

Honorable Chair and Members  
of the Civil Service Commission  
City Hall  
Torrance, CA

**SUBJECT: Human Resources - Approve the Revised Class Specification for Systems Analyst**

**RECOMMENDATION**

Recommendation of the Human Resources Director and the Civil Service Commission that the City Council approve the revised class specification for Systems Analyst.

**FUNDING**

Not applicable.

**BACKGROUND**

At your meeting on May 22, 2007, your Honorable Body adopted the Two-Year Operating Budget for Fiscal Years 2007-2009. As part of that budget, a Systems Analyst position was added to the Communications and Information Technology Department. This position was added to provide supervision and technical expertise over the City's network services. In response to growing demands, the network infrastructure has grown exponentially and network services have evolved such that the experience and expertise of a Systems Analyst is required. The Information Technology Director has requested that the class specification be revised to reflect the changes in organizational structure.

The Civil Service Commission at their meeting of January 28, 2008 unanimously approved the proposed class specification of Systems Analyst which is submitted to your Honorable Body for your review and approval. Representatives from Management and TPSA have agreed on the revised class specification which is submitted for your review and approval.

**ANALYSIS**

The proposed classification is a broad classification that includes four distinct sub-classes; Applications and Programming, Network Operations, IT User Support and IT Network Support.

The areas are defined as follows:

**Applications and Programming:** supports computer application systems and subsystems.

**Network Operations:** supports Local and Wide Area Networks and related network software and hardware.

**IT User Support:** coordinates and performs support activities related to computer installation, Helpdesk problems and training.

**IT Network Support:** coordinates and performs support activities related to the centralized server IT hardware and software.

Language in the Examples of Duties and Qualification Guidelines sections have been added or revised to reflect the current responsibilities and to reflect changes in technology as appropriate.

The Education and Experience section reflects the combination of education and experience that would provide the required knowledge and skills for the assignment.

Respectfully submitted,

CIVIL SERVICE COMMISSION  
Thomas Doty, Chair

ELAINE M. WINER  
Human Resources Director

By Melody P. Lawrence  
Melody P. Lawrence  
Human Resources Manager

CONCUR

Elaine M. Winer  
Elaine M. Winer  
Human Resources Director

Leslie Cortez  
Leslie Cortez  
TPSA, Vice President

NOTED:

LeRoy J. Jackson  
LeRoy J. Jackson  
City Manager

Attachments:

- A. Revised class specification Systems Analyst
- B. Existing class specification Systems Analyst
- C. Civil Service Commission Item of January 28, 2008

## ATTACHMENT A

Code: 3458  
City of Torrance  
Civil Service

March 2008  
(Revised)

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## Systems Analyst

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### Definition

Under direction, performs advanced system analysis and design, analysis of functional and conceptual work-flow procedures and conversion into requirement specifications, development of solutions ranging from routine to complex, design and procedure documentation, and trains system users in one of the following areas:

**Applications and Programming:** supports computer application systems and subsystems.

**Network Operations:** supports Local and Wide Area Networks and related network software and hardware.

**IT User Support:** coordinates and performs support activities related to computer installation, Helpdesk problems and training.

**IT Network Support:** coordinates and performs support activities related to the centralized server IT hardware and software.

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### Distinguishing Characteristics

The Systems Analyst is distinguished from the Division Manager in that the incumbent does not have responsibility for an entire Division; and distinguished from the Information Technology Analyst by the level and complexity of the systems and projects assigned and for supervisory responsibility of lower level staff. As experience accrues, incumbents may act as a Project Lead in the development of complex projects and are expected to bring projects to conclusion. Work is reviewed intermittently while in progress and upon completion for overall results. Work may require the development of recommendations consistent with directives, policies and regulations.

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### Supervision Exercised/Received

Receives direction from higher level department and/or management staff and may provide supervision to lower level staff.

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### Examples of Essential Duties

*The following duties represent the principal job duties; however, they may vary depending upon actual assignment, and are not all-inclusive.*

- Confers with user department personnel to ascertain specific design requirements.
- Coordinates joint activities of project teams, consisting of city staff and vendors, in implementing and maintaining systems.
- Provides guidance for significant project phases such as planning, design, or testing.
- Provides problem analysis support to diagnose and remedy problems in operating procedures, hardware and system software.
- Conducts detailed systems analysis and design studies and prepares concept and design specifications for functional sub-systems.
- Establishes and reviews procedures and evaluates new or revised technology solutions to ascertain that standards are being maintained.
- Supervises staff; including instructing, assigning, planning and reviewing work, evaluating work performance and completing performance evaluations, coordinating activities, maintaining standards, allocating personnel, acting on employee problems, selecting new employees and implementing employee discipline. Providing training, advice and assistance as needed.

