



## GIS PROGRAMMER/ENGINEER, EXPERT/SUPERVISOR

**Department:** Finance  
**Job Class #:** 632200  
**Pay Range:** Professional 18

**FLSA:** Exempt  
**Represented:** No

Classification descriptions are intended to present a descriptive list of the range of duties performed by employees in this class and are not intended to reflect all duties performed within the job.

### **GENERAL FUNCTION:**

This is expert-level professional, technical, analytical, and customer-oriented work in the GIS Division of the Information Technology Division of Finance. This position is two-fold, functioning either within the supervisory capacity or as a subject matter expert in the GIS field. An employee in this classification may lead programming projects, maintenance, enhancements, and support for GIS business systems and large, countywide, enterprise GIS databases or mission critical applications. The position also acts as the GIS Manager when the Manager is unavailable. The GIS Programmer/Engineer, Expert/Supervisor may include any or all of the essential functions listed below and functions as an expert-level IT professional. The position may also supervise other GIS Programmer/Engineers in the GIS Division.

### **SERIES CONCEPT:**

The IT GIS Programmer/Engineer, Expert/Supervisor is the highest level in the series. This classification is distinguished from other IT GIS Programmer/Engineers by performing as a technical expert for a broad range of the most technically complex projects on multiple platforms, may act as a technical lead for various GIS teams, and may supervise teams of GIS Programmer/Engineers.

### **ESSENTIAL FUNCTIONS:**

- Perform expert-level professional, lead functions in GIS data construction, programming, database management, GIS analysis, system implementation and project management for enterprise-wide or complex projects.
- Perform critical role in the identification and direction of GIS operations, system architecture strategies, programming, database management and implementation services.
- Serve as the subject matter expert for GIS enterprise systems, platforms, system architectures, database administration, system integration, and system implementation:
  - data management- geodatabase design, ArcSDE administration, database optimization, data integrity, database performance, security and production database automation; and
  - application management: needs assessment, GUI design, system architecture, software development, implementation processes, integration testing, performance tuning, documentation, and system deployment.
- Lead complex, multi-tier enterprise GIS system development for county business, scientific, mission critical or engineering applications across multiple platforms.

### Business Analysis

- Work with business customers to translate customer requirements into formal contracts/agreements and plans to conclude in customer acceptance of results.
- Perform critical role in the identification and direction of business and functional requirements.
- Lead advanced spatial, geo-statistical, network, 3D, terrain, route, image analysis or business GIS concepts and other complex techniques to geographic data analysis.
- Extend new or existing business systems through the integration of GIS systems and web services to develop new county services and subscription models.
- Analyze and evaluate IT projects that make use of GIS technologies and develop strategies,

## **GIS Programmer/Engineer, Expert/Supervisor**

### **Classification Description – Pierce County**

#### **Page 2**

business processes and architectures to integrate systems.

#### Data construction and Management

- Lead and act as technical expert for data administration responsibilities and provide data administration supervision for enterprise, regional, multi-agency production GIS data sets across multiple hardware platforms and operating systems.
- Lead, plan, design and automate GIS database construction and quality controls for enterprise databases.
- Manage data development and access with department users, system, operation, and technical support staff. Protect the safety, integrity, and privacy of data.
- Optimize database performance, troubleshoot, test designs, and recommend operational improvements.
- Lead, plan, coordinate and implement security measures with developers to safeguard information in systems against accidental or unauthorized damage, modification or disclosure

