NOTICE OF PROPOSED CLASSIFICATION ACTIONS BY
THE HUMAN RESOURCES DIRECTOR

The following actions are being posted in accordance with Civil Service Rule 109. In the absence of a protest addressed to the Human Resources Director, the proposed changes will become final seven (7) calendar days from the posting date.

Posting No: 10
Fiscal Year: 2016/2017
Posted Date: 09/02/2016
Reposted Date: N/A

AMEND THE FOLLOWING JOB SPECIFICATION(S):
(Job specification(s) attached.)

Item #	Job Code	Title
1	1031	IS – Trainer Assistant
2	1032	IS Trainer- Journey
3	1033	IS Trainer-Senior
4	1041	IS Engineer-Assistant
5	1042	IS Engineer-Journey
6	1043	IS Engineer-Senior
7	1044	IS Engineer-Principal
8	1051	IS Business Analyst-Assistant
9	1052	IS Business Analyst
10	1053	IS Business Analyst-Senior
11	1054	IS Business Analyst -Principal
12	1061	IS Program Analyst-Assistant
13	1062	IS Programmer Analyst
14	1063	IS Programmer Analyst-Senior
15	1064	IS Programmer Analyst-Principal
16	1070	IS Project Director
17	1091	IT Operations Support Administrator I
18	1092	IT Operations Support Administrator II
19	1093	IT Operations Support Administrator III
20	1094	IT Operations Support Administrator IV
21	1095	IT Operations Support Administrator V

Protests on an item should be addressed to the Human Resources Director and can be submitted by mail to the City and County of San Francisco, Department of Human Resources, 1 South Van Ness Ave, 4th Floor, San Francisco, CA 94103 or by email to **DHR.ClassificationActionPostings@sfgov.org**. All protests must be received in writing no later than close of business seven (7) calendar days from the posting date, and must include the posting and item number(s), the basis on which the protest is submitted and identify the affected parties.

For additional information regarding this proposed classification action, please contact Victor H Vallejo, Clerk, at

(415) 557-4894 or by email at **Victor.h.Vallejo@sfgov.org**.

Copies of this notice may be obtained from the Department of Human Resources or from the website at: **http://sfdhr.org/index.aspx?page=109**. Copies of Civil Service Rule 109 may be obtained from the Department of Human Resources, the office of the Civil Service Commission at 25 Van Ness Ave, Suite 720, San Francisco, CA 94102 or from the website at: **http://www.sfgov3.org/index.aspx?page=328**.

cc: All Employee Organizations
All Departmental Personnel Officers
DHR – Class and Comp Unit
DHR – Client Services Unit
DHR – Employee Relations Unit
DHR – Recruitment and Assessment Unit
DHR – Client Services Operations
Micki Callahan, DHR
Michael Brown, CSC
Sandra Eng, CSC
Christopher Colandene, SFERS
Devin Macaulay, Controller/ Budget Division
Theresa Kao, Controller/ Budget Division
Drew Murrell, Controller/ Budget Division
Alex Koskinen, Controller/ Budget Division
E-File

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IS Trainer - Assistant
Job Code: 1031

INTRODUCTION

Under general supervision, provides scheduling and software support for training programs; may provide lower level tutorial instruction on operational procedures within a particular software program, application and/or procedure. Typically, this classification is found in a large department with a training unit.

DISTINGUISHING FEATURES

This classification is the entry level in the Trainer series. It is distinguished from the journey level classification in technical complexity of the work performed and the percentage of time performing instructional activities; this classification serves as a backup instructor. Assignments are generally limited in scope, contain fairly routine tasks, and are performed within a procedural framework established by higher level employees. As experience is acquired, the employee performs with less immediate supervision. Work requires incumbents to exercise some judgement in selecting appropriate established guidelines to follow. Significant deviations require prior approval. Interpretation of general administrative or operational policies may be necessary. Performance is measured by completion of work in a timely and accurate manner.

SUPERVISION EXERCISED

None

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Work with departmental training coordinators in establishing course/class demands; acquire and schedule resources as required.

2. Schedule training classes, including facilities, instructors and students.

3. Provide back-up instruction; teach introductory classes in a particular software program or application as necessary.

4. Load new software onto training computers and ensure it is operating correctly; provide basic software support for training computers and respond to service requests as problems arise.

5. Assist in the publication of training schedule; develop and distribute announcements promoting training programs.

6. Maintain supplies, courseware, student workbooks, etc. at required levels; review all vendor invoices for accuracy; recommend approval and/or adjustments.

7. Develop management reports detailing course utilization, effectiveness, student satisfaction and survey results.

8. Maintain student records, education profiles and training programs; maintain technical

**Title: IS Trainer - Assistant
Job Code: 1031**

library; recommend acquisitions of appropriate reference materials.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

<u>Knowledge of</u>: Basic functions of commonly used personal computer software; basic statistical concepts; training techniques.

<u>Ability and Skill to</u>: Communicate effectively orally and in writing; classify, compute and tabulate data and information, following a prescribed plan requiring the exercise of some judgement; explain, demonstrate and clarify to others within well-established policies, procedures and standards, as well as follow specific instructions; exercise the judgment. decisiveness and creativity in situations involving a variety of pre-defined duties subject to frequent change; establish and maintain effective working relationships with peers, students, users, vendors, and management; train others in the use of personal computer software programs; read and understand professional journals and literature; prioritize competing requests for service.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

<u>Education</u>:

An associate degree ~~*from an accredited college or university*~~ in computer science <u></u> ~~, information systems~~ or a <u>closely</u> related field<u> </u>*from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field].**

<u>Experience</u>:

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<u>License and Certification</u>:

<u>Substitution</u>:

Experience in delivering training in computer applications and procedures may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One (1) year* **is equivalent to** ~~T~~thirty (30) semester units~~/ or~~ forty-five (45) quarter units ~~equal *one (1) year.*~~ **with a minimum of 10 semester / 15 quarter units in computer science or a closely related field.**

Title: IS Trainer - Assistant
Job Code: 1031

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer equipment. May require bending, stooping and/or crawling in order to install or repair computer or printer cables. May require standing and/or sitting for extended periods of time. Requires hand/eye coordination and manual dexterity for connecting cables and data entry. May involve extensive VDT exposure.

PROMOTIVE LINES

ORIGINATION DATE:	05/17/1997
AMENDED DATE:	06/27/16**: 09/XX/16**
REASON FOR AMENDMENT	*To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*
BUSINESS UNIT(S):	COMMN SFMTA SFCCD SFUSD

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IS Trainer - Journey
Job Code: 1032

INTRODUCTION

Under general direction, provides tutorial/classroom instruction for a broad range of operational procedures within a variety of software programs, intermediate level and lower level applications, and/or procedures. Typically, this classification is found in a large department with a training unit.

DISTINGUISHING FEATURES

This classification is the journey level in the Trainer series. The journey level classification performs a full range of instructional activities and is distinguished from the advanced journey level classification in that instruction is limited to a narrower range and/or less complex subjects. Incumbents are expected to perform a full range of duties with only occasional instruction or assistance. Positions at this level frequently work outside the immediate proximity of a supervisor. Work is normally reviewed upon completion and for overall results; requires interpretation of policies, procedures and guidelines; and may require the development of recommendations consistent with directives, policies and regulations.

SUPERVISION EXERCISED

None.

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Develop and deliver instructor-led technical training classes to City/County employees in the use of microcomputers, operating systems and a wide variety of software applications.
2. Provide guidance in the analysis and resolution of complex problems encountered by students in their use of a wide variety of processing platforms, software and network services.
3. May assist departments in evaluating training requirements.
4. May assist in the evaluation and testing of new software applications and upgrades; evaluate new reaching materials.
5. May provide support for the installation of software and courseware files on training computers.
6. May assist in the preparation of the training schedule, course description guides and training newsletter.
7. May prepare requisitions for software, hardware and supplies.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

Knowledge of: Basic functions of commonly used personal computer software; training

Title: IS Trainer - Journey
Job Code: 1032

techniques; current technologies

Ability and Skill to: Communicate effectively orally and in writing; analyze and categorize data and information in order to determine the relationship of the data with reference to established criteria/standards; advise and provide interpretation to others how to apply policies, procedures and standards to specific situations; exercise the judgement, decisiveness and creativity required in situations involving the evaluation of information against measurable criteria; provide formal instruction in a classroom or other structured setting; establish and maintain effective working relationships with peers, students, users. vendors, and management; use logic and analysis to solve systems problems; read and understand professional journals and literature; prioritize competing requests for service.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

An associate degree ~~from an accredited college or university~~ in computer science~~, information systems~~ or **a closely** related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field].**

Experience:

One (1) year of experience delivering training in computer applications and procedures.

License and Certification:

Certificates may be required to teach certain software program applications.