- Demonstrates continuous effort to improve operations, decrease turnaround times, streamline work processes, and work cooperatively and jointly to provide quality seamless customer service.

*In addition to the duties listed above, incumbents assigned to the specific areas listed below perform the following:*

### **Applications and Programming**

- Prepares specifications for revision of existing computer programs, including operating procedures for users and computer operating personnel.
- Research, plan and implement new departmental applications and technologies.
- Prepares test material for each program and reviews the results.
- Analyzes problems and prepares concept design specifications for existing system; trouble-shoots existing and new program applications.
- Researches, recommends and implements applications upgrades, enhancements, and required modifications to keep current and meet the end-user needs.
- Prepares detailed documentation and flow charts.
- Develop custom statistical summary reports utilizing systems currently in use by the City (such as: Access, SQL, and/or Crystal reports. Database Management Systems (DBMS) import and export techniques.

### **Network Operations**

- Maintains and configures Local Area Networks (LANs) and Wide Area Networks (WANs) utilizing various network management applications and common industry diagnostic tools and technologies.
- Acts proactively and reactively to monitor network activity, in order to maintain optimum performance, minimize down-time, and insure optimum network performance and security.
- Installs, configures and maintains network equipment such as, but not limited to, routers, switches, hubs, and other related equipment and cabling schemes.

### **IT User Support**

- Handles non-routine or complex installation, testing, implementation, and maintenance for all reported IT hardware and software problems, network or system problems and training.
- Provides technical user support and training.
- Monitors computer activity to maintain optimum performance.
- Performs regular security audits to safeguard equipment and system.
- Manages and administers user passwords.

### **IT Network Support**

- Handles non-routine or complex maintenance, testing, monitoring, security and troubleshooting and technical support for all centralized and server IT hardware and software.
- Administers and maintains email accounts, internet access, and server room.
- Monitors computer use activity to maintain optimum performance.
- Performs security audits to safeguard equipment and system.
- Assists in the research of new technical solutions to improve the City's network functions.

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### **Examples of Other Duties**

*The following duties represent duties that are generally performed by this position, but are not considered to be principal job duties.*

- Serves as project leader responsible for systems analysis and design for a complex or broad functional application.
- Facilitates joint business or technical staff analysis and design working sessions.
- Prepares annual operational budgets, authorizes expenditures, forecasts inventory replacement funding, and drafts capital projects and program modifications.

- Performs related duties as required.
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## **Qualification Guidelines**

### **Knowledge of:**

- Flow charting, data and process modeling, traffic analysis, form design, and control and measurement procedures.
- Research techniques, methods, procedures and reporting methods.
- Data input methods and control techniques used for computer processing.
- Mainframe, minicomputers, personal computer, LANS, and WANS.
- Application security and privacy techniques.
- Methods of structured systems analysis and design, and information engineering.
- Proper English usage, spelling, grammar and punctuation.
- City policies and procedures affecting departmental operations.
- City and Department Mission including strategic goals and objectives.
- General City Operations.
- Applicable local, State and Federal laws and regulations.
- Project organization necessary to achieve objectives, controls resources, and report status.
- LAN, WAN, Internet, and Intranet networking characteristics, protocols, technologies, applications, and integration concepts.
- Principles and application of statistical methods.
- Principles and practices of personnel management and supervision.
- Facilitation of work groups and design teams.

In addition to the above, incumbents assigned to the specific areas listed below are also expected to have knowledge of the following:

### **Application and Programming**

- Computer systems and applications.
- Data base organization access and retrieval techniques.
- Principles of conducting a business system analysis, design, and specifications including the analysis of office procedures, equipment and methods.
- Forms design and report layouts.
- Application and data security.

### **Network Operations**

- Contemporary network environments, hardware platforms, topologies and operating structures, and related equipment and tools.
- Current Federal, State and local legislation pertaining to network technology.
- Routing, switching and hub concepts, circuit and packet switching, broadcast vs. collision domains, network address translation and configurations, and firewall technology.
- Network traffic variances, performance parameters, traffic collisions, packet types and network security/privacy procedures.

### **IT User Support**

- Computer integration to communication devices, control systems, and other computerized devices.
- Computer security, software flaws, and patches.
- Helpdesk technologies.

### **IT Network Support**

- Computer integration to communication devices, control systems, and other computerized devices.
- Computer security, software flaws, and patches.
- Centralized computer hardware design, fault tolerance, and capacity planning.

