



**Los Angeles County
Chief Executive Office**

***Class Specification:* GEOGRAPHIC INFORMATION SYSTEMS TECHNICIAN I**

ITEM NUMBER: _____

APPROVAL DATE: _____

DEFINITION:

Under close supervision, performs a variety of routine technical duties in maintaining and supporting County and departmental geographic information systems (GIS) and GIS databases; uses standard GIS tools and generates standard GIS products.

CLASSIFICATION STANDARDS:

Positions allocable to this technical class perform duties primarily focused on GIS data creation and maintenance to support departmental and County-wide geographic information systems capabilities. Incumbents utilize standard GIS tools and utilities to enter and correct data in GIS databases, researching a variety of source documents to verify data accuracy and completeness, and to generate standard GIS products including maps. Work assigned involves proficiency in the use of basic to standard GIS software, tools and utilities to carry out assignments ranging from basic to routine and is performed following specific and detailed instructions as to methods, procedures and guidelines. Deviations are referred to the supervisor for further guidance. Work is reviewed in considerable detail for completeness and accuracy and to ensure the accurate application of standard methods, techniques and procedures.

GIS Technicians differ from GIS Analysts in that the work performed by GIS Analysts, requires a professional knowledge of the theory and principles of GIS software and database manipulation and product/output development.

Positions in this class differ from those in the GIS Technician II class in that incumbents in the latter class are responsible for independently performing complex GIS data entry and maintenance duties and for conducting quality control checks on the work performed by GIS Technician Is. Incumbents in the latter class may provide lead work guidance, direction and training to other GIS technical staff.

EXAMPLES OF DUTIES:

ESSENTIAL DUTIES:

Uses forms and drop down menus to enter data in GIS databases; follows established procedures to select map data and objects to populate database tables and attributes.

Reviews and makes routine interpretations of data sources and uses basic GIS software

functions to enter, edit and update GIS spatial data, including points, lines and polygons, and attribute data into databases or layers, following standard procedures.

Researches standard source documents such as track maps, parcel maps, cadastral maps, legal descriptions, permits, as-built drawings and other records to verify the accuracy and completeness of data prior to input; uses standard scripts and queries to search for and correct missing, incomplete or inaccurate spatial and attribute data.

Following established and detailed procedures, enters parameters and generates standard GIS products including maps, shape files, graphics, tables and reports to meet specific customer requirements; researches and responds to customer requests for information.

Following established procedures, uses GIS software to geo-reference digital maps to align with real ground locations based on applicable data.

Ensures the accuracy and completeness of data and adherence with established procedures, prior to submitting own work.

Operates GIS-specific hardware including large format plotters and scanners.

May convert spatial data from one coordinate system to another; may convert maps into standard non-GIS formats such as pdf.

May collect field data using a GPS or other equipment as needed.

MINIMUM REQUIREMENTS:

TRAINING AND EXPERIENCE:

Option 1

An Associate's degree in geographic information systems, GIScience, geography or a closely related field requiring at least 18 semester units of equivalent coursework in geographic information systems. And six months of technical experience in the uses and operations of geographic information systems, including the entry, editing and retrieval of geospatial data in GIS databases.

Successful completion of a recognized GIS certificate program requiring at least 18 semester units of coursework may be substituted for the required Associate's degree.

Option 2

A Bachelor's degree from an accredited college or university with a major in geographic information systems, GIScience, geography or a closely related field requiring equivalent

coursework in geographic information systems.

Option 3

Three years of technical experience primarily engaged in the uses and operations of geographic information systems, including the entry, editing and retrieval of geospatial data in GIS databases, in the service of the County of Los Angeles.

LICENSE:

A valid California Class C Driver License or the ability to utilize an alternative method of transportation when needed to carry out job-related essential functions.

PHYSICAL CLASS:

2 - Light.

Positions within this class require light physical effort that may include occasional light lifting to a 10 pound limit and some bending, stooping, or squatting. Considerable walking may be involved.



**Los Angeles County
Chief Executive Office**

***Class Specification:* GEOGRAPHIC INFORMATION SYSTEMS TECHNICIAN II**

ITEM NUMBER: 4411

APPROVAL DATE: 07/31/2012

DEFINITION:

Under general supervision, performs a variety of routine to moderately difficult technical duties in maintaining and supporting County and departmental geographic information systems (GIS) and GIS databases; uses standard GIS tools and generates standard GIS products; performs quality control reviews of the work performed by other GIS Technicians, serves as a technical resource to lower level technicians and may provide work guidance and direction.

CLASSIFICATION STANDARDS:

Positions allocable to this senior technical class independently perform duties primarily focused on GIS data creation and maintenance to support departmental and County-wide geographic information systems capabilities. Incumbents utilize standard GIS tools and utilities to; to create and maintain geodatabase layers, researching a variety of source documents to verify data accuracy and completeness. Incumbents use GIS software to georeference maps and generate standard GIS products including maps. Work assigned involves proficiency in the use of standard GIS software, tools and utilities to carry out assignments ranging from routine to complex which are performed following established instructions as to methods, procedures and guidelines. Deviations are referred to the supervisor for further guidance. Work is reviewed to ensure the accurate application of standard methods, techniques and procedures. Incumbents perform quality assurance reviews to verify the accuracy and completeness of work performed by GIS Technicians and may provide work guidance, direction and support to lower level staff.

Positions in this class differ from those in the GIS Technician I class in that incumbents in the GIS Technician II class are responsible for independently performing complex GIS data entry and maintenance duties and for conducting quality control checks on the work performed by other GIS Technicians. Incumbents in the latter class may provide lead work guidance, direction and training to other GIS technical staff.

