

ILLINOIS DEPARTMENT OF CENTRAL MANAGEMENT SERVICES  
CLASS SPECIFICATION

GEOGRAPHIC INFORMATION SERIES

<u>CLASS TITLE</u>	<u>POSITION CODE</u>
GEOGRAPHIC INFORMATION TRAINEE	17276
GEOGRAPHIC INFORMATION SPECIALIST I	17271
GEOGRAPHIC INFORMATION SPECIALIST II	17272

Effective: 10-16-00

SERIES INCLUSIONS AND EXCLUSIONS:

The Geographic Information Specialist (GIS) series includes professional positions which utilize GIS applications software. Computer-driven positions lacking duties utilizing this GIS software are subsumed by the Information Services Specialist series and positions who utilize GIS software but whose primary focus is on the subject-matter being studied are defined by the subject matter in determining classification. Example: A position studying disease distribution and transmission in the State would find GIS a useful tool, but the emphasis of the job would define it as an epidemiologist and recruitment would be for an epidemiologist.

GEOGRAPHIC INFORMATION TRAINEE

POSITION CODE: 17276

## DISTINGUISHING FEATURES OF WORK:

Under immediate supervision, for a period of six to twelve months, participates in an agency sponsored training program, receiving a combination of comprehensive classroom and on-the-job training in all aspects necessary to utilize Geographic Information Technology hardware and spatial analysis reports; receives closely supervised on-the-job training assignments to acquire a practical knowledge of performing spatial analyses of departmental data and providing mapping products.

## ILLUSTRATIVE EXAMPLES OF WORK:

1. Completes two to four weeks of formal classroom training which includes indoctrination and instructions in current laws, rules and regulations, department work flow and work procedures, including utilization of various departmental related forms and documents.
2. Completes formal training in utilization of Personal Computers, related equipment and Geographic Information Technology hardware/software utilized to produce custom graphical user interfaces.
3. Receives extensive on-the-job training in data acquisition, data reformatting and application of Geographic Information System and image processing software.
4. Receives comprehensive on-the-job training in evaluating and processing forms and documents received from government officials and the regulated community relative to changes in state and local information.
5. Learns and assists in data acquisition, data reformatting and application of GIS software for production of maps and spatial analysis of water shed dynamics and water quality.
6. Receives comprehensive training in GIS database development, maintenance, electronic distribution, map production, and evaluations of impacts on natural resources including mine permits, archeology, and location of sensitive environmental features to minimize negative impacts. Assists with spatial analyses of natural resources such as flora, fauna, wetlands and bodies of water. Applies GIS technology to monitoring programs, land acquisition, and socioeconomic studies.
7. Receives comprehensive training in spatial and statistical analyses of scientific data in regulatory environmental areas pertaining to the quality of air, water, and land using GIS.

## GEOGRAPHIC INFORMATION TRAINEE (continued)

8. Trains to provide area services to business and communities for location of development siting using GIS.
9. Trains to develop, maintain, and distribute work products of databases for disease control, and health care management.
10. Receives training in research on modeling, computer graphics, and mathematical mapping techniques made possible by the geographic information system, and relates this training directly to informational needs.
11. After initial classroom and on-the-job training, accepts and completes assignments of increasing difficulty for the purpose of gaining experience and developing skills that allow the trainee to complete GIS based assignments.
12. Performs other duties as required or assigned which are reasonably within the scope of the duties enumerated above.

### DESIRABLE REQUIREMENTS:

#### Education and Experience

Requires knowledge, skill and mental development equivalent to the completion of four years of college with a minimum of 20 semester hours from the related academic disciplines of geography, GIS technology, cartography and computer science.

#### Knowledges, Skills and Abilities

Requires elementary knowledge of computer science.

Requires elementary knowledge of map creation.

Requires elementary knowledge of GIS technology.

Requires ability to gain and maintain satisfactory working relationships with department staff.