**Ability to:**

- Understand and carry out complex oral and written instructions.
- Analyze, interpret and present research findings to prepare design specifications.
- Conceive and develop a variety of solutions to functional problems and transform abstract ideas to easily understood procedures.
- Develop data and process models using structured analysis and design, and information engineering techniques.
- Produce written documents in the English language with clearly organized thoughts with proper sentence construction, punctuation, and grammar.
- Comprehend and make inferences from written material.
- Utilize industry standard diagnostic and management tools.
- Communicate orally in the English language with customers, clients, and the public in face-to-face, one-on-one and group settings.
- Review and check the work products of others to ensure conformance to standards.
- Anticipate problems, develop solutions, and implement a plan of action; reason both logically and creatively.
- Follow-through on assignments including providing feedback and continual refinement.
- Exercise independent action and judgment within established guidelines.
- Learn and utilize new skills and information to improve job performance and efficiency.
- Perform several tasks simultaneously, prioritize and meet deadlines.
- Maintain confidentiality and exercise sound judgment.
- Establish rapport quickly and effectively with groups and individuals and maintain effective working relationships with those encountered in the course of work both internal and external to the City.

**License or Certificate**

Must possess and maintain an appropriate California driver's license. Professional certification in applications, hardware and systems used by the City is highly desirable.

**Education and Experience**

*Any combination of education and experience that provides the required knowledge and skills is qualifying. A typical way to obtain the knowledge and skills would be:*

An Associate's degree in Data Processing or Computer Sciences or a Certificate in Data Processing and;

*Applications and Programming:*

Five years of progressively responsible information technology experience consisting of systems design, program design, coding, testing, implementing and documenting business application systems currently in use by the City.

*Network Operations:*

Five years of journey level related experience LAN/WAN and telecommunications in an information technology organization with at least two years of professional technical experience working with network operations and equipment currently in use by the City.

*IT User Support:*

Five years of journey level related experience in technical computer support with at least two years of professional technical experience working with computer equipment and software currently in use by the City.

*IT Network Support:*

Five years of journey level experience in computer support with at least two years of professional technical experience working with computer equipment and network software currently in use by the City.

**Special Requirements**

*Performance of the essential duties of this class includes the following physical demands and/ or working conditions.*

Requires entering of data or information into a keyboard device and the ability to remain in a sitting position for extended periods of time. Also requires some walking and climbing, some lifting and carrying objects of moderate weight (up to 50 pounds) and/or the operation of vehicles or tools in which manipulative skills and sufficient hand/eye coordination to perform semi-skilled repetitive movements are used. Tasks require sound and visual perception and discrimination. Tasks are regularly performed without exposure to adverse environmental conditions.

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**Career Ladder Information**

Experience gained in this classification, in addition to training and course work, may serve to meet the qualification guidelines for Information Technology Manager, Communications Manager, or Communications and Information Technology Director.



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## Systems Analyst

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### Definition:

Under direction, performs systems analysis and design of systems as related to computer applications, including basic computer system analysis and design, analysis of functional and conceptual work-flow procedures and conversion into requirement specifications, development of solutions ranging from routine to complex applications, design and procedure documentation, and trains computer system users: and performs related work as required.

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### Distinguishing Characteristics:

Distinguished from the division head in that the incumbent does not have responsibility for a division within the department. Distinguished from the Information Technology Analyst by the level and complexity of the systems and projects assigned and that the incumbent may be responsible for supervision of lower level support and professional staff. As experience accrues, incumbents may act as a Project Lead in the development of complex computer projects or department specific application needs and are expected to bring projects to conclusion. As incumbents progress from the journey to the senior levels of the position, they are expected to function with respective degrees of increasing independence. Work is reviewed intermittently while in progress and upon completion for overall results. Work may require the development of recommendations consistent with directives, policies and regulations.

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### Supervision Exercised/Received:

Receives direction from higher level department and/or management staff and may provide direct supervision to lower level staff.