GIS Technicians differ from GIS Analysts in that the work performed by GIS Analysts, requires a professional knowledge of the theory and principles of GIS software and database manipulation and product/output development.

Positions in this class differ from those in the Supervising GIS Technician class in that incumbents in the latter class are responsible for supervising a unit of GIS Technicians.

EXAMPLES OF DUTIES:

ESSENTIAL DUTIES:

Uses forms and drop down menus to enter data in GIS databases; follows established procedures to select map data and objects to populate database tables and attributes.

Reviews and interprets data sources and uses basic standard GIS software functions to enter, edit and update GIS spatial data, including points, lines and polygons, and attribute data into databases or layers, following standard procedures.

Researches source documents such as track maps, parcel maps, cadastral maps, legal descriptions, permits, as-built drawings and other records to verify the accuracy and completeness of data prior to input; uses standard scripts and queries to search for and correct missing, incomplete or inaccurate spatial and attribute data.

Following established procedures, enters parameters and generates standard GIS products including maps, shape files, graphics, tables and reports; generates and exports new geodatabase layers for use by internal and external customers; generates custom maps of routine to moderate complexity to meet specific customer requirements; researches and responds to customer requests for information.

Following established procedures, uses GIS software to geo-reference digital maps to align with real ground locations based on applicable data; uses coordinate geometry to draft parcels, easements, boundaries and other features.

Performs quality-control checks of own work or work performed by other GIS Technicians to ensure accuracy and completeness of data and adherence with established policies, procedures, and other mandates applicable to areas of assignment and appropriate formatting of GIS products to meet customer requirements.

Operates GIS-specific hardware including large format plotters and scanners.

May convert spatial data from one coordinate system to another; may convert maps into standard non-GIS formats such as pdf.

May collect field data using a GPS or other equipment as needed.

Serves as a technical resource to other staff and may provide lead work direction, guidance and training.

MINIMUM REQUIREMENTS:

TRAINING AND EXPERIENCE:

Option 1

An Associate's degree in geographic information systems, GIScience, geography or a closely related field requiring at least 18 semester units of equivalent coursework in geographic information systems - AND - six months of full time technical experience in the uses and operations of geographic information systems, including the entry, editing and retrieval of geospatial data in GIS databases.

Successful completion of a recognized GIS certificate program requiring at least 18 semester units of coursework may be substituted for the required Associate's degree.

Option 2

A Bachelor's degree from an accredited college or university with a major in geographic information systems, GIScience, geography or a closely related field requiring equivalent coursework in geographic information systems.

Option 3

One year of full time experience, at the level of Los Angeles County GIS Technician I, in the uses and operations of geographic information systems, including the entry, editing and retrieval of geospatial data in GIS databases.

LICENSE:

A valid California Class C Driver License or the ability to utilize an alternative method of transportation when needed to carry out job-related essential functions.

PHYSICAL CLASS:

2 - Light.

Positions within this class require light physical effort that may include occasional light lifting to a 10 pound limit and some bending, stooping, or squatting. Considerable walking may be involved.



**Los Angeles County
Chief Executive Office**

***Class Specification:* SUPERVISING GEOGRAPHIC INFORMATION SYSTEMS
TECHNICIAN**

ITEM NUMBER: 4412

APPROVAL DATE: 07/31/2012

DEFINITION:

Supervises a unit of GIS Technicians engaged in performing a variety of routine to moderately difficult technical duties in maintaining and supporting County and departmental GIS databases and geographic information systems; serves as a technical resource for staff and handles the resolution of customer requests, issues and problems.

CLASSIFICATION STANDARDS:

Positions allocable to this technical class supervise and participate in the work of GIS Technicians who perform duties primarily focused on GIS data creation and maintenance to support departmental and County-wide geographic information systems capabilities. Incumbents plan, organize, assign and supervise completion of work projects and assignments and coordinate work requirements and issues with customers, other divisions and departments and outside entities. Incumbents review completed work and GIS products in considerable detail to ensure completeness and accuracy, the accurate application of standard methods, techniques and procedures and compliance with legal requirements. Incumbents also perform technical GIS duties including analysis of extracted GIS data and generation of standard and custom GIS maps and other products.

Positions in this class differ from those in the higher level class of GIS Manager I in that incumbents in the GIS Manager I class typically supervise sections comprised of both professional and technical GIS staff engaged in building and maintaining GIS databases and layers and producing timely, accurate and cost effective GIS products and services to meet the operational needs of departments and informational needs of other customers.

EXAMPLES OF DUTIES:

ESSENTIAL DUTIES:

Plans, organizes, assigns, and evaluates the work of a unit of GIS Technicians; coordinates and monitors the completion of work assignments and projects to meet established deadlines and schedules and quality standards.

Provides full administrative and technical supervision of staff including approving time off, evaluation of performance and takes or recommends disciplinary action in accordance with

County policies, up to and including termination.

Participates in developing, implementing and evaluating plans, processes and procedures to achieve established goals and objectives in accordance with department standards.

Conducts staff training; establishes performance requirements and personal development targets; regularly monitors performance and provides training, coaching, monitoring and measuring the overall success of the unit.

Plans and uses spatial analyses and query results to review and compare data to ensure accuracy and completeness of work performed by staff; reviews GIS maps and other products completed by staff to ensure accuracy and conformance with customer requests and other requirements; coordinates work activities and completed results with other divisions, departments and outside entities.

Meets with internal and external customers to identify needs and requirements for data and/or other GIS products; coordinates the exchange of data sets with other entities where appropriate; prepares billing estimates for requested products and services.

Researches and responds to customer requests for information and resolves customer issues, problems and complaints.

Maintains reports of unit work activities and prepares production and other reports; participates in developing policies, procedures and standards applicable to unit work activities.

