CLASSIFICATION SPECIFICATIONS

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Class Title:	GIS ANALYST 3
Bargaining Unit:	Use for all Job Titles
Class Code:	075587
Salary:	

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Minimum Qualifications	Benefits

Education and Experience: Graduation from an accredited college or university with a bachelor's degree and experience equivalent to two years of experience in: 1) software applications development for Geographic Information Systems, or 2) the creation of maps or related reports using Geographic Information Systems software or hardware.

Substitution of Experience for Education: Qualifying experience in one or a combination of the following areas may substitute for the required education, on a year for year basis, to a maximum of four years: 1) any geographical measurement work including but not limited to computer aided drafting design, software applications development for Geographic Information Systems, or the creation of maps or related reports using Geographic Information Systems software or hardware, or 2) any information systems work including but not limited to computer programming, database administration, or information systems analysis (e.g., experience equivalent to one year of full-time work in one or a combination of the above listed fields may substitute for one year of the required education).

Substitution of Graduate Education for Experience: Additional qualifying graduate course work in geography may substitute for the required experience, on a year-for-year basis, to a maximum of one year (e.g., 36 graduate quarter hours in geography may substitute for one year of the required experience).

OR

One year of experience as a GIS Analyst 2* with the State of Tennessee.

Other Requirements:

Necessary Special Qualifications: None.

Examination Method: Education and Experience,100%, for Preferred Service positions. For Executive Service positions, Minimum Qualifications, Necessary Special Qualifications, and Examination Method are determined by the appointing authority.

Job Overview:

Summary: Under general supervision, is responsible for Geographic Information Systems (GIS) work of considerable difficulty in the analysis and evaluation of equipment and software applications for GIS development; and performs related work as required.

Distinguishing Features: This is the supervisory or advanced working level class in the GIS Analyst sub-series. An employee in this class either supervises subordinate GIS analytic staff or performs non-supervisory advanced GIS

analytic work in the central information systems division for the State. Employees in this class analyze and evaluate the utility of GIS-related software and hardware and also design, program, and implement GIS-related solutions. This class differs from GIS Analyst 2 in that incumbents of the latter perform at the working level. This class differs from GIS Manager 1 in that incumbents of the latter manage the operation of and supervise employees in a GIS unit.

Work Activities:

1. Supervises subordinate staff working with Geographic Information Systems (GIS); establishes quality guidelines and key milestones for each project based on project goals outlined in the work plan; performs independent quality assurance reviews of GIS projects by testing source code, checking system performance, ensuring project is operating within established budget, and monitoring activities of project team; identifies types of application tests which will be required based on nature of the project; maintains official project archives and documentation by securing electronic storage of data and properly cataloguing materials; provides periodic progress reports to management or supervision; assigns performance rating for subordinate staff according to established criteria; reviews results of performance evaluation with management and respective employee; may monitor schedule and attendance of staff.

2. Develops customized GIS software applications; creates GIS applications which provide decision-making tools for complex issues such as demographics, transportation, and the potential impact of construction, conservation initiatives, and other regional activities; makes formal requests to management for project approval, funding, human resources, and additional hardware or software needs; assigns projects and tasks according to work plan, available resources, and individual area of expertise; develops detailed work plan according to project objectives, available resources, and required technical approach; writes source code using state-approved programming languages; makes corrections to source code based on test simulations and feedback from other analysts and staff; writes formal documentation regarding project goals, changes in source code, storage of data and materials, and project completion.

3. Creates specialized data sets, reports, maps, graphics, and other requested materials by analyzing data using GIS; researches pre-existing data sets and data resources to gain familiarity with issues surrounding request; identifies appropriate spatial data model to apply to complex problems based on agency needs and available GIS applications and resources; selects the appropriate data collection, integration, and storage methods based on project objectives and current research; acquires data by submitting requests to appropriate agencies and physically collecting data from raw sources such as libraries, networks, or related media; defines output parameters by loading data, graphics, and geography into database or system; performs spatial analysis using appropriate GIS application tools and commands; presents the results of spatial data analysis and recommendations to agencies in the appropriate format.

