performed in an office setting.

HRSG 9/98