#### Software Development

- Perform the role of GIS enterprise architect with responsibility for defining or leading others in defining GIS data models, GIS system designs, GIS application development specifications, and GIS data maintenance QA/QC, system deployment, subscription services, GIS finances and practices consistent with the overall architecture and business proposes to serve local government needs.
- Serve as a subject matter expert for GIS enterprise systems and manage multiple application development projects, database development, deployments or GIS operational processes.
- Lead complex, multi-tier enterprise GIS systems for county business, scientific, or engineering applications across multiple platforms.
- Lead, plan, design, develop, test and monitor multi-tier enterprise GIS systems for county business, scientific, or engineering applications across multiple platforms. Construct scalable GIS systems and web services that are able to serve new purposes or improve a workflow or integrate existing business systems with GIS.
- Manage and implement business systems or spatial analysis projects/processes to solve complex technical problems, automate a business process or provide a data service to secondary application.
- Use object-oriented programming languages and web services as well as client and server applications development processes and internet technologies to construct new GIS software systems.
- Determine computer software or hardware needed to setup or alter a system and associated costs, licenses, and integration risks.
- Manage and implement and integrate 3<sup>rd</sup> party software packages that utilize GIS technology with the enterprise GIS.
- Lead and perform complex data manipulation, data model development and automate data construction.
- Advise senior management on software development schedules and costs, project implementation, and system capabilities and capacities.

#### System Support

- Support mission critical GIS systems in the Emergency Operations Center during emergencies and activations.

## **GIS Programmer/Engineer, Expert/Supervisor**

### **Classification Description – Pierce County**

#### **Page 3**

- Organize and lead system deployments and solve GIS technology problems proactively.
- Lead problem resolution and troubleshoot software malfunctions involving software, hardware, databases and networking in a multi-tiered application environment.
- Independently complete complex multi-agency GIS technical projects
- Act as liaison between departments and IT to communicate any potential issues/questions and provide IT solutions.

#### **Implementation Services**

- Create new GIS technology processes, implement enterprise-wide systems, and produce specific GIS analysis.
- Lead and manage contract administration, project performance, project delivery and support to GIS external and internal clients.
- Lead and manage large multi-departmental or multi-agency projects with the responsibility for the performance of work groups to achieve desired outcome.
- Resolve issues of scope, resource availability, resource expertise, budget constraints, and deadlines. Develop solutions to complex, interdepartmental GIS business problems.
- Manage subcontractors and client relationships and expectations and lead resolution of technical problems.
- Monitor, organize, instruct, and direct the work of staff to facilitate accomplishment of complex tasks or initiate corrective action.
- Serve as primary programmer/engineer on assigned projects: plan, organize and assign work; conduct meetings; monitor schedules and budgets; perform research; develop work products, recommendations and action plans.
- Assist in forming cooperative partnerships between agencies, public and private, to jointly resolve issues or to work on beneficial projects.
- Procure the countywide GIS enterprise hardware and software system as well as ensuring software licensing compliance for ESRI software and programming tools.
- Act as liaison between departments and IT to communicate any potential issues/questions and provide IT solutions.
- Perform complex spatial analysis of data themes such as spatial query software tools, data density analysis, grid analysis, terrain modeling, network analysis, dynamic segmentation, and image processing.
- Market services, projects, and resources effectively.

#### **Training**

- Train, instruct, and support internal and external supervisors and managers on the productive use of GIS software systems and databases.
- Deliver excellent customer service, assist in measuring and creating customer satisfaction, and enhance customer's relationships with the Information Technology Division.
- Act as a subject matter expert on GIS technologies and build expertise among colleagues in the Information Technology Division.

#### **Communication and Project Management**

- May manage, supervise and coordinate activities of a designated unit; determine work procedures, prepare work schedules and determine methods for expediting workflow
- May assign, review and approve the work of subordinate staff; investigate grievances involving

## **GIS Programmer/Engineer, Expert/Supervisor**

### **Classification Description – Pierce County**

#### **Page 4**

subordinates and recommend resolution; recommend hiring, promotional and disciplinary actions; approve leave requests and overtime; provide adequate coverage during staff absences.