Substitution:

Additional experience as described above may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One (1) year* **is equivalent to** ~~T~~thirty (30) semester units ~~or~~ / forty-five (45) quarter units **with a minimum of 10 semester / 15 quarter units in computer science or a closely related field** ~~equal~~ *~~one (1) year~~*.

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer equipment. May require hand/eye coordination for semi-skilled movements,

Title: IS Trainer - Journey
Job Code: 1032

such as keyboard use. May require standing and/or sitting for extended periods of time. May involve extensive VDT exposure.

PROMOTIVE LINES

ORIGINATION DATE: May 17, 1997

AMENDED DATE: 06/27/16**; 09/XX/16**

REASON FOR AMENDMENT   *To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*

BUSINESS UNIT(S):   COMMN SFMTA SFCCD SFUSD

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IS Trainer - Senior
Job Code: 1033

INTRODUCTION

Under general direction, provides tutorial instruction on highly complex operational procedures within all City approved software programs, applications, and/or procedures; tutorial/classroom instruction on all levels of the application and/or procedure; and/or tutorial/classroom instruction on the application of the software program itself so that the users may function with minimum ongoing assistance; may assist in training less experienced trainers. Typically, this classification is found in a large department with a training unit.

DISTINGUISHING FEATURES

This classification is the advanced journey level in the Trainer series. The Senior level classification can be distinguished from lower level classifications in this series in that instruction is in a broad range of personal computer software programs at the intermediate level, and at times, the highest levels of complexity. Incumbents perform a full range of duties, possess technical or functional expertise and perform specialized duties in a highly independent manner. Work is judged primarily on overall results with great latitude in determining work methods and assignment requirements. Employee has greater authority over assignments and decisions required to complete the work than lower level positions in this series.

SUPERVISION EXERCISED

May involve coordination of a team of workers.

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Coordinate and deliver technical and/or professional training and educational services in personal computer operating systems and a wide variety of applications to IS staff, work with subject matter experts to develop technically complex training modules; provide instruction at various levels on applications and systems administration, in-house or onsite; develop custom training tailored to client needs; assist contract instructors in teaching custom database development courses.

2. May conduct on-site visits to identify immediate and long range training requirements; develop training plans and schedules, needs assessments and software recommendations in support of current standards; conduct assessments of departmental training budgets and make appropriate recommendations for planning/transfers/use of funds.

3. Develop training curriculum; prepare and deliver instructional training classes for enduser clients on personal microcomputers and the technical aspects of business software applications; develop and implement cost effective classroom and self-study strategies and programs in support of the organization's human resource development programs; meet with various levels of management to determine employee skill deficiencies, project future training demands and establish individual and division-wide professional development

Title: IS Trainer - Senior
Job Code: 1033

programs.

4. Coordinate and conduct technical briefings on selected topics and/or facilitate the delivery of high technology briefings and training to management, including costs, benefits, risks and effort associated with acquiring new products and services.

5. Analyze student feedback and class evaluations; determine opportunities for improvement; may prepare and publish training bulletins and schedules; develop lesson plans and training materials; may assist students, managers and training coordinators in course selection.

6. Research and analyze the impact of new technology and training products, and prepare management reports recommending its use if it helps maximize the City's investment in information technology; coordinate demonstration and evaluation copies of new software for IS staff and management; analyze new releases of software and determine their impact on established training programs; make recommendations for change.

7. Identify and evaluate alternative resources for external training and education services and maintains resource files of approved training providers; research and write technical procedures, advice and articles.

8. Analyze the results of needs assessments and training surveys, and recommend changes as appropriate to management; may facilitate the delivery of high-technology briefings and training to management, including costs, benefits, risks and effort associated with acquiring new products and services.

9. Provide support for the installation of software and courseware files and debug programs on training computers; provide mentor training to less experienced trainers.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

Knowledge of: Network communications; data processing methods and applications; common operating systems; training techniques; technical writing; current technologies; project management.

Ability and Skill to: Communicate effectively orally and in writing; provide formal instruction in a classroom or other structured setting; establish and maintain effective working relationships with peers, students, users, vendors, and management; develop complex and specialized training modules; exercise decisiveness and creativity required in situations involving the evaluation of information against sensory and/or judgmental criteria; analyze data and information using established criteria, in order to determine consequences and to identify and select alternatives; present complex subject matter to individuals of various levels; lead and motivate students; read and understand professional journals and literature; prioritize competing requests for service.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions)

CITY AND COUNTY OF SAN FRANCISCO
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Title: IS Trainer - Senior
Job Code: 1033

may apply to a particular position and will be stated on the exam/job announcement.

Education:

An associate degree ~~from an accredited college or university~~ in computer science~~, information systems~~ or a closely related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field]**.

Experience:

Three (3) years of experience in delivering training in computer applications and procedures.

License and Certification:

Certificates may be required to teach certain software program applications.

Substitution:

Additional experience as described above may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One (1) year* **is equivalent to** ~~T~~thirty (30) semester units ~~or~~ / forty-five (45) quarter units **with a minimum of 10 semester / 15 quarter units in computer science or a closely related field .**~~equal~~ *~~one (1) year~~*.

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer equipment. May require standing and/or sitting for extended periods of time. May require hand/eye coordination for semi-skilled movements, such as keyboard use. May involve extensive VDT exposure.

PROMOTIVE LINES

ORIGINATION DATE:	05/17/1997
AMENDED DATE:	06/27/16**; 09/XX/16**
REASON FOR AMENDMENT	*To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*
BUSINESS UNIT(S):	COMMN SFMTA SFCCD SFUSD

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IS Engineer - Assistant
Job Code: 1041

INTRODUCTION

Under general supervision, assists in analyzing, planning, implementing, maintaining, troubleshooting and enhancing large complex systems or networks consisting of a combination that may include mainframes, mini-computers, LANS, WANs and the physical and logical components that integrate these systems together as an enterprise networking backbone. Serves as assistant technical architect and systems integrator for large complex systems or networks.

DISTINGUISHING FEATURES

The Assistant IS Engineer is the entry level in the Engineer series. The class is distinguished from the Journey level by the complexity of the systems or networks supported. Positions at this level perform a significant portion of the work assigned to the journey level, but without the independence or full responsibility expected of positions at the journey level. Assignments are generally limited in scope and are set within procedural frameworks established by higher level positions. As experience accrues, the incumbent performs with increasing independence. Work requires incumbents to exercise some judgement in selecting appropriate established guidelines to follow. Significant deviations require prior approval. Interpretation of general administrative or operational policies is sometimes necessary.

SUPERVISION EXERCISED

None.

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Assist in determining requirements for the development or enhancement of large complex systems or networks that serve as a data processing backbone for the City and County of San Francisco's information technologies infrastructures.

2. Assist in the designing, planning, integration, testing, implementation, documentation and enhancement of the physical and logical components of a large complex system or network.

3. Assist in performing systems integration for interoperability over dissimilar platforms md technologies. This may involve the integration of various protocols, systems software, hardware and communications platforms.

4. Determine the proper installation parameters for software and hardware for smooth integration and efficiency in relation to the enterprise system and network.

5. Assist in writing "user exits" to customize large systems software which may involve specialized programming languages.

6. Assist in analyzing, detecting, identifying and connecting complex systems software or hardware deficiencies.

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IS Engineer - Assistant
Job Code: 1041

7. Provide 24-hour on-call support to ensure rapid recovery from software or hardware problems for mission-critical systems and networks.

8. Assist in the resolution of technical problems through telephone calls to vendors, other IS professionals and departments.

9. Assist in planning, implementing and maintaining upgrades/updates/fixes for core operating systems and their related components, without negative impact to the overall availability and reliability of the enterprise systems/networks.

10. Document procedures and troubleshooting techniques related to systems/networks software and hardware; develop and review documentation prior to general distribution.

11. May assist in planning, developing and implementing backup and disaster recovery procedures for large systems and networks.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

Knowledge of: The functions of the core hardware and software components that comprise a large system or enterprise network. Analysis and evaluation techniques for troubleshooting large systems or networks.

Ability and Skill to: Solve problems with minimal disruption or impact to the system or network. Exercise judgement, decisiveness and creativity in designing, planning, troubleshooting and integration of large systems or networks based on the potential benefits and/or consequences. Communicate effectively; establish good working relationships with other IS professionals, vendors, management and departments. Read and understand professional journals, manuals and literature. Prioritize competing requests for service.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

An associate degree ~~from an accredited college or university~~ in computer science, ~~management information systems, data processing, electrical engineering~~ or a closely related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field].**.

Experience:

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DEPARTMENT OF HUMAN RESOURCES**

**Title: IS Engineer - Assistant
Job Code: 1041**

License and Certification:

Substitution:

Experience in analyzing, installing, configuring, enhancing and/or maintaining the components of an enterprise network may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One (1) year* **is equivalent to** ~~T~~thirty (30) semester units~~/ or~~ forty-five (45) quarter units ~~equal *one (1) year*~~ **with a minimum of 10 semester / 15 quarter units in computer science or a closely related field**.