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### Examples of Essential Duties:

*The following duties represent the principal job duties; however, they may vary depending upon actual assignment, and are not all-inclusive.*

- Confers with user department personnel to ascertain specific design requirements.
- Prepares comprehensive project plans and schedules.
- Coordinates joint activities of project teams.
- Provides guidance for significant phases of computer applications such as planning, design, or testing.
- Provides problem analysis support to diagnose and remedy problems in operating procedures, computer hardware, system software, and computer application programs.
- Conducts detailed systems analysis and design studies; prepares concept and design specifications for functional computer sub-systems, including the analysis and preparation of functional work flow diagrams, input and output forms, and detailed computer program specifications.
- Establishes and reviews procedures and evaluates new or revised applications to ascertain that standards are being maintained.
- Supervises staff; supervisory duties include instructing, assigning, planning and reviewing work, evaluating work performance and completing performance evaluations, coordinating activities, maintaining standards, allocating personnel, acting on employee problems, selecting new employees and implementing employee discipline. Providing training, advice and assistance as needed.
- Analyzes alternative means of gathering input data and generating output data to select most feasible and economical methods.

- Evaluates improvements, benefits and possible modification of existing systems upon request.
  - Locates and corrects discrepancies in operating systems and test programs.
  - Implements completed applications and performs subsequent testing.
  - Demonstrates continuous effort to improve operations, decrease turnaround times, streamline work processes, and work cooperatively and jointly to provide quality seamless customer service.
  - Works with vendors in implementing and maintaining systems.
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**EXAMPLES OF OTHER DUTIES:**

*The following duties represent duties that are generally performed by this position, but are not considered to be principal job duties.*

- Serves as project leader responsible for systems analysis and design for a complex or broad functional application;
  - Facilitates joint business or technical staff analysis and design working sessions;
  - Performs related duties as required.
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**Qualification Guidelines:****Knowledge of:**

- Flow charting, data modeling, process modeling, form design, and control procedures.
- Research techniques, methods and procedures.
- Data input methods and control techniques used for computer processing.
- Mainframe, minicomputers, personal computer, LANS, and WANS.
- Application security and privacy techniques.
- Project management.
- Methods of structured systems analysis and design, and information engineering.
- Proper English usage, spelling, grammar and punctuation.
- City policies and procedures affecting departmental operations.
- City and Department Mission including strategic goals and objectives.
- General City Operations.
- Applicable local, State and Federal laws and regulations.

*In addition to the above, incumbents at the senior level are required to have knowledge in the following:*

- Principles and application of statistical methods.
- Principles and practices of personnel management and supervision.
- Facilitation of work groups and design teams.

**Ability to:**

- Understand and carry out complex oral and written instructions.
- Analyze, interpret and present research findings to prepare design specifications.
- Conceive and develop a variety of solutions to functional problems and transform abstract ideas to easily understood procedures.
- Develop data and process models using structured analysis and design, and information engineering techniques.
- Produce written documents in the English language with clearly organized thoughts with proper sentence construction, punctuation, and grammar.
- Comprehend and make inferences from written material.
- Utilize industry standard diagnostic and management tools.
- Communicate orally in the English language with customers, clients, and the public in face-to-face, one-on-one and group settings.
- Review and check the work products of others to ensure conformance to standards.

- Anticipate problems, develop solutions, implement a plan of action; reason both logically and creatively.
  - Follow-through on assignments including providing feedback and continual refinement.
  - Exercise independent action and judgment within established guidelines.
  - Learn and utilize new skills and information to improve job performance and efficiency.
  - Perform several tasks simultaneously, prioritize and meet deadlines.
  - Maintain confidentiality and exercise sound judgment.
  - Establish rapport quickly and effectively with groups and individuals and maintain effective working relationships with those encountered in the course of work both internal and external to the City.
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**License or Certificate:**

Must possess and maintain an appropriate California driver's license. Professional certification in applications, hardware and systems used by the City is highly desirable.

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**Education and Experience:**

Any combination of education and experience that provides the required knowledge and skills is qualifying. A typical way to obtain the knowledge and skills would be:

An Associates degree in Data Processing or Computer Sciences; or a Certificate in Data Processing and three years of progressively responsible information technology experience consisting of systems design, program design, coding, testing, implementing and documenting business application systems such as those currently in use by the City. Additional qualifying experience may be substituted for the required education

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**Special Requirements:**

*Performance of the essential duties of this class includes the following physical demands and/or working conditions.*

Requires entering of data or information into a keyboard device and the ability to remain in a sitting position for extended periods of time. Also requires some walking and climbing, some lifting and carrying objects of moderate weight (up to 50 pounds) and/or the operation of vehicles or tools in which manipulative skills and sufficient hand/eye coordination to perform semi-skilled repetitive movements are used. Tasks require sound and visual perception and discrimination. Tasks are regularly performed without exposure to adverse environmental conditions.

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**Career Ladder Information:**

Experience gained in this classification in addition to training and course work may serve to meet the qualification guidelines for Information Technology Manager or Information Technology Director.