Performs technical GIS duties; identifies, researches and resolves technical issues and conflicts in data and makes data corrections; creates standard queries to extract and compile data and produce analytical work products; enters parameters and generates GIS products including maps, shape files, graphics, tables and reports.

Performs standard spatial analyses such as buffering, spatial overlays and distance calculations using established methods and procedures.

Operates and provides instruction on the operations of GIS-specific hardware including large format plotters and scanners.

May serve on committees and advisory groups to foster cooperation and ensure consistent practices for storage and sharing of geospatial data.

MINIMUM REQUIREMENTS:

TRAINING AND EXPERIENCE:

Option 1

Three years of experience using standard GIS tools and utilities to enter and correct data in GIS databases and provide other technical support for GIS systems at the level of Los Angeles County Geographic Information Systems Technician II.

Option 2

An Associate's degree in geographic information system or in a field requiring at least 18 semester units of equivalent coursework in GIS - AND - four years of technical experience in the uses and operations of geographic information systems, including the entry, editing and retrieval of geospatial data in GIS databases, including at least six months of experience involving project coordination and/or leadership.

Successful completion of a recognized GIS certificate program requiring at least 18 semester units may be substituted for the required Associate's degree.

LICENSE:

A valid California Class C Driver License or the ability to utilize an alternative method of transportation when needed to carry out job-related essential functions.

PHYSICAL CLASS:

2 - Light.

Positions within this class require light physical effort that may include occasional light lifting to a 10 pound limit and some bending, stooping, or squatting. Considerable walking may be involved.



**Los Angeles County
Chief Executive Office**

***Class Specification:* GEOGRAPHIC INFORMATION SYSTEMS
ANALYST**

ITEM NUMBER: 4413

APPROVAL DATE: 07/31/2012

DEFINITION:

Performs a variety of professional duties in support of County and departmental geographic information systems (GIS) databases and GIS capabilities; generates custom and standard maps, spatial analyses and other GIS products to meet customer requirements; utilizes GIS tools and utilities to convert data to GIS formats and performs data quality checking and correction.

CLASSIFICATION STANDARDS:

Positions allocable to this first level professional class are responsible for carrying out a wide range of difficult and responsible assignments in maintaining the accuracy and quality of GIS database information, developing cartographic products, and data analysis and visualization to support a wide variety of County or departmental functions, processes and analytical requirements. Work of this class requires a professional knowledge of the theory and principles of GIS software and database manipulation and product/output development. Assignments are made in terms of applying established GIS technology principles, methods, procedures and tools to the completion of well defined, moderately difficult GIS functions and projects. Work is reviewed for accuracy and adherence with established methods, procedures and standards.

Positions in this class differ from those in the higher level class of Senior GIS Analyst in that Senior GIS Analysts independently perform work of considerable difficulty and assignments often require adapting conventional methods to the issues involved and interpreting findings in terms of their significance. Finished products are reviewed for adequacy of results and soundness of the procedures and methods used.

Positions in this class differ from those in the lower level technical class of GIS Technician in that GIS Technicians receive specific and detailed instructions as to methods, procedures and guidelines and perform their work in accordance with these instructions, referring deviations to the supervisor for further guidance. Work is reviewed in considerable detail for completeness and accuracy.

EXAMPLES OF DUTIES:

ESSENTIAL DUTIES:

Formats and generates a variety of GIS products including standard and custom maps and map series, standard map templates, shape files, graphics, tables and reports; performs data searches and retrievals.

Extracts and organizes data and performs quality control operations to ensure the accuracy and completeness of all data; researches source documents and/or coordinates with others to resolve missing or conflicting data and other anomalies.

Establishes map area and develops symbology, including thematic and category symbols; uses cartographic and design principles to include legends, insets and reference information.

Overlays maps over aerial imagery to produce custom products and verify and correct geospatial data.

Performs standard spatial analyses such as buffering, spatial overlays and distance calculations using established methods and procedures.

Maintains and updates geospatial databases; extracts, cleans, adjusts and converts data and information from non-GIS systems into GIS formats; converts addresses into GIS formats using geocoding routines.

Researches and corrects problems with data using spatial and logical analyses; researches and verifies legal descriptions and boundaries; uses scripts, queries and other tools to obtain and/or correct missing or incorrect spatial and attribute data.

Converts spatial data from one coordinate system to another, using basic geodetic principles; geo-references digital maps to align with real ground locations, using survey monument, GPS and other data as controls; processes, loads, reviews and updates data in GIS database layers; imports database updates.

Participates in developing and implementing queries, scripts and instructions of moderate difficulty.

Assists in the design, development, testing and implementation of GIS applications of routine to moderate difficulty to meet customer needs and enterprise requirements.

Operates GIS-specific hardware including large format plotters and scanners.

May collect field data using GPS or other equipment as needed; may assist in training and mentoring newer GIS staff members.

MINIMUM REQUIREMENTS:

TRAINING AND EXPERIENCE:

Option 1

A Bachelor's degree from an accredited college or university with a major in geographic information systems, GIScience, geography or a closely related field that required equivalent coursework in geographic information systems - AND - either satisfactory completion of a GIS internship or at least six months of experience in the uses and operations of geographic information systems.

Option 2

An Associate's degree in geographic information systems, GIScience, geography or a field requiring at least 18 semester units of equivalent coursework in geographic information systems - AND - three (3) years of experience performing technical duties in support of geographic information systems using standard GIS tools to populate and manipulate GIS databases and generate GIS products.

Successful completion of a County recognized GIS certificate program requiring at least 18 semester units of coursework may be substituted for the required education.

Option 3

Two (2) years of experience using standard GIS tools and utilities to enter and correct data in GIS databases and provide other technical support for GIS systems and generate GIS products at the level of County of Los Angeles GIS Technician II.