Completion of the 1010 Information Systems Trainee Program may be substituted for the required degree.

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer systems equipment. May require bending, stooping and/or crawling in order to install or repair computer systems hardware. May require hand/eye coordination and manual dexterity for taking apart casings, installing parts and reconnecting computer systems hardware. May involve extensive VDT exposure.

PROMOTIVE LINES

ORIGINATION DATE:	05/17/1997
AMENDED DATE:	06/27/16**: 09/XX/16**
REASON FOR AMENDMENT	*To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*
BUSINESS UNIT(S):	COMMN SFMTA SFCCD SFUSD

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IS Engineer
Job Code: 1042

INTRODUCTION

Under direction, analyzes, plans, designs, implements, maintains, troubleshoots and enhances large complex systems or networks consisting of a combination that may include mainframes, mini-computers, LANs, WANs and the physical and logical components that integrate these systems together as an enterprise networking backbone. Serves as the technical architect and systems integrator for large complex systems or networks.

DISTINGUISHING FEATURES

The IS Engineer is the journey level position in the Engineer series. The class is distinguished from the Senior level by the complexity of the systems or networks supported, and is more independent than the Assistant level. This classification performs a wide range of complex analytical, design, planning, implementation, enhancement and problem resolution tasks on large complex systems and networks. It works within a framework of established procedures and interprets policies, procedures and guidelines. This level may formulate recommendations consistent with directives, policies, standards and regulations. Incumbents require only occasional instruction or assistance. Work is reviewed upon completion and for overall results.

SUPERVISION EXERCISED

May provide direction to subordinate Engineer staff and other technical staff. May provide consultation and guidance to all other IS job families. Such responsibilities are ancillary to the main intent and focus of the position.

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Determine requirements for the development or enhancement of large complex systems or networks that serve as a data processing backbone for City and County of San Francisco's information technologies infrastructures. May research and conduct feasibility studies on new technologies.

2. Design, plan, integrate, test, implement, document and enhance the physical and logical components of a large complex system or network. This may involve the analysis and evaluation of systems software, hardware and communications strategies.

3. Perform systems integration for interoperability over dissimilar platforms and technologies. This may involve the integration of various protocols, systems software, hardware and communications platforms.

4. Determine the proper installation parameters for software and hardware for smooth integration and efficiency in relation to the enterprise system and network.

5. Write "user exits" to customize large systems software which may involve specialized programming languages.

Title: IS Engineer
Job Code: 1042

6. Analyze, detect, identify and correct complex systems software or hardware deficiencies.

7. Provide 24-hour on-call support to ensure rapid recovery from software or hardware problems for mission-critical systems and networks.

8. Act as the liaison between vendors, technical support hot-lines and departments to resolve complex systems or network problems. Assist in the coordination and implementation of corrective measures; this may involve site visits, telephone assistance, remote systems or network management, and participation in technical committees.

9. Facilitate the demonstration and training of staff in the use of new hardware or software products.

10. Plan, implement and maintain upgrades/updates/fixes for core operating systems and their related components, without negative impact to the overall availability and reliability of the enterprise systems/networks.

11. Document procedures and troubleshooting techniques related to systems/networks software and hardware; develop and review documentation prior to general distribution.

12. May plan, develop and implement backup and disaster recovery procedures for large systems and networks.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

Knowledge of: The functions of the core hardware and software components that comprise a large system or enterprise network. Analysis and evaluation techniques to plan, design, integrate, implement, maintain and troubleshoot large complex systems or networks across similar and dissimilar technology platforms.

Ability and Skill to: Determine the systems or networking requirements to plan for or enhance the core data processing needs for the Enterprise system or network. Solve problems with minimal disruption or impact to the system or network. Exercise judgement, decisiveness and creativity in designing, planning, troubleshooting and integration of large complex systems or networks based on the potential benefits and/or consequences. Develop alternative solutions within established guidelines and standards. Communicate effectively; establish good working relationships with other IS professionals, vendors, management and departments. Read and understand professional journals, manuals and literature. Prioritize competing requests for service.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

An associate degree ~~*from an accredited college or university*~~ in computer science~~, management information systems, data processing, electrical engineering~~ or a closely related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e.,**

Title: IS Engineer
Job Code: 1042

at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field].

Experience:

One (1) year of experience analyzing, installing, configuring, enhancing, and/or maintaining the components of an enterprise network.

License and Certification:

Substitution:

Additional experience as described above may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One (1) year* **is equivalent to** ~~T~~thirty (30) semester units~~/ or~~ forty-five (45) quarter units ~~equal *one (1) year*~~ **with a minimum of 10 semester / 15 quarter units in computer science or a closely related field.**

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer systems equipment. May require bending, stooping and/or crawling in order to install or repair computer systems hardware. May require hand/eye coordination and manual dexterity for taking apart casings, installing parts and reconnecting computer systems hardware. May involve extensive VDT exposure.

PROMOTIVE LINES

ORIGINATION DATE: 05/17/1997

AMENDED DATE: 06/27/16; **09/XX/16**

REASON FOR AMENDMENT   *To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*

BUSINESS UNIT(S):   COMMN SFMTA SFCCD SFUSD

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IS Engineer - Senior
Job Code: 1043

INTRODUCTION

Under general direction, analyzes, plans, designs, implements, maintains, troubleshoots and enhances large complex systems or networks consisting of a combination that may include mainframes, mini-computers, LANS, WANs and the physical and logical components that integrate these systems together as an enterprise networking backbone. Serves as the senior technical architect and systems integrator for large complex systems or networks.

DISTINGUISHING FEATURES

The Senior IS Engineer is the advanced journey level in the Engineer series. The class is distinguished from the journey level by the complexity and size of the systems or network supported. It is also distinguished from the Journey level by the amount of discretion exercised over technical issues, problems and resolutions, and that it possesses a significant level of specialized technical and functional expertise beyond that expected at the Journey level. This level is distinguished from the Principal level in that Senior level exercises no or limited supervisory responsibilities or the lower technical leadership displayed. Positions at this level require highly specialized knowledge, abilities, skills and experience and often exercise independent judgement in the performance of their duties. The Senior level formulates recommendations consistent with directives, policies, standards and regulations. Work is judged primarily on overall results with great latitude in determining work methods and assignment requirements. The Senior has greater authority over assignments and decisions required to complete the work than lower level classifications.

SUPERVISION EXERCISED

May provide supervision to subordinate Engineer staff or other technical staff. May serve as the lead technical person in a work unit. May provide consultation and guidance to other IS job families. Supervisory responsibilities are ancillary to the main intent and focus of the position.

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Determine requirements for the development or enhancement of large complex systems or networks that serve as a data processing backbone for the City and County of San Francisco's information technologies infrastructures. May research and conduct feasibility studies on new technologies.

2. Design, plan, integrate, test, implement, document and enhance the physical and logical components of large complex systems or networks. This may involve the analysis and evaluation of systems software, hardware and communications strategies.

3. Perform complex systems integration for interoperability over dissimilar platforms and technologies. This may involve the integration of various protocols, systems software, hardware and communications platforms.

Title: IS Engineer - Senior
Job Code: 1043

4. Determine the proper installation parameters for software and hardware for smooth integration and efficiency in relation to the enterprise system and network.

5. Write complex "user exits" to customize large systems software which may involve specialized programming languages.

6. Analyze, detect, identify and correct complex systems software or hardware deficiencies.

7. Provide 24-hour on-call support to ensure rapid recovery from software or hardware problems for mission-critical systems and networks.

8. Act as the liaison between vendors, technical support hot-lines and departments to resolve complex systems or network problems. Coordinate and implement corrective measures; this may involve site visits, telephone assistance, remote systems or network management, and participation in technical committees.

9. Facilitate the demonstration and training of staff in the use of new hardware or software products.

10. Plan, implement, maintain and coordinate upgrades/updates/fixes for core operating systems and their related components, without negative impact to the overall availability and reliability of the enterprise systems/networks.

11. Document procedures and troubleshooting techniques related to systems/networks software and hardware; develop and review documentation prior to general distribution.

12. Plan, develop and implement backup and recovery procedures for large systems and networks.

13. Ensure that management procedures do not negatively impact users or system performance; communicate with managers regarding system performance and operational issues. Suggest improvements to management.

14. Monitor daily systems performance and execute corrective measures.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

Knowledge of: The basic and advanced functions for the core hardware and software components that comprise complex large systems or enterprise networks. Analysis and evaluation techniques to plan, design, integrate, implement, maintain and troubleshoot large complex systems or networks across similar and dissimilar technology platforms.