4. Integrates GIS into existing agency or departmental applications of greater scope and complexity to improve quality and cost effectiveness of state services; examines existing business processes to determine what data sets are involved, how the data is obtained and stored, and current business needs; identifies requirements necessary for GIS integration through consultations with clients, vendors, and other application developers based on request and agency needs; writes source code using state-approved programming languages to create a digital map-interface allowing access to business data in a spatial environment; determines if system problems are related to hardware compatibility issues, software errors, or user operation based on the performance of GIS components.

5. Oversees the maintenance of GIS applications, hardware, and software to ensure performance needs are met; defines the cost effectiveness, compatibility of software components, and application performance to determine impact of system modifications on the agency; assesses needs for software or hardware upgrades through interaction with users and vendors; examines new technologies and product specifications at user conferences to determine potential for incorporation into current GIS systems; evaluates industry standards, emerging technologies, and agency goals to determine if system improvements are necessary.

6. Provides training and technical assistance to users of GIS throughout state agencies; develops curriculum and training standards for classes on the functionality of GIS based on agency requirements and industry standards; trains users regarding the functionality of advanced GIS software and custom-designed applications through individual or class instruction.

Competencies (KSA's):

Competencies:

1. Creativity

2. Learning on the Fly

3. Decision Quality

4. Functional/Technical Competencies

5. Directing Others

6. Informing

7. Customer Focus

8. Self-Development

9. Self-Knowledge

Knowledge:

1. Knowledge of Geo spatial software to support enterprise GIS functions

2. Knowledge of Relational Databases to effectively manage geospatial vector data

3. Knowledge of Computer software and hardware installation

4. Knowledge of Design Software to create complex spatial systems and data structures

5. Knowledge of Location and Navigation Systems to integrate GPS devices and data with enterprise GIS

6. Knowledge of Programming Language to effectively develop GIS web applications

7. Knowledge of Spatial Analysis to support independent quality assurance reviews of GIS projects

8. Knowledge of Geographic Principles, such as map projections and coordinating systems

9. Knowledge of Communication and Media to present spatial data analysis recommendations

10. Customer and Personal Service to obtain project proposal approval

11. Education and Training to develop user training

12. Mathematics

13. Knowledge of GIS System Architecture to maintain and support enterprise GIS infrastructure

14. Knowledge of GIS Web Development Software to effectively develop GIS web applications

15. Knowledge of GIS scripting language(s) to streamline geoprocessing functions and tasks

16. Knowledge of personnel policies and procedures

Skills:

1. Creating effective maps through the use of cartographic skills

2. Skill in developing robust GIS applications

3. Active Learning

4. Active Listening

5. Critical Thinking

6. Learning Strategies develop effective curriculum

7. Mathematics

8. Reading Comprehension

9. Writing formal project documentation

10. Speaking

11. Science

12. Instructing

13. Complex Business Problem Solving through the use of GIS applications and resources

14. Social Perceptiveness

15. Service Orientation

16. Equipment Selection

17. Installation of computer software and hardware

18. Operation and Control to oversee GIS application accuracy and performance

19. Operations Analysis

20. Programming specialized data sets, reports, maps, and graphics

21. Technology Design

22. Troubleshooting

23. Judgment and Decision Making

24. Systems Analysis

25. Systems Evaluation

26. Time Management

27. Skill in creating Web Map and Image Services

Abilities:

1. Deductive Reasoning

2. Flexibility of Closure

3. Inductive Reasoning

4. Information Ordering

5. Mathematical Ideas

6. Number Facility

7. Oral Comprehension

8. Oral Expression

9. Originality

10. Perceptual Speed

11. Problem Sensitivity

12. Selective Attention

13. Spatial Orientation

14. Speed of Closure

15. Time Sharing

16. Written Comprehension

17. Written Expression

18. Visualization

Tools and Equipment Used:

Compensation Information:
Click here to access current compensation information.