GEOGRAPHIC INFORMATION SYSTEMS ANALYST

DESCRIPTION

Under general supervision from the Planning Manager design, compile, analyze and prepare geospatial data; to investigate and analyze methods of obtaining data from a variety of sources, and to incorporate data into a GIS form to deliver the results of analysis to users. General understanding of scale, coordinate systems, geodesy, direction, projections, traditional land surveying techniques, global positioning systems (GPS), remote sensing, geographic information systems (GIS) and cartography.

DISTINGUISHING CHARACTERISTICS

The GIS Analyst I is an entry level class of this professional class series. Incumbents in this class receive close supervision and training where the emphasis is on developing and maintaining graphic and tabular map data, developing the County's GIS system, and providing basic customer service support to County departments and system users. General supervision is provided by the GIS II. Incumbents may advance after gaining experience and demonstrating proficiency consistent with the qualifications of the higher level class.

The GIS Analyst I performs a variety of professional, technical and analytical duties in the operation of the County's geographic information system (GIS); performs applications design, modification and programming of a routine to complex nature; analyzes customer and system requirements; performs work related to installation, maintenance and modification of GIS systems and database management; provides user support as needed; performs related work as assigned. Incumbents in this classification will be assigned, but will not be limited to the following functions: applications development, systems design and maintenance, database management and networking.

GIS Analyst II is the journey level and under general supervision incumbents have detailed knowledge of geographic information systems and are fully competent to independently perform duties related but not limited to systems/application design and maintenance, programming, database development and maintenance, networking and/or use support activities.

SUPERVISION RECEIVED AND EXERCISED

GIS Analyst I-Receives immediate supervision from the supervisor.

GIS Analyst II- Receives general supervision from the Planning Manager appointed supervisor; may exercise functional and technical supervision over less experienced staff.

EXAMPLES OF DUTIES - Duties may include, but are not limited to, the following:

- Designs, develops, programs and supports integrated GIS systems.

- Builds, maintains and curates mapping applications using ESRI or open -source technologies, including ESRI's Arc GIS Online.

- Performs field work/data collection associated with geospatial projects.

- Manages and administers spatial and non-spatial data. Utilizes various software and extensions to perform complex GIS analysis.

- Uses and creates automated processes using model-builder or other tools.

- Manages and administers spatial and non-spatial data. Utilizes various software and extensions to perform complex GIS analysis.

- Utilize GIS programming languages to develop web based or desktop applications.

- Use ArcGIS software skills and Python to update and create workflows and automate processes.

- Processes, prepare, and convert data to enter in GIS databases; create and maintain documentation of spatial layers; edit tabular data and spatial layers; perform advanced spatial and tabular queries.

- Analyzes and solves hardware and software problems as needed and installs, tests, and implements vendor supplied modifications to existing software.

- Assists in development and enforcement of GIS standards and operating procedures; writes program documentation, user procedures and instructions; implements, tracks and evaluates new or modified programs and applications.

- Conducts feasibility studies and associated time, equipment and cost requirements.

- Analyzes and maintains design of the GIS database, including goals and objectives, data dictionary, physical database security and privacy, and recovery systems.

- Identifies, analyzes and maintains the GIS operating environment, including search strategies, access methods, file membership, record relationships and data compression techniques.

- Assist in conducting complex spatial/surface analysis.

- Performs other related duties as assigned.

ESSENTIAL FUNCTIONS

- Frequent operation of personal computer and other modern office equipment.
- Communicate effectively with others in person, in writing, and over the telephone.
- Analyze data, interpret directions, procedures and regulations, and develop appropriate responses.
- Perform job duties under stressful conditions and respond appropriately to situations.
- Lift and move with help objects weighing up to 30 pounds.
- Maintain confidential information in accordance with legal standards and/or County regulations.
- Repetitive motion, sitting for long periods, walking and occasional standing, pushing, pulling, bending, squatting, climbing.
- Consistently good vision, reading skills and requires close-up work and occasional use of depth perception and peripheral vision.
- Frequent color perception and use of eye/hand coordination.
- Normal dexterity with frequent writing.
- Frequent hearing or normal speech, hearing/talking on the telephone, talking in person.
- Frequent decision making, concentration, and public contact.
- Occasional exposure to indoor industrial conditions (heat/cold, odors, or poor ventilation).