Ability and Skill to: Determine the systems or networking requirements to plan for or enhance the core data processing needs for the Enterprise system or network. Solve problems with minimal disruption or impact to the system or network. Exercise judgement, decisiveness and creativity in designing, planning, troubleshooting and integration of large complex systems or networks based on the potential benefits and/or consequences. Develop alternative solutions within established guidelines and standards. Communicate effectively; establish good working relationships with other IS professionals, vendors, management and departments. Read and understand professional journals, manuals and literature. Prioritize competing requests for service.

CITY AND COUNTY OF SAN FRANCISCO
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Title: IS Engineer - Senior
Job Code: 1043

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

An associate degree ~~*from an accredited college or university*~~ in computer science~~,~~ ~~management information systems, data processing, electrical engineering,~~ or a closely related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field].**

Experience:

Three (3) years of experience analyzing, installing, configuring, enhancing, and/or maintaining the components of an enterprise network.

License and Certification:

Substitution:

Additional experience as described above may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One (1) year* i**s equivalent to** ~~T~~thirty (30) semester units~~,~~ **or** forty-five (45) quarter units ~~equal *one (1) year*~~ **with a minimum of 10 semester / 15 quarter units in computer science or a closely related field.**

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer systems equipment. May require bending, stooping and/or crawling in order to install or repair computer systems hardware. May require hand/eye coordination and manual dexterity taking apart casings, installing parts and reconnecting computer systems hardware. May involve extensive VDT exposure.

PROMOTIVE LINES

ORIGINATION DATE: 05/17/1997

AMENDED DATE: 06/27/16**; 09/XX/16**

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IS Engineer - Senior
Job Code: 1043

REASON FOR AMENDMENT   *To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*

BUSINESS UNIT(S):   COMMN SFMTA SFCCD SFUSD

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Title: IS Engineer - Principal
Job Code: 1044

INTRODUCTION

Under general direction, provides direct ongoing supervision to other IS Engineers. and/or provides technical leadership and direction and assumes technical responsibility for completion of major projects, or serves as the top technical authority for one or more related specialties. Performs and reviews complex work involving analysis, planning, designing, implementation, maintenance, troubleshooting and enhancement of complex large systems or networks consisting of a combination that may include mainframes, mini-computers, LANS, WANs and the physical and logical components that integrate these systems together as an enterprise networking backbone. Serves as the lead technical architect and systems integrator for large complex systems or networks.

DISTINGUISHING FEATURES

The Principal IS Engineer is the highest level in the Engineer series and may be assigned to function as a supervisor, expert or project leader. When assigned as a supervisor, develops, coordinates and executes policies, methods and procedures, and supervises' personnel.; when assigned as an expert, performs work requiring a very high level of technical knowledge of a specific area or ability to integrate at a high level the knowledge of several areas (this is -not considered to be a part of the normal career path for employees in this series; rather it is reserved for those employees with a mastery of specific technologies or a particular expertise): when as signed as a project leader, manages and provides technical leadership of projects involving large-scale, complex and highly analytical tasks. Positions at this level are distinguished from Senior IS Engineers, in that the latter performs more specific and small-scale, though complex, analytical tasks. Work is performed within a broad framework of general policy and requires creativity and resourcefulness to accomplish goals and objectives, and in applying concepts, plans and strategies which may deviate from traditional methods and practices.

SUPERVISION EXERCISED

May supervise subordinate Engineers and technical staff in the assigned work unit; or as a Project leader, coordinate a team of workers within the assigned work unit or jointly with other units. May be expected to provide consultation and guidance to IS professionals and non-IS professionals.

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Analyze and evaluate systems software, hardware and communications strategies. Research and conduct feasibility studies on new hardware and software. Provide cost and time allocation estimates. Make recommendations based on these studies.
2. Establish hardware and software standards. Participate in technical committees.
3. May monitor, coordinate and assist in developing the work unit's budget.
4. Analyze and recommend procedures consistent with departmental directives, policies and

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Title: IS Engineer - Principal
Job Code: 1044

regulations.

5. Develop strategic plans to meet data processing and technology needs; conduct capacity planning studies to project hardware and software needs.
6. Direct and monitor technical support activities related to complex large systems or networks. Troubleshoot and support the system or network in order to maintain the system or network's integrity and reliability. Contact software and hardware vendors when necessary.
7. Provide problem determination, corrective measures and technical support to anyone utilizing services and functions provided by the system or network. This includes but is not limited to applications programmers, business analysts, operations staff, help desk staff, technicians, administrators, end users- and managers.
8. Oversee data backup and recovery; ensure that sufficient generations of backup are available for data restoration.
9. Determine requirements for the development or enhancement of large complex systems or networks that serve as a data processing backbone for the City and County of San Francisco's information technologies infrastructures. May research and conduct feasibility studies on new technologies.
10. Design, plan, integrate, test, implement, document and enhance the physical and logical components of large complex systems or networks. This may involve the analysis and evaluation of systems software, hardware and communications strategies.
11. Perform very complex systems integration for interoperability over dissimilar platforms and technologies for large systems or networks. This may involve the integration of various protocols, systems software, hardware and communications platforms.
12. Determine the proper installation parameters for software and hardware for smooth integration and efficiency in relation to the enterprise system and network.
13. Write highly complex "user exits" to customize large systems software. This may involve specialized programming languages.
14. Analyze, detect, identify and correct complex systems software or hardware deficiencies.
15. Provide 24-hour on-call support to ensure rapid recovery from software or hardware problems for mission-critical systems and networks.
16. Act as the liaison between vendors, technical support hot-lines and departments to resolve complex systems or network problems. Coordinate and implement corrective measures; this may involve site visits, telephone assistance, remote systems or network management, and participation in technical committees.
17. Train and demonstrate technologies and systems to IS professionals and non-IS professionals.
18. Implement and maintain upgrades/updates/fixes for core operating systems and their related components, without negative impact to the overall availability and reliability of the enterprise systems/networks.
19. Prepare specifications and procedures documentation.
20. Plan, develop and implement backup and disaster recovery procedures for large systems and networks.
21. May supervise, assign, review and may participate in the work of subordinates in assigned unit., Perform as project lead in major projects. Monitor, coordinate and review project tasks and resources, providing technical assistance and guidance.
22. May review and recommend personnel actions in areas of performance, evaluation, training, selection and disciplinary measures. Ensure that appropriate policies and procedures are

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Job Code: 1044

  followed by subordinates.
23. May supervise and coordinate the analysis, planning, installation, integration, maintenance, customization and enhancement of hardware and software for complex large systems or networks that serve as a data processing backbone for the City and County of San Francisco's information technologies infrastructure.
24. May perform as project lead in major projects. Monitor and coordinate project task resources.
25. May act as a project lead to plan, implement and maintain upgades/updates/fixes for core operating systems and their related components, without negative impact to the overall availability and reliability of the enterprise systems/networks.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

<u>Knowledge of</u>: Advanced functions for the core hardware and software components that comprise complex large systems or enterprise networks. Analysis and evaluation techniques to plan, design, integrate, implement, maintain and troubleshoot large complex systems or networks across similar and dissimilar technology Platforms. Techniques and practices of supervision, project management and training.

<u>Ability and Skill to</u>: Determine the systems or networking requirements to plan for or enhance the core data processing needs for the Enterprise system or network; solve problems. with minimal disruption or impact to the system or network; exercise judgement, decisiveness and creativity in designing, planning, troubleshooting and integration of large complex systems or networks based on the potential benefits and/or consequences; develop alternative solutions within established guidelines and standards; communicate effectively; coordinate, schedule and orchestrate the installation, maintenance and enhancements of large complex systems or enterprise networks; establish good working relationships with employees, other IS professionals, departmental end users and vendors: prioritize competing requests for service; read and understand professional journals and literature; manage and direct a group of workers; advise and interpret policies, procedures and standards.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

<u>Education</u>:

An associate degree ~~from an accredited college or university~~ in computer science, ~~management information systems, data processing, electrical engineering~~ or a closely related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field]**.

<u>Experience</u>:

Title: IS Engineer - Principal
Job Code: 1044

Five (5) years of experience analyzing, installing, configuring, enhancing, and/or maintaining the components of an enterprise network.

License and Certification:

Substitution:

Additional experience as described above may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One (1) year* **is equivalent to** ~~T~~thirty (30) semester units~~/ or~~ forty-five (45) quarter units ~~equal~~ *one (1) year* **with a minimum of 10 semester / 15 quarter units in computer science or a closely related field**.

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer systems equipment. May require bending, stooping and/or crawling in order to install or repair computer systems hardware. May require hand/eye coordination and manual dexterity for taking apart casings, installing parts and reconnecting computer systems hardware. May involve extensive VDT exposure.