GEOGRAPHIC INFORMATION SPECIALIST I

POSITION CODE: 17271

## DISTINGUISHING FEATURES OF WORK:

Under general supervision, performs geographic information system (GIS) program activities, utilizing geographic information technology hardware and software to produce maps and spatial analysis reports; creates and maintains spatial databases; writes programs and develops user interfaces, menus, and macro-level commands to meet user needs; produces maps, spatial datasets and spatial analyses.

## ILLUSTRATIVE EXAMPLES OF WORK:

1. Assists in the development of a geographic information system which will link taxing district maps with actual tax and demographic data for tax policy research and analysis; provides accurate and expeditious statistical information regarding individual income tax, sales tax, replacement tax, and property tax as it relates to a geographical area or location; creates and maintains spatial databases in the geographic information system; maintains data dictionaries and metadata files; implements standards; informs users as to what is available in the system; performs detailed tax policy research in response to the needs of legislators, the Governor's Office, and department staff.
2. Digitizes and maintains spatial databases of Illinois information; manuscripts procedures; validates data for accuracy and completeness; performs manuscripting of procedures; prepares drawings and maps for both department and public use.
3. Writes programs and develops user interfaces, menus, and macro-level commands to meet user needs; translates system data for outside users and converts data from outside sources; assists users with training, debugging, and database management.
4. Evaluates information on forms and documents received from county officials and the regulated community; performs all tasks associated with processing such documents; interprets and evaluates complex legal descriptions to determine boundary changes for local units of government.
5. Performs data acquisition and data reformatting and applies GIS to produce spatial distribution maps for water shed dynamics and water quality.
6. Collects and manipulates air quality and pollution data using GIS software to prepare charts and spatial analyses of phenomena such as smog and ozone.

## GEOGRAPHIC INFORMATION SPECIALIST I (continued)

7. Collects, organizes and clarifies data on endangered species, nature areas, wetlands and other natural resources; produces maps and spatial analysis reports for use in making management recommendations of these natural resources.
8. Confers and/or corresponds with local officials, taxpayers and/or their representatives advising of legal requirements regarding maps, multi-township assessment districts, digitized and manual mapping systems used in the appraisal process; makes presentations to county officials relative to manual and digitized cadastral mapping systems.
9. Provides geographic location coordinates for the geographical information system to facilitate spatial analysis and data manipulation, and for calculating distance and area; interprets legal descriptions and certifies municipal taxing district and boundary changes of local units of government to the U.S. Bureau of Census; provides assistance to the U.S. Bureau of Census in determining proper distribution of federal funds.
10. Participates in advanced training to attain a greater degree of expertise in mapping, spatial analysis and computer skills.
11. Performs other duties as required or assigned which are reasonably within the scope and duties enumerated above.

## DESIRABLE REQUIREMENTS:

Education and Experience

Requires knowledge, skill and mental development equivalent to the completion of four years of college with a minimum of 20 semester hours from the related academic disciplines of geography, GIS technology, cartography and computer science.

Requires completion of an agency sponsored training program or one year of professional experience in GIS.

Knowledges, Skills and Abilities

Requires working knowledge of the methods and techniques employed in creating maps and GIS products.

Requires working knowledge of research methods and techniques to analyze statistical and spatial data.

Requires working knowledge of geographical information system technology and software applications.

Requires working knowledge of UNIX, and/or WINDOWS NT or a personal computer operating system.

Requires ability to gain and maintain satisfactory working relationships with government officials and the general public.

GEOGRAPHIC INFORMATION SPECIALIST II

POSITION CODE: 17272

## DISTINGUISHING FEATURES OF WORK:

Under general direction, performs geographic information system program activities on more complex or long-running projects and assumes more programmatic planning functions; functions as a team leader or project coordinator to less experienced geographic information specialists; serves as a consultant to local assessing officials on matters involving cadastral mapping used for mass appraisals at the local and state level; serves as technical coordinator with information services personnel; develops standards and procedures for conversion of hand drawn maps to computerized maps; provides technical assistance in development of Intranet and Internet mapping technology; confers and/or corresponds with state and local officials, the regulated community, and the general public; develops interfaces between departmental data and other state or federal agency data.