Option 4

A Master's degree or higher from an accredited college or university in geographic information systems, GIScience, geography or a closely related field that required equivalent coursework in geographic information systems.

LICENSE:

A valid California Class C Driver License or the ability to utilize an alternative method of transportation when needed to carry out job-related essential functions.

PHYSICAL CLASS:

2 - Light.

Positions within this class require light physical effort that may include occasional light lifting to a 10 pound limit and some bending, stooping, or squatting. Considerable walking may be involved.



Los Angeles County Chief Executive Office

Class Specification: SENIOR GEOGRAPHIC INFORMATION SYSTEMS ANALYST

ITEM NUMBER: 4414

APPROVAL DATE: 07/31/2012

DEFINITION:

Performs complex professional duties in support of County and departmental GIS databases and geographic information systems capabilities; imports, integrates, extracts and analyzes data for a variety of decision support purposes; develops trend analysis and forecasting models; designs, develops and maintains data layers and data sets.

CLASSIFICATION STANDARDS:

Positions allocable to this senior level professional class are assigned in a departmental GIS section and independently perform duties of considerable difficulty focused on data analysis and visualization, database maintenance, cartography, or application development. Incumbents design, develop and maintain specialized data sets and layers within enterprise GIS database layers or in separate databases to support required analytical functions. Incumbents also develop user/data requirements to meet departmental user/program needs and may serve as departmental business analyst/project leads for application development projects. While work typically involves the use of conventional methods and techniques, assignments often require adapting methods to the issues involved and interpreting findings in terms of their significance. Finished products are reviewed for adequacy of results and soundness of the procedures and methods used.

Positions in this class differ from those in the higher level class of Principal GIS Analyst in that Principal GIS Analysts perform duties primarily focused on large scale GIS applications development projects. Assignments typically involve varied and complex features and novel or ambiguous issues or questions. Completed work is reviewed primarily for general acceptability, feasibility and relevance.

Positions in this class differ from those in the lower level class of GIS Analyst in that incumbents in the class of GIS Analyst perform assignments in maintaining the accuracy and quality of GIS database information and providing products and services to support a wide variety of County or departmental functions. Work is reviewed for accuracy and adherence with established methods, procedures and standards.

EXAMPLES OF DUTIES:

ESSENTIAL DUTIES:

Meets with customers to define data needs and requirements in order to ensure work products meet business needs at the customer, community, service area, regional or County-wide level.

Meets with departmental staff to identify and analyze user requirements for GIS applications; works with internal customers and central agency staff in the planning, design, development, testing and implementation of large-scale GIS applications and web portals.

Coordinates the production and distribution of GIS products; creates geocoding services; monitors geoprocessing steps and performs quality control checks on results; creates highly customized maps and other products.

Develops and implements complex queries to filter data and simple scripts to automate standard tasks that may be used by GIS Technicians and Analysts.

Uses software and tools to integrate multiple specialized databases and layers from a variety of sources, including aerial photography, for analytical purposes.

Converts non-GIS formats into usable GIS data to support terrain, topographic, hydrologic or time-sequenced event analyses;

Converts addresses into GIS formats using geocoding routines and resolves address errors, and may update geocoding algorithms to improve geocoding accuracy.

Uses demographic information to provide geographic breakdowns of populations of interest, developing reports, maps and other analyses to create a concise visual or graphic representation of complex information and ideas.

Uses complex GIS-based and other forecasting models to analyze a variety of interdependent variables including geospatial and other data.

Creates customized tools and menus for new and existing applications; develops logic and writes programs, using applicable development tools and programming languages.

Researches and analyzes historical trends and patterns; models scenarios; compares previous projections to actual trends and evaluates the cause of differences; presents results of analysis in chart, table, map and/or narrative format.

Reviews data requirements and develops and maintains appropriate data sets for purpose of analysis; maintains quality control on large scale data sets; loads and updates data in GIS data repositories.

Researches and validates the accuracy of data; coordinates the resolution of database problems with others; works with other agencies to import/export multiple data layers using sound change control procedures.

Writes reports suitable for both technical and non-technical audiences to communicate

the results of spatial analyses performed to support decision and policy making.

May serve as the departmental business analyst/project leader for application development projects; may independently maintain and/or develop GIS applications of moderate size and complexity; manages simple project timelines and reports status of tasks to supervisors to ensure task completion within established timeframes.

Assists in preparing requests for proposals, bids, contracts and service agreements for GIS software, equipment and consulting services.

Operates, maintains, troubleshoots and supports specialized GIS equipment such as large format printers and scanners.

Serves as a technical resource for other GIS staff; may lead a small team of lower level GIS staff; trains and mentors GIS staff members.

MINIMUM REQUIREMENTS:

TRAINING AND EXPERIENCE:

Option 1

Two years of experience, at the level of Los Angeles County Geographic Information Systems Analyst, maintaining the accuracy and quality of GIS database information and providing products and services, such as custom and standard maps, shape files, graphics, tables and spatial analyses, to support County or departmental functions, processes and analytical requirements.

Option 2

A Bachelor's degree from an accredited college or university with a major in geographic information systems, GIScience, geography or a closely related field that required equivalent coursework in geographic information systems - AND - at least three years of experience in the uses and operations of geographic information systems.

Option 3

A Master's degree from an accredited college or university in geographic information systems, GIScience, geography or a closely related field that required equivalent coursework in geographic information systems - AND - one year of experience in the uses and operations of geographic information systems. Successful completion of a GIS internship may be substituted for a portion of the required experience.

LICENSE:

A valid California Class C Driver License or the ability to utilize an alternative method of transportation when needed to carry out job-related essential functions.

PHYSICAL CLASS:

2 - Light.