January 28, 2008  
Commission Meeting

Honorable Chair and Members  
of the Civil Service Commission  
City Hall  
Torrance, CA

Subject: Approval of the Revised Class Specification for Systems Analyst

### **RECOMMENDATION**

The Human Resources Director recommends that your Honorable Body approve and forward the revised class specification for Systems Analyst to the City Council for adoption.

### **BACKGROUND**

At their meeting on May 22, 2008, the City Council adopted the Two-Year Operating Budget for Fiscal Years 2007-2009. As part of that budget, a Systems Analyst position was added to the Communications and Information Technology Department. This position was added to provide supervision and technical expertise over the City's network services. In response to growing demands, the network infrastructure has grown exponentially and network services have evolved such that the experience and expertise of a Systems Analyst is required. The Information Technology Director has requested that the class specification be revised to reflect the changes in organizational structure.

Representatives from Management and the Torrance Professional and Supervisory Association (TPSA) have agreed on the revised class specification that is submitted for your review and approval.

### **ANALYSIS**

The proposed classification is a broad classification that includes four distinct sub-classes; Applications and Programming, Network Operations, IT User Support and IT Network Support.

The areas are defined as follows:

**Applications and Programming:** supports computer application systems and subsystems.

**Network Operations:** supports Local and Wide Area Networks and related network software and hardware.

**IT User Support:** coordinates and performs support activities related to computer installation, Helpdesk problems and training.

**IT Network Support:** coordinates and performs support activities related to the centralized server IT hardware and software.

Language in the Examples of Duties and Qualification Guidelines sections have been added or revised to reflect the current responsibilities and to reflect changes in technology as appropriate.

The Education and Experience section reflects the combination of education and experience that would provide the required knowledge and skills such as:

*An Associate's degree in Data Processing or Computer Sciences or a Certificate in Data Processing and Experience as noted below:*

***Applications and Programming:***

Five years of progressively responsible information technology experience consisting of systems design, program design, coding, testing, implementing and documenting business application systems currently in use by the City.

***Network Operations:***

Five years of journey level related experience LAN/WAN and telecommunications in an information technology organization with at least two years of professional technical experience working with network operations and equipment currently in use by the City.

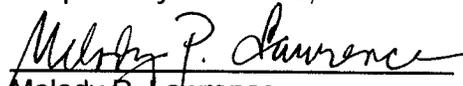
***IT User Support:***

Five years of journey level related experience in technical computer support with at least two years of professional technical experience working with computer equipment and software currently in use by the City.

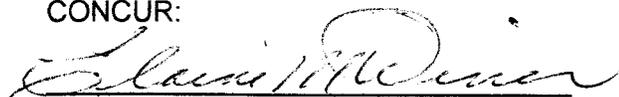
***IT Network Support:***

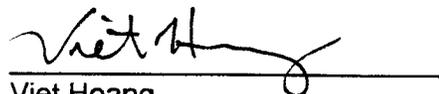
Five years of journey level experience in computer support with at least two years of professional technical experience working with computer equipment and network software currently in use by the City.

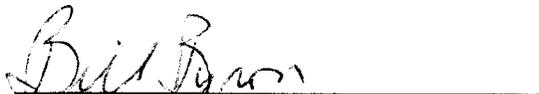
Respectfully submitted,

  
 Melody P. Lawrence  
 Human Resources Manager

CONCUR:

  
 Elaine M. Winer  
 Human Resources Director

  
 Viet Hoang  
 Acting Civil Service Manager

  
 Bill Byron, President  
 Torrance Professional & Supervisory Association

**Attachments:**

- 1) Revised class specification Systems Analyst
- 2) Existing class specification Systems Analyst

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## Systems Analyst

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### Definition

Under direction, performs advanced system analysis and design, analysis of functional and conceptual work-flow procedures and conversion into requirement specifications, development of solutions ranging from routine to complex, design and procedure documentation, and trains system users in one of the following areas:

**Applications and Programming:** supports computer application systems and subsystems.

**Network Operations:** supports Local and Wide Area Networks and related network software and hardware.

**IT User Support:** coordinates and performs support activities related to computer installation, Helpdesk problems and training.

**IT Network Support:** coordinates and performs support activities related to the centralized server IT hardware and software.

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### Supervision Exercised/Received

Receives direction from higher level department and/or management staff and may provide supervision to lower level staff.