PROMOTIVE LINES

ORIGINATION DATE:	05/17/1997
AMENDED DATE:	06/27/16**; 09/XX/16**
REASON FOR AMENDMENT	*To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*
BUSINESS UNIT(S):	COMMN SFMTA SFCCD SFUSD

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IS Business Analyst - Assistant
Job Code: 1051

INTRODUCTION

Under general supervision, assists in the performance of various aspects of the systems development cycle; and may include needs analysis, cost-benefit analysis, structured systems analysis and design, feasibility analysis, technology and software assessment, telecommunications needs analysis, project planning and management, system installation, implementation and testing, conversion to production status, technical and procedural documentation, user training, and post-implementation assessment and administration.

DISTINGUISHING FEATURES

The Assistant IS Business Analyst is the entry level in the Business Analyst series. Positions at this level are distinguished from journey level Business Analysts in that more routine functions are performed with less independence. Positions at this level perform a significant portion of the work assigned to the journey level, but without the independence or full responsibility expected of positions at the journey level. Assignments are generally limited in scope and are set within procedural frameworks established by higher level positions. As experience accrues, the incumbent performs with increasing independence. Performance is measured by completion of work in a timely and accurate manner, and ability to interact with users/clients.

SUPERVISION EXERCISED

None.

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Assist in the analysis of user needs and requirements; research and evaluate software.

2. Assist in conducting systems analysis and programming activities for moderately complex systems; document new and modified systems and programs.

3. Participate in the development of new applications; may test software to ensure compatibility.

4. Assist in the design of new and/or revised systems and programs, and in the coordination of integration into existing systems and procedures.

5. May perform testing necessary to debug new and revised programs.

6. Prepare procedures documentation; generate reports and statistics; design tables; update databases; prepare flow charts and other graphic presentations.

7. Assist in the provision of user training; prepare instruction and technical manuals.

8. Provide technical assistance for software and hardware problems; develop solutions.

9. Provide technical support to users; conduct feasibility studies.

Title: IS Business Analyst - Assistant
Job Code: 1051

10. Coordinate with users and outside vendors, when necessary, to respond to service requests; implement solutions to problems.

11. Monitor systems to ensure adequate performance and maintenance; analyze and recommend enhancements.

12. Participate in computer users meetings or meetings of related committees.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

Knowledge of: Electronic data processing and its applications, requirements, installation procedures, hardware, software and maintenance of systems; common operating systems; relational databases; network environments; technical writing.

Ability and Skill to: Communicate effectively both orally and in writing; establish and maintain good working relations with department personnel, staff, vendors, peers, and management; understand and learn a variety of business procedures and processes; use logic and analysis to solve computer and systems problems; analyze and categorize data and information in order to determine the relationship of the data with reference to established criteria/standards; explain, demonstrate and clarify to others within established policies, procedures and standards; exercise judgement, decisiveness and creativity in situations involving a variety of predefined duties subject to frequent change; read and understand professional journals and literature.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

An associate degree ~~*from an accredited college or university*~~ in computer science~~, business administration,~~ or a closely related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field]**.

Experience:

License and Certification:

Substitution:

~~Additional e~~Experience ~~as described above~~ **in the information systems field, including technical support, content management, administration of network applications or system analysis** may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One (1) year* **is equivalent to** ~~T~~thirty (30) semester units ~~or~~ **/** forty-five (45) quarter units with a minimum of 10 semester / 15 quarter units in computer science or a

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Title: IS Business Analyst - Assistant
Job Code: 1051

closely related field equal *one (1) year*.

Completion of the 1010 Information Systems Trainee Program may be substituted for the required degree.

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer equipment. May require hand/eye coordination for semi-skilled movements, such as taking apart casings, installing parts and reconnecting computers and for performing data entry. May involve extensive VDT exposure.

PROMOTIVE LINES

ORIGINATION DATE:	05/17/1997
AMENDED DATE:	06/27/16**; 09/XX/16**
REASON FOR AMENDMENT	*To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*
BUSINESS UNIT(S):	COMMN SFMTA SFCCD SFUSD

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Title: IS Business Analyst
Job Code: 1052

INTRODUCTION

Under general direction, oversees most if not all of the various parts of the systems development cycle, including needs analysis, cost-benefit analysis, structured systems analysis and design, feasibility analysis, technology and software assessment, telecommunication needs analysis, project planning and management, system installation, implementation and testing, conversion to production status, technical and procedural documentation, user training, and post-implementation assessment and administration; may be the sole MIS resource for an organization with a moderately complex system.

DISTINGUISHING FEATURES

The IS Business Analyst is the journey level in the Business Analyst series. Positions at this level are distinguished from Senior level Business Analysts by the lesser difficulty and complexity of the analytical tasks, and is distinguished from the Assistant level by the wider scope of responsibilities. At this level, incumbents work with only occasional instructions or assistance; analyses of average difficulty and complexity are performed with considerable latitude for independent action on less involved projects. Work requires interpretation of policies, procedures and guidelines; and may require the development of recommendations consistent with directives, policies and regulations. Work is normally reviewed upon completion and for overall results.

SUPERVISION EXERCISED

May be expected to provide supervision to subordinate clerical or technical staff, however, supervisory responsibilities are ancillary to the main intent and focus of the position.

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Assess and optimize system designs through review and analysis of user needs, customizing systems through system design and administration to meet the changing business needs of the users; participate in the development of planning for remote hardware and communications facilities.

2. Analyze data processing needs; research and evaluate software on multiple platforms to assist users to meet their departmental goals; assist in developing the evaluation criteria for software.

3. Determine operating characteristics and requirements; develop or modify and document general system design; write detailed design specifications; conduct "walkthroughs" for proposed solutions to system problems.

4. Conduct feasibility studies; evaluate vendor products; make recommendations based on user requirements and systems analysis to ensure adequate planning.

Title: IS Business Analyst
Job Code: 1052

5. Monitor the maintenance and enhancement of complex computer and telecommunications systems to ensure proper functionality; provide support, analysis, coordination and assistance for networks, including disaster recovery.

6. Troubleshoot software problems through telephone and site visit support; provide technical assistance in planning, engineering and architecture of unique systems for diverse applications; implement solutions to problems.

7. Conduct user training.

8. May install and maintain software; facilitate communication between clients and vendors regarding system maintenance issues; perform non-routine adds, moves and changes as needed.

9. Test and modify software for network compatibility; participate in the detail design and development of new applications; may write database applications.

10. Update system software and make modifications to system configurations; facilitate data communication between systems platforms.

11. Implement, maintain and update databases, tables and security access; create, document and compile manuals related to procedures.

12. Participate and represent the department in computer users meetings or meetings of related committees.

13. Research and evaluate technology through industry meetings, seminars, and vendor contacts; identify opportunities for improvements through automation; develop screen logic and reports.

14. Create and generate reports and statistics to meet user and program requirements; interface with other departments, jurisdictions and users on regulations and reporting requests.

15. Conduct database systems analysis and designs; may perform data normalization tasks; assist in the development of relational databases; assist in performance of data conversion tasks and maintenance of data dictionaries.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

Knowledge of: Electronic data processing and its applications; requirements, installation procedures, hardware, software and maintenance of systems; functional requirements, structured systems or procedures analysis; database analysis; business applications development; systems implementation; technical writing; common operating systems; relational databases; network environments.

Ability and Skill to: Communicate effectively both orally and in writing; establish and maintain good working relations with department personnel, staff, vendors, peers, and management; understand and learn a variety of business procedures and processes; use logic and analysis to solve computer and systems problems; translate functional requirements into technical specifications; analyze and categorize data and information in order to determine the relationship of the data with reference to established criteria/standards; advise and provide

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interpretation to others how to apply policies, procedures and standards to specific situations; exercise judgment, decisiveness and creativity required in situations involving the evaluation of information against measurable criteria; read and understand professional journals and literature.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

An associate degree ~~*from an accredited college or university*~~ in computer science~~, business administration,~~ or a closely related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field]**.

Experience:

One (1) year in the information systems field, including technical support, content management, administration of network applications or system analysis.

License and Certification:

Substitution:

Additional experience as described above may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One (1) year* **is equivalent to** ~~T~~thirty (30) semester units ~~or~~ **/** forty-five (45) quarter units ~~equal~~ **with a minimum of 10 semester / 15 quarter units in computer science or a closely related field** ~~*one (1) year*~~.

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer equipment. May require hand/eye coordination for semi-skilled movements, such as taking apart casings, installing parts and reconnecting computers and for performing data entry. May involve extensive VDT exposure.

PROMOTIVE LINES

ORIGINATION DATE: 05/17/1997

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DEPARTMENT OF HUMAN RESOURCES

Title: IS Business Analyst
Job Code: 1052

AMENDED DATE: 06/27/16**: 09/XX/16**

REASON FOR AMENDMENT   *To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*

BUSINESS UNIT(S):   COMMN SFMTA SFCCD SFUSD

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IS Business Analyst - Senior
Job Code: 1053

INTRODUCTION

Under general direction, oversees the more difficult and complex aspects of the systems development cycle, including needs analysis, cost-benefit analysis, structured systems analysis and design, feasibility analysis, technology and software assessment, telecommunications needs analysis, project planning and management, system installation, implementation and testing, conversion to production status, technical and procedural documentation, user training, and post-implementation assessment and administration; may be the primary MIS resource for an organization with a complex system.