Positions within this class require light physical effort that may include occasional light lifting to a 10 pound limit and some bending, stooping, or squatting. Considerable walking may be involved.



Los Angeles County Chief Executive Office

Class Specification: PRINCIPAL GEOGRAPHIC INFORMATION SYSTEMS ANALYST

ITEM NUMBER: 4415

APPROVAL DATE: 07/31/2012

DEFINITION:

Performs highly complex professional duties in support of County and departmental GIS databases and geographic information systems capabilities; participates and may serve as project lead in design, testing, implementation and maintenance of large-scale GIS applications, tools and associated databases; participates in the evaluation of GIS technologies and solutions and the development of GIS policies, standards and procedures.

CLASSIFICATION STANDARDS:

Positions allocable to this principal level professional class independently perform complex duties focused on large-scale GIS application and database projects and highly complex analytical assignments to meet departmental/County-wide business, information and decision-support requirements. Incumbents participate in the evaluation of GIS technologies, tools and solutions and the development of policies, standards and procedures. Incumbents may perform systems and database administration for GIS services. Projects involve the use of a wide range of development tools and software and extensive analysis and adaptation to meet customer requirements. Assignments typically involve varied and complex features and novel or ambiguous issues or questions which require extensive modification and adaptation of standard procedures, methods and techniques to address issues or problems. Incumbents may guide/oversee/mentor or supervise the work of a very small team of other professionals. Completed work is reviewed primarily for general acceptability, feasibility and relevance in meeting County or departmental needs.

Positions in this class differ from those in the higher level class of GIS Specialist in that GIS Specialists are primarily focused on providing technical team leadership in the development of large-scale GIS applications and databases. Work of incumbents in this class requires the use of significant judgment and ingenuity in developing plans and originating approaches to meet project objectives and is reviewed for overall feasibility and cost effectiveness in achieving expected results.

Positions in this class differ from those in the lower level class of Senior GIS Analyst in that incumbents in the class of Senior GIS Analyst perform duties of considerable difficulty focused primarily on data analysis, database maintenance or web application

development. Finished products are reviewed for adequacy of results and soundness of the procedures and methods used.

EXAMPLES OF DUTIES:

ESSENTIAL DUTIES:

Meets with customers to define business and functional requirements to ensure applications and work products meet customer needs; works with departmental customers and central agency staff in the planning, design, development, configuration, testing, implementation and maintenance of large-scale GIS applications and web portals and associated backend processing modules.

Creates customized tools and menus for new and existing applications; develops logic and writes programs, using applicable development tools and programming languages.

Designs and develops complex cartographic representations of GIS data to complete complex mapping tasks in support of customer needs.

Develops map services and performs site configurations for departmental users.

Designs and develops complex cartographic representations of GIS data to complete complex mapping tasks in support of customer needs; designs and develops cartographic standards for use by lower level staff.

Designs and develops cartographic standards for use by lower level staff.

Participates in the design, development and integration of GIS database architectures, naming conventions and standards; identifies data requirements and multi-agency data sources; develops data models and logical database designs for geospatial and other data.

Writes complex queries and scripts to automate repetitive but complex tasks; identifies database discrepancies and automates routines to make corrections to improve database quality.

Creates, edits, imports and manages spatial data to create and maintain enterprise GIS data repositories.

Creates complex, customized tools and menus for new and existing applications; designs, develops, configures, tests, and implements logic and writes programs for complex applications and programs, using applicable development tools and programming languages.

Coordinates the exchange of large scale data sets with other agencies and the integration and migration of data from multiple internal and external sources; analyzes data security issues and establishes applicable security systems, protocols and privileges.

Converts complex addresses into GIS formats making advanced uses of geocoding routines; designs, develops and implements complex geocoding and fuzzy matching

data scripts, algorithms and procedures to achieve a high degree of data accuracy.

Analyzes complex and highly detailed underlying data and systems processes to develop solutions for the integration and interoperability of GIS applications designed for a variety of purposes.

Performs highly complex analytical projects, including spatial and other analyses; writes reports and prepares complex maps and other GIS products.

Performs database and systems administration functions; establishes security protocols and privileges; monitors and tunes database performance; establishes and maintains database backup and recovery processes; monitors server performance and utilization; installs or oversees the installation of software patches and updates; performs software license management functions.

Participates in research and evaluation of new and emerging GIS and data management technologies to evaluate their potential and compatibility with County GIS needs and technology environment; analyzes and evaluates technology solutions to ensure their consistency and integration with County technology standards; participates in developing enterprise GIS policies, standards and procedures.

Participates in preparing and evaluating requests for proposals, bids, contracts and service agreements for GIS software, equipment and consulting services; may administer and oversee work performed by contractors to ensure County requirements are met within contract terms.

Develops training materials and conducts training for GIS professionals and users; serves as an expert resource for other professionals.

May serve as a project leader for complex GIS development and maintenance projects; monitors and reports on progress; meets with internal and external customers to review project status and resolve development/implementation issues.

Reviews cartographic products and geographic analyses by lower level staff to ensure accuracy and completeness.

MINIMUM REQUIREMENTS:

TRAINING AND EXPERIENCE:

Option 1

Two years of experience at the level of Los Angeles County Senior Geographic Information Analyst performing GIS data analysis, database maintenance and/or GIS application development projects and assignments.

Option 2

A Bachelor's degree from an accredited college or university with a major in geographic information systems, GIScience, geography or a closely related field that required equivalent coursework in geographic information systems - AND - at least five years of experience in the uses and operations of geographic information systems, including at least two years of experience performing GIS data analysis, database management and/or GIS web application development projects and assignments. An advanced degree in geographic information systems, GIScience, geography or a closely related field that required equivalent coursework in geographic information systems may be substituted for two years of the required experience.