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### Examples of Essential Duties

*The following duties represent the principal job duties; however, they may vary depending upon actual assignment, and are not all-inclusive.*

- Confers with user department personnel to ascertain specific design requirements.
- Coordinates joint activities of project teams, consisting of city staff and vendors, in implementing and maintaining systems.
- Provides guidance for significant project phases such as planning, design, or testing.
- Provides problem analysis support to diagnose and remedy problems in operating procedures, hardware and system software.
- Conducts detailed systems analysis and design studies and prepares concept and design specifications for functional sub-systems.
- Establishes and reviews procedures and evaluates new or revised technology solutions to ascertain that standards are being maintained.
- Supervises staff; including instructing, assigning, planning and reviewing work, evaluating work performance and completing performance evaluations, coordinating activities, maintaining standards, allocating personnel, acting on employee problems, selecting new employees and implementing employee discipline. Providing training, advice and assistance as needed.
- Demonstrates continuous effort to improve operations, decrease turnaround times, streamline work processes, and work cooperatively and jointly to provide quality seamless customer service.

In addition to the duties listed above, incumbents assigned to the specific areas listed below perform the following:

### **Applications and Programming**

- Prepares specifications for revision of existing computer programs, including operating procedures for users and computer operating personnel.
- Research, plan and implement new departmental applications and technologies.
- Prepares test material for each program and reviews the results.
- Analyzes problems and prepares concept design specifications for existing system; trouble-shoots existing and new program applications.
- Researches, recommends and implements applications upgrades, enhancements, and required modifications to keep current and meet the end-user needs.
- Prepares detailed documentation and flow charts.
- Develop custom statistical summary reports utilizing systems currently in use by the City (such as: Access, SQL, and/or Crystal reports. Database Management Systems (DBMS) import and export techniques.

### **Network Operations**

- Maintains and configures Local Area Networks (LANs) and Wide Area Networks (WANs) utilizing various network management applications and common industry diagnostic tools and technologies.
- Acts proactively and reactively to monitor network activity, in order to maintain optimum performance, minimize down-time, and insure optimum network performance and security.
- Installs, configures and maintains network equipment such as, but not limited to, routers, switches, hubs, and other related equipment and cabling schemes.

### **IT User Support**

- Handles non-routine or complex installation, testing, implementation, and maintenance for all reported IT hardware and software problems, network or system problems and training.
- Provides technical user support and training.
- Monitors computer activity to maintain optimum performance.
- Performs regular security audits to safeguard equipment and system.
- Manages and administers user passwords.

### **IT Network Support**

- Handles non-routine or complex maintenance, testing, monitoring, security and troubleshooting and technical support for all centralized and server IT hardware and software.
- Administers and maintains email accounts, internet access, and server room.
- Monitors computer use activity to maintain optimum performance.
- Performs security audits to safeguard equipment and system.
- Assists in the research of new technical solutions to improve the City's network functions.

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### **Examples Of Other Duties**

*The following duties represent duties that are generally performed by this position, but are not considered to be principal job duties.*

- Serves as project leader responsible for systems analysis and design for a complex or broad functional application.
  - Facilitates joint business or technical staff analysis and design working sessions.
  - Prepares annual operational budgets, authorizes expenditures, forecasts inventory replacement funding, and drafts capital projects and program modifications.
  - Performs related duties as required.
-

## Qualification Guidelines

### Knowledge of:

- Flow charting, data and process modeling, traffic analysis, form design, and control and measurement procedures.
- Research techniques, methods, procedures and reporting methods.
- Data input methods and control techniques used for computer processing.
- Mainframe, minicomputers, personal computer, LANS, and WANS.
- Application security and privacy techniques.
- Methods of structured systems analysis and design, and information engineering.
- Proper English usage, spelling, grammar and punctuation.
- City policies and procedures affecting departmental operations.
- City and Department Mission including strategic goals and objectives.
- General City Operations.
- Applicable local, State and Federal laws and regulations.
- Project organization necessary to achieve objectives, controls resources, and report status.
- LAN, WAN, Internet, and Intranet networking characteristics, protocols, technologies, applications, and integration concepts.
- Principles and application of statistical methods.
- Principles and practices of personnel management and supervision.
- Facilitation of work groups and design teams.

In addition to the above, incumbents assigned to the specific areas listed below are also expected to have knowledge of the following:

### Application and Programming

- Computer systems and applications.
- Data base organization access and retrieval techniques.
- Principles of conducting a business system analysis, design, and specifications including the analysis of office procedures, equipment and methods.
- Forms design and report layouts.
- Application and data security.

### Network Operations

- Contemporary network environments, hardware platforms, topologies and operating structures, and related equipment and tools.
- Current Federal, State and local legislation pertaining to network technology.
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### IT User Support

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- Computer security, software flaws, and patches.
- Helpdesk technologies.