DISTINGUISHING FEATURES

The Senior IS Business Analyst is the advanced journey level in the Business Analyst series. Positions at this level are distinguished from the journey level Business Analysts by the greater difficulty and complexity of the analytical tasks, and is distinguished from the Principal by the limited supervisory responsibilities or the responsibility for smaller projects. Positions at this level require highly specialized knowledge, abilities, skills and experience and often exercise independent judgement in the performance of their duties; and possess technical or functional expertise beyond that expected at the journey level. Work is judged primarily on overall results with great latitude in determining work methods and assignment requirements. Employee has greater authority over assignments and decisions required to complete the work than lower level positions.

SUPERVISION EXERCISED

May provide limited supervision to professional subordinate positions, or assume responsibility for coordinating a defined program. However, supervisory responsibilities are ancillary to the main intent and focus of the positions.

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Identify opportunities for improving business processes through automation; assist in the preparation of proposals to develop new systems.

2. Analyze data processing needs; research and evaluate software on multiple platforms to assist users to meet their departmental goals; assist in developing the evaluation criteria for software.

3. Determine operating characteristics and requirements; develop or modify and document general system design; write detailed design specifications; conduct "walkthroughs" for proposed solutions to system problems.

4. Analyze the feasibility of and develop requirements for new systems and enhancements to existing systems; ensure the system design fits the needs of the users.

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5. May install and enhance software; program, test, debug and install new/modified programs.

6. Provide technical support for computer and telecommunications systems; consult on the

7. analysis of an application; troubleshoot system problems; implement solutions.

8. Conduct system analysis and may conduct programming activities for complex systems; document new and modified systems and programs; coordinate user training in new capabilities; mav convert new programming from test to production.

9. Interface with users to determine system needs and requirements; instruct users on newly implemented systems; define system requirements; may design and code programs; review impact of system modifications on existing systems.

10. Prepare, or assist client in preparing, service requests to implement system changes; determine level of effort required and the cost of implementing service requests; prioritize requests.

11. May provide technical production support for on-line and batch systems; assist with set processing schedule; update and produce reports.

12. Coordinate with outside vendors and contractors to complete projects and service requests; define, assign and evaluate their work.

13. May determine structure of databases; normalize data; perform conversion of data between platforms; design, develop and generate routine and ad hoc reports in response to user needs.

14. Determine security levels for systems to ensure data integrity; test database applications to assure functionality and effectiveness in performing to desired specifications.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

Knowledge of: Requirements installation procedures, hardware, software and maintenance of systems; electronic data processing methods; interactive or macro-based applications; functional requirements, structured systems or procedures analysis; personal computer applications development tools; system analysis and design; coding, testing and implementing complex programs; script/procedure languages; common operating systems software and relational database systems; network environments.

Ability and Skill to: Communicate effectively both orally and in writing; establish and maintain good working relations with department personnel, staff, vendors, peers, and management; understand and learn a variety of business procedures and processes; use logic and analysis to solve computer and systems problems; translate functional requirements into systems specifications; analyze data and information using established criteria, in order to determine consequences and to identify and select alternatives; advise and provide interpretation to others how to apply policies, procedures and standards to specific situations; exercise decisiveness and creativity required in situations involving the evaluation of information against judgmental criteria; read and understand professional journals and literature; prioritize competing requests for service.

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Title: IS Business Analyst - Senior
Job Code: 1053

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

An associate degree ~~from an accredited college or university~~ in computer science~~, business administration,~~ or a closely related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field]**.

Experience:

Three (3) years in the information systems field, including system analysis, business process design, development and implementation of business application solutions or IT project management.

License and Certification:

Substitution:

Additional experience as described above may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One (1) year* **is equivalent to** ~~T~~thirty (30) semester units ~~or~~ **/** forty-five (45) quarter units **with a minimum of 10 semester / 15 quarter units in computer science or a closely related field** ~~equal *one (1) year*~~.

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer equipment. May require hand/eye coordination for semi-skilled movements, such as taking apart casings, installing parts and reconnecting computers and for performing data entry. May involve extensive VDT exposure.

PROMOTIVE LINES

ORIGINATION DATE: 05/17/1997

AMENDED DATE: 06/27/16**; 09/XX/16**

REASON FOR AMENDMENT   *To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IS Business Analyst - Senior
Job Code: 1053

BUSINESS UNIT(S):   COMMN SFMTA SFCCD SFUSD

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IS Business Analyst – Principal
Job Code: 1054

INTRODUCTION

Under general direction, provides direct ongoing supervision to other IS Business Analysts, or serves as the top technical authority for one or more related specialties, or provides technical leadership and direction and assumes technical responsibility for the completion of major projects; performs or oversees all or most of the systems development life cycle and ongoing administration functions, including needs analysis, cost-benefit analysis, structured systems analysis and design, feasibility analysis, technology and software assessment, telecommunications needs analysis, project planning and management, system installation, implementation and testing, conversion to production status, technical and procedural documentation, user training, and post-implementation assessment and administration; directs and participates in complex studies.

DISTINGUISHING FEATURES

The Principal IS Business Analyst is the highest level in the Business Analyst series and may be assigned to function as a supervisor, expert or project leader. When assigned as a supervisor, develops, coordinates and executes policies, methods and procedures, and supervises personnel; when assigned as an expert, performs work requiring a very high level of technical knowledge of a specific area or the ability to integrate at a high level the knowledge of several areas (this is not considered to be a part of the normal career path for employees in this series; rather it is reserved for those employees with a mastery of specific- technologies or a particular expertise); when assigned as a-project leader, manages and provides technical leadership of projects involving large-scale, complex and highly analytical tasks. Positions at this level are distinguished from Senior Business Analysts in that the latter performs more specific and small-scale, though complex, analytical tasks. Work is performed within a broad framework of general policy and requires creativity and resourcefulness to accomplish goals and objectives, and in applying concepts, plans and strategies which may deviate from traditional methods and practices.

SUPERVISION EXERCISED

May supervise Business Analysts, Programmer Analysts, technical, clerical and other functional staff in the assigned work unit; or as a Project Leader, coordinate a team of workers which may include professional, technical and/or clerical staff within the assigned work unit or jointly with other units.

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

When assigned to the Supervision specialty:

1. Supervise, assign, review and participate in the work of subordinates in assigned unit.

2. Ensure that appropriate policies and procedures are followed by subordinates; review and

Title: IS Business Analyst – Principal
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recommend a variety of personnel actions in such areas as performance evaluation, training, selection and disciplinary measures.

3. Analyze and recommend procedures consistent with departmental directives, policy regulations that are developed by higher-level management staff.

4. Analyze and resolve complex system problems; develop and implement modification as necessary; prepare special reports; maintain records of system documentation.

5. Consult on special requests for information and reports; participate in audits, integrated reviews and improvement studies, and quality control reviews.

6. Monitor, coordinate and assist in developing the assigned work unit budget.

7. Provide advice and recommendations to meet user needs.

8. Coordinate system related activities with other departments for multi-departmental system projects.

9. Manage complex systems; lead and schedule multiple projects; plan, analyze and develop new systems; develop enhancements to systems; analyze procedures; develop conversion plans; move data from one system to another; provide user training.

10. Review plans for software, hardware and telecommunications equipment and services; prepare specifications; oversee request for proposal process.

11. Develop annual MIS plans, including budgeting, configuring and purchasing hard and software.

12. Monitor and review work in progress, providing technical assistance and guidance.

13. Manage and monitor progress of contractors and vendors; facilitate contract payments; participate in the request for proposal process and re-negotiate amendments; resolve problems.

14. Manage and design the structure and growth of computer and telecommunications systems and networking; design, develop and implement new systems to support departmental activities; set scope, boundaries and objectives for system functions interfaces based on departmental needs.

15. Attend meetings as needed; represent unit on committees.

When assigned to the Project Leader specialty:

1. Analyze and evaluate existing complex systems for cost effective and efficient operation and recommend modifications; prepare feasibility studies; monitor technical design in relation to system changes; gather requirements and general information regarding users business needs relating to new developments or enhancements.

2. Identify opportunities for improving business processes through automation; prepare proposals to develop new systems or enhancements to existing systems, conduct feasibility studies.

3. Determine allocation of resources and installation schedules; prepare feasibility studies;

Title: IS Business Analyst – Principal
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determine operating characteristics and requirements; monitor and report progress of work.

4. Assure proper planning, engineering, documentation, installation and testing of systems to meet end user requirements; manage system maintenance activities.