LICENSE:

A valid California Class C Driver License or the ability to utilize an alternative method of transportation when needed to carry out job-related essential functions.

PHYSICAL CLASS:

2 - Light.

Positions within this class require light physical effort that may include occasional light lifting to a 10 pound limit and some bending, stooping, or squatting. Considerable walking may be involved.



Los Angeles County Chief Executive Office

Class Specification: GEOGRAPHIC INFORMATION SYSTEMS SPECIALIST

ITEM NUMBER: 4416

APPROVAL DATE: 07/31/2012

DEFINITION:

Functions as technical expert and serves as project manager and/or technical team lead in design, development, testing, implementation and maintenance of large-scale County-wide and/or departmental Geographic Information Systems (GIS) applications, tools, backend processing modules and associated data layers and databases.

CLASSIFICATION STANDARDS:

Positions allocable to this specialist level professional class serve as project managers and/or technical team leads for highly complex GIS applications and data management projects. Incumbents are accountable for working collaboratively with customers and project team members to develop and manage projects, plans and budgets to ensure that County-wide or departmental requirements are met in accordance with project scope, deadlines, cost, quality expectations and other critical success factors. Incumbents possess extensive knowledge GIS technology and apply advanced methodologies, principles, and concepts to coordinate major projects. Work requires the use of significant judgment and ingenuity in developing plans and originating approaches to meet project objectives and is reviewed for overall feasibility and cost effectiveness in achieving expected results.

Positions in this class differ from those in the class of GIS Section Manager in that GIS Section Managers are responsible for supervising and managing the work of a GIS section. Duties involve carrying out a wide range of professional responsibilities under administrative direction in terms of County and/or departmental business objectives, policies and cost/budget parameters.

Positions in this class differ from those in the lower level class of Principal GIS Analyst in that incumbents in the class of Principal GIS Analyst independently perform complex duties focused on large-scale GIS application and database projects and highly complex analytical assignments to meet departmental/County-wide business, information and decision-support requirements. Completed work is reviewed primarily for general acceptability, feasibility and relevance in meeting County or departmental needs.

EXAMPLES OF DUTIES:

ESSENTIAL DUTIES:

Meets with customers to analyze business and operational processes; develops clearly articulated business and functional requirements and creates design for GIS technology solutions.

Develops specifications; defines data requirements, data sources and design logic; leads and participates in research and evaluation of alternative methods and approaches.

Designs and develops county-wide cartographic standards for use by lower level and County-wide GIS staff.

Recommends appropriate solutions and implementation strategies based on needs, requirements and resources and ensures consideration of best practices in the development of conceptual proposals for technology solutions.

Working with project/team members, designs, develops, configures, tests, implements and maintains large-scale GIS applications and web portals, backend processing modules and associated data layers and databases.

Using standard project management methodologies, tools and techniques, provides project and technical leadership in: defining project objectives, scope of work, budget/cost breakdowns, schedules and critical path/project milestones; estimates team resource requirements; assigns, monitors and manages the completion of project tasks to meet time, quality and cost expectations.

Manages project change control processes; reviews project deliverables and ensures sound quality assurance processes are followed.

Meets with internal and external customers to communicate project status and to resolve development/implementation problems and bottlenecks; facilitates and participates in the resolution of complex technical issues; prepares reports on project progress, identified technical problems or budget/cost change issues.

Analyzes, develops, implements and maintains processes for enhancing the utilization of GIS technologies and solutions to support department/County business requirements and GIS initiatives.

Participates in preparing and evaluating requests for proposals, bids, contracts and service agreements for GIS software, equipment and consulting services; may administer contracts.

Participates in performing complex technical work associated with projects; researches alternatives and recommends appropriate, cost effective technology solutions for the architecture and design of large-scale GIS applications and databases.

Participates in the design, development, integration and maintenance of GIS database architectures, data layers and databases; conducts and resolves complex data validity issues; manages the creation and maintenance of enterprise GIS data repositories.

May serve as a project leader for complex GIS development and maintenance projects; monitors and reports on progress; meets with internal and external customers to review project status and resolve development/implementation issues.

Manages highly complex analytical projects, including spatial and other analyses and forecast modeling; writes reports and prepares complex maps and other GIS products.

Performs highly complex analytical projects with departmental and county-wide scope, and develops analytical framework for lower level staff to follow.

Creates, edits, and imports complex, interrelated spatial data to create and maintain enterprise GIS data repositories.

Develops geospatial data structures to model complex, interrelated geographic features that are used by lower level staff to create and maintain enterprise GIS data.

Performs application, database and system administration functions; establishes security protocols and privileges; monitors and tunes database performance; establishes and maintains database backup and recovery processes; monitors server performance and utilization.

Writes complex queries and scripts to automate highly complex tasks; identifies database discrepancies and automates routines to make corrections to improve database quality.

Participates in research and evaluation of new and emerging GIS and data management technologies to evaluate their potential and compatibility with County GIS needs and technology environment; analyzes and evaluates technology solutions to ensure their consistency and integration with County technology standards; participates in developing enterprise GIS policies, standards and procedures.

Guides and mentors other GIS professionals; develops training materials and conducts training for GIS professionals and users; serves as an expert resource for other professionals.

Reviews cartographic products and geographic analyses by lower level staff to ensure accuracy and completeness.

MINIMUM REQUIREMENTS:

TRAINING AND EXPERIENCE:

Option 1

Two years of experience at the level of Principal Geographic Information Systems Analyst performing complex GIS application and database projects and analytical assignments to meet departmental/ County-wide business, information and decision-support requirements.