## ILLUSTRATIVE EXAMPLES OF WORK:

1. Researches the geostatical relationships between various departmental spatial datasets and provides reports to management and other state agencies to be used for policy decisions.
2. Performs geographic information system program activities on more complex or long-running projects; coordinates digitizing activities to meet needs of all using agencies or departmental areas and/or coordinates geographic data digitizing and conventional data captured for specific assignments emanating from the Director's Office or Governor's Office.
- 3 Acts as a technical advisor to department staff and other agencies on questions or problems that may arise in reference to statistical mapping.
4. Designs and conducts studies of water quality and water shed dynamics; ensures data acquisition and design is compatible with geographic detests and related databases.
5. Serves as consultant or advisor to local officials and the regulated community on matters of spatial data involving state regulations; makes presentations to local officials on the advantages of using digital spatial data.
6. Using air quality data, performs complex spatial analyses involving contaminant dispersion modeling to predict expected ozone levels in a given geographic region.
7. Using digital elevation modeling data, identifies potential hazards to endangered species in wetland areas given several flood level scenarios.

## GEOGRAPHIC INFORMATION SPECIALIST II (continued)

8. Develops standards and procedures for the geographic information system; instructs lower level staff and/or agency users regarding new software or equipment; provides interpretation of complex legal descriptions, data backup procedures, digitizing, map creation, formulating metadata standards for completion of special projects; provides geographic location reference points for the geographic information system to facilitate spatial analysis and data manipulation; provides clear, concise drawings and maps showing complex relationships for department use.
9. As a designated team leader, provides work leadership, guidance, training and direction to less experienced Geographic Information Specialists; assists the supervisor in the control and projected use of resources; makes day-to-day decisions on unit assignments; submits monthly status reports to supervisor.
10. Based on user requirements, performs and/or coordinates the design, development, and maintenance of geostatistical programs to perform complex statistical routines and to generate reports which are integrated into a geographic dataset using GIS software.
11. Writes, tests, fully documents, and maintains application programs in the appropriate computer languages for use in a GIS environment.
12. Develops, conducts, and/or coordinates GIS activities utilizing geographic analysis, which cannot be economically prepared with conventional cartography, by coordinating the application of cartographic principles in the production of finished maps.
13. Coordinates GIS hardware availability and staff schedules to ensure work goals and deadlines are met.
14. Conducts, coordinates and oversees research of geospatial data using complex modeling techniques and advanced geostatistical interpretation and analysis using GIS applications for reports and other products.
15. Prepares and/or coordinates the preparation of technical reports and correspondence.
16. Performs other duties as required or assigned which are reasonably within the scope and duties enumerated above.

## GEOGRAPHIC INFORMATION SPECIALIST II (continued)

## DESIRABLE REQUIREMENTS:

Education and Experience

Requires knowledge, skill and mental development equivalent to the completion of four years of college with a minimum of 20 semester hours from the related academic disciplines of geography, GIS technology, cartography and computer science.

Requires completion of an agency sponsored training program and two years professional experience in GIS or three years of professional experience in GIS.

Knowledges, Skills and Abilities

Requires extensive knowledge of the methods and techniques employed in creating maps and GIS products.

Requires extensive knowledge of research methods and techniques to analyze statistical and spatial data.

Requires extensive knowledge of geographical information system technology and software applications.

Requires extensive knowledge of UNIX and/or Windows NT or a personal computer operating system.

Requires extensive knowledge of geographic and statistical data output methodologies and ability to interpret, explain and apply data output.

Requires ability to develop effective work methods and coordinate all phases of a specific assignment.

Requires ability to gain and maintain satisfactory working relationships with government officials and the general public.