### IT Network Support

- Computer integration to communication devices, control systems, and other computerized devices.
- Computer security, software flaws, and patches.
- Centralized computer hardware design, fault tolerance, and capacity planning.

### **Ability to:**

- Understand and carry out complex oral and written instructions.
- Analyze, interpret and present research findings to prepare design specifications.
- Conceive and develop a variety of solutions to functional problems and transform abstract ideas to easily understood procedures.
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- Comprehend and make inferences from written material.
- Utilize industry standard diagnostic and management tools.
- Communicate orally in the English language with customers, clients, and the public in face-to-face, one-on-one and group settings.
- Review and check the work products of others to ensure conformance to standards.
- Anticipate problems, develop solutions, and implement a plan of action; reason both logically and creatively.
- Follow-through on assignments including providing feedback and continual refinement.
- Exercise independent action and judgment within established guidelines.
- Learn and utilize new skills and information to improve job performance and efficiency.
- Perform several tasks simultaneously, prioritize and meet deadlines.
- Maintain confidentiality and exercise sound judgment.
- Establish rapport quickly and effectively with groups and individuals and maintain effective working relationships with those encountered in the course of work both internal and external to the City.

### **License or Certificate**

Must possess and maintain an appropriate California driver's license. Professional certification in applications, hardware and systems used by the City is highly desirable.

### **Education and Experience**

*Any combination of education and experience that provides the required knowledge and skills is qualifying. A typical way to obtain the knowledge and skills would be:*

An Associate's degree in Data Processing or Computer Sciences or a Certificate in Data Processing and;

#### *Applications and Programming:*

Five years of progressively responsible information technology experience consisting of systems design, program design, coding, testing, implementing and documenting business application systems currently in use by the City.

#### *Network Operations:*

Five years of journey level related experience LAN/WAN and telecommunications in an information technology organization with at least two years of professional technical experience working with network operations and equipment currently in use by the City.

#### *IT User Support:*

Five years of journey level related experience in technical computer support with at least two years of professional technical experience working with computer equipment and software currently in use by the City.

*IT Network Support:*

Five years of journey level experience in computer support with at least two years of professional technical experience working with computer equipment and network software currently in use by the City.

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**Special Requirements**

*Performance of the essential duties of this class includes the following physical demands and/ or working conditions.*

Requires entering of data or information into a keyboard device and the ability to remain in a sitting position for extended periods of time. Also requires some walking and climbing, some lifting and carrying objects of moderate weight (up to 50 pounds) and/or the operation of vehicles or tools in which manipulative skills and sufficient hand/eye coordination to perform semi-skilled repetitive movements are used. Tasks require sound and visual perception and discrimination. Tasks are regularly performed without exposure to adverse environmental conditions.

**Career Ladder Information**

Experience gained in this classification, in addition to training and course work, may serve to meet the qualification guidelines for Information Technology Manager, Communications Manager, or Communications and Information Technology Director.

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## Systems Analyst

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### Definition:

Under direction, performs systems analysis and design of systems as related to computer applications, including basic computer system analysis and design, analysis of functional and conceptual work-flow procedures and conversion into requirement specifications, development of solutions ranging from routine to complex applications, design and procedure documentation, and trains computer system users: and performs related work as required.

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### Distinguishing Characteristics

Distinguished from the division head in that the incumbent does not have responsibility for a division within the department. Distinguished from the Information Technology Analyst by the level and complexity of the systems and projects assigned and that the incumbent may be responsible for supervision of lower level support and professional staff. As experience accrues, incumbents may act as a Project Lead in the development of complex computer projects or department specific application needs and are expected to bring projects to conclusion. As incumbents progress from the journey to the senior levels of the position, they are expected to function with respective degrees of increasing independence. Work is reviewed intermittently while in progress and upon completion for overall results. Work may require the development of recommendations consistent with directives, policies and regulations.

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### Supervision Exercised/Received:

Receives direction from higher level department and/or management staff and may provide direct supervision to lower level staff.