Option 2

A Bachelor's degree from an accredited college or university with a major in geographic information systems, GIScience, geography or a closely related field that required equivalent coursework in geographic information systems - AND - seven years of experience in the uses and operations of geographic information systems, including at least two years of experience performing complex GIS application and database projects and highly complex analytical assignments to meet broad scale business, information and decision-support requirements. An advanced degree in geographic information systems, GIScience, geography or a closely related field that required equivalent coursework in geographic information systems may be substituted for two years of the required experience.

LICENSE:

A valid California Class C Driver License or the ability to utilize an alternative method of transportation when needed to carry out job-related essential functions.

PHYSICAL CLASS:

2 - Light.

Positions within this class require light physical effort that may include occasional light lifting to a 10 pound limit and some bending, stooping, or squatting. Considerable walking may be involved.



Los Angeles County Chief Executive Office

***Class Specification:* GEOGRAPHIC INFORMATION SYSTEMS MANAGER I**

ITEM NUMBER: 4417

APPROVAL DATE: 07/31/2012

DEFINITION:

Manages a section responsible for developing and maintaining geospatial data layers and databases and provides geographic information systems (GIS) products and services to meet departmental operational requirements and customer needs; serves as technical resource for departmental managers on the uses of GIS technologies for enhanced business efficiencies.

CLASSIFICATION STANDARDS:

Positions allocable to this first level management class are assigned either in a central or departmental GIS section, receive direction from a higher-level GIS, Information Technology or departmental business manager and are responsible for supervising and managing a section engaged in building and maintaining GIS databases and layers and producing timely, accurate and cost effective GIS products and services to meet the operational needs of departments or the informational needs of other customers. Work requires a thorough knowledge of the uses and operations of GIS technology and solutions and the ability to plan and organize work processes to meet customer and user needs. Assignments are made in terms of departmental business objectives, customer requirements and cost/budget parameters and completed work is evaluated in terms of fulfillment of those objectives and requirements.

Positions in this class differ from those in the higher level management class of GIS Manager II in that GIS Manager II's serve as the highest level GIS manager in a central or line department and are responsible for managing a division or large section engaged in providing timely, efficient and cost effective delivery of GIS applications, products, services and/or data to meet departmental/County programmatic and operational needs. Work of GIS Manager II's requires an expert knowledge of the uses and operations of GIS technology and solutions and the ability to develop plans and originate approaches to meet County and/or departmental needs. Assignments are made in terms of County and/or departmental business objectives, policies and cost/budget parameters. Completed work is evaluated in terms of fulfillment of division/section objectives to support departmental policy objectives and program goals.

EXAMPLES OF DUTIES:

ESSENTIAL DUTIES:

Performs spatial analyses such as buffering, spatial overlays and distance calculations using established methods and procedures.

Writes reports and prepares custom maps and other GIS products.

Plans, organizes, supervises, manages and evaluates the work of the assigned section; with staff, develops, implements and monitors work plans to achieve goals and objectives and to ensure adherence to standards.

Contributes to the development of the division/section budget and monitors expenditures against budget.

Participates in the development, implementation and evaluation of departmental goals and objectives.

Serves as a technical resource to departmental managers and provides highly professional advice to users on the design and uses of GIS technologies and products that will enhance efficiency and effectiveness of business processes.

Meets with users to establish specific requirements and priorities; develops billing cost estimates for customer product and service requests.

Supervises and manages development and maintenance of geospatial data layers and databases to meet high standards for completeness, accuracy and utility; supervises and participates in quality control checks of data conversion from non-GIS formats into GIS data; supervises and coordinates the production of standard maps and other products to meet on-going and ad-hoc business and customer information needs.

Creates and uses queries and scripts to identify, analyze and correct spatial and attribute data; oversees and coordinates the processing and loading of GIS data.

Reviews the work of staff to ensure requirements and standards have been met; reviews GIS products for accuracy, completeness and aesthetics and for compliance with customer requirements.

Coordinates the delivery of services and sharing of data with other departments and outside entities.

Leads and participates in the design and development of GIS applications and tools to automate processes and facilitate analyses and reporting; participates in and may serve as project manager in the design, development, modification, enhancement and upgrading of applications and databases to provide mapping and other GIS services.

Performs complex technical work associated with projects and on-going assignments; manages, maintains and administers GIS databases to ensure integrity, completeness, accuracy and accessibility.

Guides and mentors GIS professional and technical staff; develops procedural manuals

and technical guides; conducts technical training for GIS staff and other users.

May participate in the preparation and evaluation of proposals, bids, contracts and service agreements for GIS software, equipment and consulting services.

May serve on committees and advisory groups to foster cooperation and ensure consistent practices for storage and sharing of geospatial data.

MINIMUM REQUIREMENTS:

TRAINING AND EXPERIENCE:

Option 1

Two years of experience performing GIS data analysis, database maintenance and/or GIS application development projects and assignments as a class Principal GIS Analyst.

Option 2

Three years of experience performing highly complex professional duties focused on large-scale GIS application and database projects and GIS map and product development assignments.

Option 3

A Bachelor's degree from an accredited college or university with a major in geographic information systems, GIScience, geography or a closely related field that required equivalent coursework in geographic information systems - AND - at least five years of experience in the uses and operations of geographic information systems, including two years of experience performing GIS data analysis, database management and/or GIS application development projects and assignments. A Master's degree in geographic information systems, GIScience, geography or a closely related field that required equivalent coursework in geographic information systems may be substituted for two years of the required experience.

LICENSE:

A valid California Class C Driver License or the ability to utilize an alternative method of transportation when needed to carry out job-related essential functions.

PHYSICAL CLASS:

2 - Light.

Positions within this class require light physical effort that may include occasional light lifting to a 10 pound limit and some bending, stooping, or squatting. Considerable walking may be involved.