- Regular work attendance is required; is an essential functions and some assignments may require working weekend, nights, and/or occasional overtime.

Knowledge of:
- Experience with standard GIS software (ESRI, AutoCAD, ERDAS, Geocortex, etc.) and geospatial raster processing technology
- Legal descriptions, land and records of surveys, subdivision and assessor maps.
- Principles and practices of GIS, cartography, and engineering and drafting.
- GIS data maintenance, conversion techniques and data manipulation procedures.
- Principles and techniques of programming languages (VB, Python, etc.)
- Business arithmetic, algebra and geometry.
- Basic business administration and office procedures.
- Principles and practices of effective communication of technical issues.
- Computer aided design or graphic simulation.
- Backup, restore, restart and recovery concepts.
- Relational database management systems implementation.

Ability to:
- Use GIS software to conduct complex analytical tabular and spatial queries.
- Analyze system requirements and select appropriate hardware/software design.
- Develop tests to analyze new or modified hardware, software or database structure.
- Troubleshoot hardware/software problems and debug programs and applications.
- Visualize spatial relationships, read and interpret maps and aerial photographs.
- Interpret, apply, and explain applicable laws and regulations.
- Work effectively, independently, and in a team environment, follow instructions and communicate clearly and concisely with others, orally and in writing.
- Instruct non-technical and user staff in operation of new or revised GIS applications, system modifications or database structure.
- Prepare clear and concise program documentation, user procedures, GIS standards, reports of work performed, and other written material.
- Exercise sound independent decisions within established guidelines.
- Perform other related duties as assigned.

QUALIFICATIONS

GIS Analyst I

Experience:
One (1) year of experience performing programming and/or database development support work in an automated mapping environment. Additional experience, as outlined above, may be substituted for the education requirement on a year for year basis.

Education:
An Associate's degree in GIS, cartography, geography, geology, computer science, engineering, planning, mathematics or other GIS related field OR 60 semester or 90 quarter units from an accredited college or university which includes coursework in a GIS related field and experience with Microsoft (MS) Office 365 and MS SQL. (Job-related experience may substituted for the required education on a year-for-year basis.

GIS Analyst II

Experience:
Three (3) years experience in any of the following areas: performing systems analysis, design

and maintenance, spatial database analysis and design, or applications development and programming in an automated mapping environment at a level equivalent to the County's class of GIS Analyst I. Experience with API, JSON, XML, REST or other connection services is also preferred.

Education:

Equivalent to graduation from a four (4) year college or university with major coursework in GIS, cartography, geography, geology, computer science, engineering, planning, mathematics or other GIS related field and additional experience as outlined above, may be substituted for the education requirement on a year for year basis.

LICENSE OR CERTIFICATE

Possession of, or ability to obtain, a valid California driver's license

GIS Analyst I – Desktop Certification (ArcGIS Desktop Entry Exam from ESRI) or other applicable entry level certificate program as approved by Department Head/Supervisor. This validates knowledge of basic ArcGIS concepts and ability to perform entry-level mapping, visualization, editing, and file geodatabase tasks (**GIS Analyst I** is not required or an experienced user of ArcGIS Pro and ArcGIS Online nor has formal college level training in for ArcGIS online and ArcGIS Pro)

GIS Analyst II - Successful completion of a college level GIS Certificate Program OR ESRI Technical Certification – Desktop Associate OR equivalent
Geospatial Research Analyst II-Two or more years of working for Glenn County in natural resources management, data collection, water resources or other relevant fields and successful completion of a college level GIS Certificate Program OR ESRI Technical Certification OR equivalent

Working Conditions:

Risk of eyestrain and repetitive motion syndrome due to long hours spent on the computer. Positions within this class require light physical effort that may include occasional light lifting to a 30 pound limit and some bending, stooping, or squatting.