5. Prepare budgetary cost estimates and develop project implementation proposals, documentation and scheduling; write technical specifications and requests for proposals.

6. Assure coordination and intra-network compatibility; assist with integration of manual and automated system procedures.

7. Coordinate multi-vendor support for the technical and administrative resolution of network troubleshooting problems.

8. Recommend contractor selection, may review contractor and vendor billings; monitor and evaluate quality of contractor/consultant products and services; coordinate interactions and activities of vendors.

9. Analyze regulatory rules and regulatory issues for their impact on current operations.

10. Provide technical support services to other agencies and departments.

11. Develop training exercises for subordinate staff and maintain technical education; may coordinate and/or present training classes.

12. Create work plans and monitor progress of project tasks; review staff work and train staff relating to the project work.

13. Create and document long-term strategies for project related information systems operations; translate business needs into IS directions; identify new information systems technology opportunities; may prepare and present long term plans.

14. Research, analyze and select hardware and software products.

15. May oversee certain project related production functions.

16. Monitor project related work schedules and completion dates.

17. Coordinate and/or attend project team meetings and user meetings.

When assigned to the Expert specialty:

1. Optimize system designs through review and analysis of user needs; customize systems through design and administration.

2. Identify opportunities for improvements in business processes through automation; make recommendations for new procedures and applications.

3. Analyze the feasibility of 'and develop requirements for new systems and enhancements to existing systems; prepare cost estimates and schedules for modifications; set scope, boundaries and objectives for system' functions and interfaces based on departmental needs.

4. Design, develop and implement new systems to support departmental activities.

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5. Define system requirements; design, code, test and debug systems; train users on new applications.

6. Develop or modify system design: write detailed design specifications.

7. Provide advice on the functionality of new programs and compatibility of modifications to ensure user needs are met.

8. Evaluate software and hardware products on multiple platforms; make recommendations for compatibility, based on user requirements and systems analysis.

9. Provide analysis and technical support for highly complex systems; troubleshoot systems problems; implement solutions.

10. Support and maintain highly technical systems or networks; analyze and evaluate systems for cost effective and efficient performance; recommend modifications.

11. Coordinate the efforts of analysts, engineers and operators in the implementation of projects spanning multiple systems and sites; multiple platforms.

12. Manage and monitor the progress of contractors and vendors; resolve problems.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

Knowledge of: Requirements, installation procedures, hardware, software and maintenance of systems; practices and techniques of supervision and of project management; training techniques; interactive and macro-based applications; functional requirements, structured systems or procedures analysis; systems analysis and design; coding, testing and implementing complex. programs; script/procedure languages; common operating systems software and relational database systems; data modeling; electronic data processing methods; network management and coordination; project cost estimating; contracts negotiation and management; long range planning techniques; practices and techniques of project management; training techniques; systems development life cycle; structured. systems or procedures analysis; business applications development; technical writing.

Ability and Skill to: Manage and direct a group of workers, including the ability to provide counseling and mediation; persuade, convince and train others; communicate effectively both orally and in writing; communicate clear expectations to subordinates and motivate them to perform effectively; establish and maintain good working relations with department personnel, staff, vendors, peers and management; understand and learn a variety of business procedures and processes; exercise the judgement, decisiveness and creativity required in situations involving the direction, control and planning of a program or multiple programs; use logic and analysis to solve computer and systems problems; translate functional requirements into systems specifications; decide the time, place and sequence of operations within an organizational framework, as well as the ability to oversee their execution; read and understand professional journals and literature; coordinate highly technical procedures and complex reporting requirements; produce complex reports; prioritize competing requests for service; develop network design; conduct cost/benefit analyses; prepare technical specifications; produce complex reports-, coordinate highly technical procedures and complex reporting requirements; develop new approaches and solutions outside of existing theories and principles,

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engage in high level consulting.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

An associate degree ~~from an accredited college or university~~ in computer science~~, business administration,~~ or a closely related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field]**.

Experience:

Five (5) years of experience in the information systems field, including system analysis, business process design, development and implementation of business application solutions or IT project management.

License and Certification:

Substitution:

Additional experience as described above may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One (1) year* **is equivalent to** ~~T~~thirty (30) semester units ~~or~~ / forty-five (45) quarter units **with a minimum of 10 semester / 15 quarter units in computer science or a closely related field** ~~equal~~ *~~one (1) year~~*.

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer equipment. May require hand/eye coordination for semi-skilled movements, such as taking apart casings. installing parts and reconnecting computers and for per-forming data entry. May involve extensive VDT exposure.

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ORIGINATION DATE: 05/17/1997

AMENDED DATE: 06/27/16**; 09/XX/16**

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DEPARTMENT OF HUMAN RESOURCES

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Job Code: 1054

REASON FOR AMENDMENT	*To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*
BUSINESS UNIT(S):	COMMN SFMTA SFCCD SFUSD

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IS Programmer/Analyst - Assistant
Job Code: 1061

INTRODUCTION

Under general supervision, assists in the writing, maintenance and documentation of application source code in one or more programming languages.

DISTINGUISHING FEATURES

The Assistant IS Programmer/Analyst is the entry level in the Programmer/Analyst series. This position is distinguished from higher level classifications in the Programmer/Analyst series in the more routine tasks performed with less independence. Positions at this level perform a significant portion of the work assigned to the journey level, but without the independence or full responsibility expected of positions at the journey level. Assignments are generally limited in scope and are set within procedural frameworks established by higher level positions. Exceptions are referred to the supervisor. As experience is acquired, the incumbent performs with increasing independence. Results are periodically reviewed by the supervisor. Performance is measured by the accuracy and completeness of work, and adherence to policies, procedures and schedules.

SUPERVISION EXERCISED

None.

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Evaluate user requirements; create programming specifications; design, write, test and debug programs; prepare user and technical manuals for the systems; implement new procedures, programs and data files into production.

2. Write new programs; create code; compile and test code; review with other programmers; verify output; correct programs.

3. Apply modifications to existing systems; test and document changes; perform change control tasks.

4. Enhance existing programs.

5. Provide technical assistance to users; coordinate training on new systems.

6. Track system performance, perform file maintenance and space capacity; resolve production problems and resubmit jobs.

7. Troubleshoot to resolve systems problems; make necessary corrections to resolve errors.

8. Upload/download data; manipulate data to meet user needs.

9. May provide backup support for other systems, such as resolving printer, terminal or remote line problems.

**Title: IS Programmer/Analyst - Assistant
Job Code: 1061**

10. Set up computer jobs and/or scripts.

11. Compile and generate reports; extract data from data bases; research and respond to general system questions.

12. May configure and install software.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

Knowledge of: Computer languages; electronic data processing and its applications; interactive applications; structured analysis and programming.

Ability and Skill to: Communicate effectively orally and in writing; use logic and analysis to solve computer and systems problems; establish effective working relationships with users; analyze and categorize data and information in order to determine the relationship of the data with reference to established criteria/standards; explain, demonstrate and clarify to others within established policies, procedures and standards; exercise the judgement, decisiveness and creativity in situations involving a variety of pre-defined duties subject to frequent change; read and understand professional journals and literature; prioritize competing requests for service.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

An associate degree ~~from an accredited college or university~~ in computer science or closely related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field]**.

Experience:

License and Certification:

Substitution:

~~Additional e~~Experience ~~as described above~~ **in application or software development or programming** may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One (1) year* **is equivalent to** ~~T~~thirty (30) semester units ~~or~~ **/** forty-five (45) quarter units **with a minimum of 10 semester / 15 quarter units in computer science or a closely related field** ~~equal~~ *~~one (1) year~~*.

Completion of the 1010 Information Systems Trainee Program may be substituted for the required degree.

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Title: IS Programmer/Analyst - Assistant
Job Code: 1061

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer equipment. May require hand/eye coordination and manual dexterity for data entry. May involve extensive VDT exposure.

PROMOTIVE LINES

ORIGINATION DATE:	05/17/1997
AMENDED DATE:	06/27/16**; 09/XX/16**
REASON FOR AMENDMENT	*To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*
BUSINESS UNIT(S):	COMMN SFMTA SFCCD SFUSD

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IS Programmer Analyst
Job Code: 1062

INTRODUCTION

Under general direction, responsible for the design, writing, maintenance and documentation of application source code for specific projects; may work directly with users to clarify system requirements.

DISTINGUISHING FEATURES

The IS Programmer/Analyst is the journey level in the Programmer/Analyst series. This position is distinguished from the Assistant classification in the wider scope of programming responsibilities, and is distinguished from the higher level classifications in the lower complexity of the work and less interaction with users. At this level, incumbents work with occasional instruction or assistance. Employee performs a full range of complex analytical tasks and work under direction within a framework of established procedures. Work requires frequent interpretation of policies, procedures and guidelines, and may require the development of recommendations consistent with directives. Work is normally reviewed upon completion, and is judged primarily on overall results with great latitude in determining work methods and assignment requirements.