Los Angeles County Chief Executive Office

Class Specification: GEOGRAPHIC INFORMATION SYSTEMS MANAGER II

ITEM NUMBER: 4418

APPROVAL DATE: 07/31/2012

DEFINITION:

Manages a division or section responsible for providing geographic information systems (GIS) products and services including the development and maintenance of GIS applications, tools, and databases to meet departmental or County-wide operational and decision-support needs; serves as expert to departmental managers on the uses to GIS technologies to enhance business efficiencies.

CLASSIFICATION STANDARDS:

Positions allocable to this second level management class are assigned in either a central or departmental GIS division or large section, receive direction from a higher-level administrative manager and are responsible for the timely, efficient and cost effective delivery of GIS applications, products, services and/or data to meet departmental/County programmatic and operational needs. Incumbents serve as the highest level GIS manager in their departments. Work requires an expert knowledge of the uses and operations of GIS technology and solutions and the ability to develop plans and originate approaches to meet user needs in a highly effective manner. Assignments are made in terms of County and/or departmental business objectives, policies and cost/budget parameters. Completed work is evaluated in terms of fulfillment of section objectives to support departmental policy objectives and program goals.

Positions in this class differ from those in the lower level class of GIS Manager I in that incumbents in the class of GIS Manager I may report to a GIS Manager II and are responsible for supervising and managing a section primarily engaged in building and maintaining GIS databases and layers and producing timely, accurate and cost effective GIS products and services to meet the operational needs of departments and informational needs of other customers.

EXAMPLES OF DUTIES:

ESSENTIAL DUTIES:

Performs spatial analyses such as buffering, spatial overlays and distance calculations using established methods and procedures.

Writes reports and prepares custom maps and other GIS products.

Plans, organizes, controls, integrates and evaluates the work of the assigned division or section; with staff, develops, implements and monitors work plans to achieve goals and objectives.

Develops or contributes to development of the division/section budget and monitors expenditures against budget; participates in the development, implementation and evaluation of departmental goals and objectives.

Serves as a technical expert to departmental managers and advises on the design and uses of GIS technologies and products that will enhance business processes and support for decision and policy making.

Supervises and oversees development, implementation and evaluation of programs, work processes, systems, policies and procedures to achieve annual goals, objectives and work standards.

Meets with customers to establish project and assignment priorities; works with users to identify specific requirements for projects and products to meet their needs; develops billing cost estimates for customer product and service requests.

Manages the design, development, enhancement and delivery of GIS products and services to meet on-going and ad-hoc business and information needs; manages development and maintenance of geospatial data layers and databases; manages and may participate in the design and development of GIS applications and tools to automate processes and facilitate analyses and reporting.

Reviews the work of staff to ensure requirements and standards have been met; reviews GIS products for accuracy, completeness and aesthetics and for compliance with customer requirements.

Coordinates the delivery of services and sharing of data with other departments and outside entities.

Oversees or performs complex technical work associated with projects and on-going assignments; researches alternatives and recommends appropriate, cost effective technology solutions.

Works with departmental customers and central agency staff in planning, design, development, configuration, testing, implementation and maintenance of large-scale GIS applications and web portals, backend processing modules and associated data layers and databases.

Oversees and participates in the design, development, integration and maintenance of GIS database architectures, data layers and databases; performs highly complex analytical projects, including spatial and other analyses and forecast modeling; writes reports and prepares complex maps and other GIS products.

Analyzes, researches, develops, implements and maintains processes for enhancing

the utilization of GIS technologies and solutions to support department/County business requirements and GIS initiatives.

Stays abreast of new and emerging GIS and data management technologies and participates in evaluating and recommending on their potential and compatibility with County GIS needs and technology environment.

Analyzes and evaluates technology solutions to ensure their consistency and integration with County technology standards; participates in developing enterprise GIS policies, standards and procedures.

Prepares and evaluates proposals, bids, contracts and service agreements for GIS software, equipment and consulting services or participates in doing so; may administer contracts.

Guides and mentors other GIS professionals; develops training materials and conducts training for GIS professionals; serves as an expert resource and provides advice to other departments or agencies on complex technical GIS issues.

May serve on steering committees and advisory groups to foster cooperation and ensure consistent practices for storage and sharing of geospatial data.

May conduct technical training for GIS staff and other users on the uses and operations of GIS systems and databases.

MINIMUM REQUIREMENTS:

TRAINING AND EXPERIENCE:

Option 1

Two years of experience supervising and managing a section comprised of professional and technical staff engaged in building and maintaining GIS databases and layers and producing timely, accurate and cost effective GIS products and services to meet the operational needs of departments and informational needs of other customers at the level of Los Angeles County GIS Manager I.

Option 2

Five years of progressively responsible experience leading complex GIS application and database projects and analytical assignments to meet broad scale business, information and decision-support requirements; two years must be at the level of Los Angeles County GIS Specialist.

Option 3

A Bachelor's degree from an accredited college or university with a major in geographic information systems, GIScience, geography or a closely related field that

required equivalent coursework in geographic information systems - AND - at least seven years of experience in the uses and operations of geographic information systems, including at least three years of experience performing complex GIS application and database projects and highly complex analytical assignments to meet broad scale business, information and decision-support requirements. An advanced degree in geographic information systems, GIScience, geography or a closely related field that required equivalent coursework in geographic information systems may be substituted for two years of the required experience.

LICENSE:

A valid California Class C Driver License or the ability to utilize an alternative method of transportation when needed to carry out job-related essential functions.

PHYSICAL CLASS:

2 - Light.

Positions within this class require light physical effort that may include occasional light lifting to a 10 pound limit and some bending, stooping, or squatting. Considerable walking may be involved.