- May conduct performance evaluations and develop performance measures and standards.
- May ensure consistent interpretation and application of laws, rules, policies and procedures.
- Work in a teamwork based environment, communicating effectively with all levels of staff and management.
- Coordinate and manage technology vendors, partners, or contractors to resolve problems, negotiate price, establish contract terms and conditions and resolve disputes.
- Monitor, organize, instruct, and direct the work of staff to facilitate accomplishment of complex tasks or initiate corrective action.
- Manage contracts, project performance, provide deliverables and support to GIS external and internal clients.
- Work in a teamwork based environment, communicating effectively with all levels of staff and management.
- Advise senior management on software development schedules and costs, project implementation, and system capabilities and capacities.
- Deliver excellent customer service, assist in measuring and creating customer satisfaction, and enhance customer's relationships with the Information Technology Division.

#### **OTHER JOB FUNCTIONS**

- Manage own schedule and workload.
- Manage time and resources.
- Prepare reports and delivers presentations.
- Perform administrative tasks and other job functions as required.

#### **SUPERVISION RECEIVED AND EXERCISED:**

The GIS Programmer/Engineer, Expert/Supervisor may lead/or supervise other GIS Programmer/Engineers. An employee in this class works under the general direction of the GIS Manager who observes work through assignments and projects to evaluate results achieved.

#### **WORK ENVIRONMENT:**

The work environment characteristics described herein are representative of those an employee encounters while performing the essential job functions. Work is performed in an office and field environment. Work may involve frequent sitting, standing, walking, bending, and lifting and carrying field gear, working in all weather conditions, and driving to and from job sites. Driving to various departments may be included. Ability to work after normal County business hours, including weekends, for customer support, a scheduled function, or in an on-call capacity is required.

#### **PHYSICAL REQUIREMENTS:**

The physical demands described herein are representative of those that must be met by an employee to successfully perform the essential functions. Physical activities required are hand and finger dexterity necessary to operate equipment used in the position, talking, seeing and hearing. Walking, sitting, bending/stooping, pushing/pulling, driving and unassisted lifting associated with the job duties is required.

## **GIS Programmer/Engineer, Expert/Supervisor**

### **Classification Description – Pierce County**

#### **Page 5**

#### **KNOWLEDGE, SKILLS, AND ABILITIES**

Knowledge of:

- Principles and practices of management, organization, and supervision.
- Budgets, contracts, county financial systems and methods and techniques of budget preparation and execution.
- GIS technologies, techniques and practices.
- Mapping systems, coordinates and spatial data accuracies.
- ESRI software products, operations, and structures.
- And thorough understanding of current GIS information technologies and the County GIS system.

Skill in:

- Use of independent judgment and effective decision-making in the application of a wide variety of laws, policies and procedures and in effective problem-solving.
- Leading and conducting all levels of project management.

Ability to:

- Lead, manage or supervise teams of GIS professionals.
- Work effectively and productively with others.
- Contribute to analyzing and compiling results of decision issues in IT.
- Research, verify, edit, and update data bases and GIS spatial data.
- Integrate computing on multiple computing platforms.
- Define, track, and assure responsiveness to clients' information service problems.
- Analyze, verify and compile results of decision issues in GIS.
- Communicate effectively verbally and in writing to audiences of various social, cultural, ethnic, educational and economic backgrounds.
- Effectively coordinate, perform and complete multiple duties and assignments concurrently and in a timely manner.
- Maintain regular, predictable and punctual attendance during regularly scheduled work hours at assigned worksite.
- Work a flexible schedule, which may include evenings, weekends, and holidays. May be subject to responding to emergency situations on twenty-four hour basis.
- Establish and maintain effective working relationships.
- Work and contribute as a member in a teamwork-based environment.
- Meet the travel requirements of the position, if any.
- Physically perform the essential job functions of the classification.

#### **MINIMUM REQUIREMENTS TO APPLY:**

Bachelors Degree in Science, Technology, Engineering, Geography or related field and eight or more years of information technology/GIS experience required. Additional education or experience may substitute for the recruiting requirements.

**SPECIAL REQUIREMENTS AND/OR QUALIFICATIONS:** A valid Washington State driver's license may be required when travel is required of the position. Ability to successfully complete a Pierce County background investigation. Fingerprint and in-depth criminal history check may be required for certain law enforcement system support assignments.