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### Examples of Essential Duties:

*The following duties represent the principal job duties; however, they may vary depending upon actual assignment, and are not all-inclusive.*

- Confers with user department personnel to ascertain specific design requirements.
- Prepares comprehensive project plans and schedules.
- Coordinates joint activities of project teams.
- Provides guidance for significant phases of computer applications such as planning, design, or testing.
- Provides problem analysis support to diagnose and remedy problems in operating procedures, computer hardware, system software, and computer application programs.
- Conducts detailed systems analysis and design studies; prepares concept and design specifications for functional computer sub-systems, including the analysis and preparation of functional work flow diagrams, input and output forms, and detailed computer program specifications.
- Establishes and reviews procedures and evaluates new or revised applications to ascertain that standards are being maintained.
- Supervises staff; supervisory duties include instructing, assigning, planning and reviewing work, evaluating work performance and completing performance evaluations, coordinating activities, maintaining standards, allocating personnel, acting on employee problems, selecting new employees and implementing employee discipline. Providing training, advice and assistance as needed.

- Analyzes alternative means of gathering input data and generating output data to select most feasible and economical methods.
  - Evaluates improvements, benefits and possible modification of existing systems upon request.
  - Locates and corrects discrepancies in operating systems and test programs.
  - Implements completed applications and performs subsequent testing.
  - Demonstrates continuous effort to improve operations, decrease turnaround times, streamline work processes, and work cooperatively and jointly to provide quality seamless customer service.
  - Works with vendors in implementing and maintaining systems.
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**EXAMPLES OF OTHER DUTIES:**

*The following duties represent duties that are generally performed by this position, but are not considered to be principal job duties.*

- Serves as project leader responsible for systems analysis and design for a complex or broad functional application;
  - Facilitates joint business or technical staff analysis and design working sessions;
  - Performs related duties as required.
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**Qualification Guidelines:****Knowledge of:**

- Flow charting, data modeling, process modeling, form design, and control procedures.
- Research techniques, methods and procedures.
- Data input methods and control techniques used for computer processing.
- Mainframe, minicomputers, personal computer, LANS, and WANS.
- Application security and privacy techniques.
- Project management.
- Methods of structured systems analysis and design, and information engineering.
- Proper English usage, spelling, grammar and punctuation.
- City policies and procedures affecting departmental operations.
- City and Department Mission including strategic goals and objectives.
- General City Operations.
- Applicable local, State and Federal laws and regulations.

*In addition to the above, incumbents at the senior level are required to have knowledge in the following:*

- Principles and application of statistical methods.
- Principles and practices of personnel management and supervision.
- Facilitation of work groups and design teams.

**Ability to:**

- Understand and carry out complex oral and written instructions.
- Analyze, interpret and present research findings to prepare design specifications.
- Conceive and develop a variety of solutions to functional problems and transform abstract ideas to easily understood procedures.
- Develop data and process models using structured analysis and design, and information engineering techniques.
- Produce written documents in the English language with clearly organized thoughts with proper sentence construction, punctuation, and grammar.
- Comprehend and make inferences from written material.
- Utilize industry standard diagnostic and management tools.

- Communicate orally in the English language with customers, clients, and the public in face-to-face, one-on-one and group settings.
  - Review and check the work products of others to ensure conformance to standards.
  - Anticipate problems, develop solutions, implement a plan of action; reason both logically and creatively.
  - Follow-through on assignments including providing feedback and continual refinement.
  - Exercise independent action and judgment within established guidelines.
  - Learn and utilize new skills and information to improve job performance and efficiency.
  - Perform several tasks simultaneously, prioritize and meet deadlines.
  - Maintain confidentiality and exercise sound judgment.
  - Establish rapport quickly and effectively with groups and individuals and maintain effective working relationships with those encountered in the course of work both internal and external to the City.
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**License or Certificate:**

Must possess and maintain an appropriate California driver's license. Professional certification in applications, hardware and systems used by the City is highly desirable.

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**Education and Experience:**

Any combination of education and experience that provides the required knowledge and skills is qualifying. A typical way to obtain the knowledge and skills would be:

An Associates degree in Data Processing or Computer Sciences; or a Certificate in Data Processing and three years of progressively responsible information technology experience consisting of systems design, program design, coding, testing, implementing and documenting business application systems such as those currently in use by the City. Additional qualifying experience may be substituted for the required education

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**Special Requirements:**

*Performance of the essential duties of this class includes the following physical demands and/or working conditions.*

Requires entering of data or information into a keyboard device and the ability to remain in a sitting position for extended periods of time. Also requires some walking and climbing, some lifting and carrying objects of moderate weight (up to 50 pounds) and/or the operation of vehicles or tools in which manipulative skills and sufficient hand/eye coordination to perform semi-skilled repetitive movements are used. Tasks require sound and visual perception and discrimination. Tasks are regularly performed without exposure to adverse environmental conditions.

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**Career Ladder Information:**

Experience gained in this classification in addition to training and course work may serve to meet the qualification guidelines for Information Technology Manager or Information Technology Director.