SUPERVISION EXERCISED

May be expected to provide supervision to subordinate clerical or technical staff, however, supervisory responsibilities are ancillary to the main focus of the position.

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Design and code programs for a clean compile; prepare comprehensive test plans and ensure that programs are tested; debug problem programs; implement new programs.

2. Identify opportunities for operational improvements in existing systems; analyze requirements and costs of implementing service requests.

3. Determine and analyze operating characteristics and requirements; may schedule projects.

4. Develop screen prototypes; prepare detail design specifications.

5. Review program development with users and modify as necessary.

6. Code or update common program routines to be shared among programs.

7. Develop or modify data flow and diagrams, entity relationship diagrams; document systems design.

8. Create test plan and test cases; execute unit test and document results; assist users to develop and execute system test; provide migration support to users; resolve problems.

9. Create and maintain computer data base systems; prepare user system manuals; download

Title: IS Programmer Analyst
Job Code: 1062

existing data into tables for use in new applications.

10. Analyze, develop and test screen processes.

11. Implement the system; prepare production documentation and instructions; maintain technical and user manuals; provide training on new procedures.

12. Write, enhance and document production jobs; monitor and schedule production jobs; review status of submitted jobs; analyze and resolve problems as necessary and/or resubmit jobs.

13. Provide technical assistance for on-line and batch systems, including hardware and/or software problem resolution to ensure system availability, data integrity, and timely and accurate reporting; document issues and possible solutions/recovery procedures.

14. Compile and generate special reports; create tables, forms and queries; provide progress reports to higher management.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

Knowledge of: Computer languages; interactive applications; electronic data processing methods; personal computer applications development tools; coding, testing and implementing programs; script/procedure languages; job flow within a large scale data processing environment; systems development life cycle; common operating systems software and relational database systems.

Ability and Skill to: Communicate effectively orally and in writing; use logic and analysis to solve computer and systems problems; establish effective working relationships with users, peers, management and vendors; translate functional requirements into systems; analyze and categorize data and information in order to determine the relationship of the data with reference to established criteria/standards; advise and provide interpretation to others how to apply policies, procedures and standards to specific situations; exercise judgement, decisiveness and creativity in situations involving the evaluation of information against measurable criteria; read and understand professional journals and literature; prioritize competing requests for service.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

An associated degree ~~from an accredited college or university~~ in computer science or closely related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field]**.

Experience:

CITY AND COUNTY OF SAN FRANCISCO
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Title: IS Programmer Analyst
Job Code: 1062

One (1) year of experience in application or software development or programming

License and Certification:

Substitution:

Additional experience as described above may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One (1) year* **is equivalent to** ~~T~~thirty (30) semester units ~~or~~ /forty-five (45) quarter units **with a minimum of 10 semester / 15 quarter units in computer science or a closely related field** ~~equal~~ *~~one (1) year~~*.

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer equipment. May require hand/eye coordination and manual dexterity for data entry. May involve extensive VDT exposure.

PROMOTIVE LINES

ORIGINATION DATE: 05/17/1997

AMENDED DATE: 06/27/16**: 09/XX/16**

REASON FOR AMENDMENT   *To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*

BUSINESS UNIT(S):   COMMN SFMTA SFCCD SFUSD

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IS Programmer Analyst - Senior
Job Code: 1063

INTRODUCTION

Under general direction, responsible for performing all aspects of the programming function for those projects requiring difficult and complex programming work; generally works with users to clarify and modify system requirements; analyzes, designs, writes, documents, and maintains computer application source code in one or more programming languages, generally in a mainframe or other centralized data processing facility.

DISTINGUISHING FEATURES

The Senior IS Programmer/Analyst is the advanced journey level in the Programmer/Analyst series. This position is distinguished from the journey level classification in the greater complexity of work and the interaction with users; the advanced journey level classifications possess a significant level of specialized, technical or functional expertise beyond that expected at the journey level. The Senior classification is distinguished from higher level positions in the lower technical leadership displayed and little supervisory responsibilities. Positions at this level require highly specialized knowledge, abilities, skills and experience and often exercise independent judgement in the performance of their duties. Work is judged primarily on overall results with great latitude in determining work methods and assignment requirements. Employee has greater authority over assignments and decisions required to complete the work.

SUPERVISION EXERCISED

May provide supervision to professional subordinate positions, or assume responsibility for coordinating a defined program. However, supervisory responsibilities are ancillary to the main intent and focus of the positions.

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Determine requirements for new systems and enhancements to existing systems; develop or modify and document general system design; establish a production environment and migrate approved programs to production.

2. Design and code programs with a high level of complexity for a clean compile; prepare comprehensive test plans and ensure that programs are tested; debug problem programs; implement new programs.

3. Ensure program specifications are complete; produce basic components, such as program overview, listing of files and related programs and sub-programs, charts and screen flow diagrams and the like, to ensure complete programming; review specifications submitted by vendors and user departments to ensure compatibility with current systems.

4. Analyze, research and repair program logic and systems; modify program logic; analyze service requests for system changes or new requirements to determine the most effective

Title: IS Programmer Analyst - Senior
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    approach and the appropriate staff time required to achieve the needed modification.

5. Test new software technologies; report results; recommend software purchases.

6. Monitor systems for space usage; coordinate batch processing.

7. Evaluate programs and systems; present alternatives for more effective and efficient use; study the feasibility of developing new systems and enhancements to existing systems; develop project estimates; establish completion targets.

8. Train users on procedures and applications; provide technical assistance on the use of systems.

9. Meet with users to discuss service requests, needs and operating characteristics; initiate and attend design meetings; consult with other staff members to provide technical assistance as needed.

10. Provide emergency technical support for on-line and batch systems, problem resolution to ensure system availability, data integrity and timely and accurate reporting.

11. Identify opportunities for operational improvements; participate in special projects as necessary.

12. Assess production problems; prioritize needs; resolve problems.

13. Document program specifications, structure charts, job-control procedure listings, test data listings, test run output, input/output data specifications and the like.

14. Prepare user and technical manuals and instructions.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

<u>Knowledge of</u>: Computer languages; electronic data processing; interactive or macro-based applications; job flow within a large scale data processing environment; script/procedure languages; personal computer applications development tools; emerging technologies and software; systems development life cycle; common operating systems software and relational database systems; coding, testing and implementing complex programs; systems analysis and design.

<u>Ability and Skill to</u>: Communicate effectively orally and in writing; use logic and analysis to solve computer and systems problems; establish good working relationships with other employees in IS positions, vendors and end users; develop multi-platform based applications; perform data and process modeling and normalization; translate functional requirements into systems specifications; analyze data and information using established criteria, in order to determine consequences and to identify and select alternatives; advise and provide interpretation to others how to apply policies, procedures and standards to specific situations; exercise decisiveness and creativity required in situations involving the evaluation of information against judgmental criteria; read and understand professional journals and literature; prioritize competing requests for service.

MINIMUM QUALIFICATIONS

CITY AND COUNTY OF SAN FRANCISCO
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Title: IS Programmer Analyst - Senior
Job Code: 1063

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

An associate degree ~~from an accredited college or university~~ in computer science or closely related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field]**.

Experience:

Three (3) years of experience in application or software development or programming

License and Certification:

Substitution:

Additional experience as described above may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One (1) year* **is equivalent to** ~~T~~thirty (30) semester units ~~or~~ **/** forty-five (45) quarter units **with a minimum of 10 semester / 15 quarter units in computer science or a closely related field** ~~equal *one (1) year*~~.

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer equipment. May require hand/eye coordination and manual dexterity for data entry. May involve extensive VDT exposure.

PROMOTIVE LINES

ORIGINATION DATE: 05/17/1997

AMENDED DATE: 06/27/16**: 09/XX/16**

REASON FOR AMENDMENT   *To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*

BUSINESS UNIT(S):   COMMN SFMTA SFCCD SFUSD

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IS Programmer/Analyst - Principal
Job Code: 1064

INTRODUCTION

Under General direction, provides direct ongoing supervision to other Programmer/Analysts, or provides technical leadership and direction and assumes technical responsibility for completion of major programming projects, or serves as the top technical authority for one or more related specialties and performs programming functions for those projects requiring the most difficult and complex programming work; works with users to clarity and modify system requirements; analyzes, designs, writes, documents, and maintains the more complex computer application source code in one or more programming languages, generally in a mainframe or other centralized data processing facility.

DISTINGUISHING FEATURES

The Supervisor IS Programmer/Analyst is the highest level in the Programmer/Analyst series. When assigned as a supervisor, develops, coordinates and executes policies, methods and procedures, super-vises personnel and may perform the more complex work of the unit; when assigned as an expert, performs work requiring a very high level of technical knowledge of a specific area or ability to integrate at a high level the knowledge of several areas (this is not considered to be a part of the normal career path for employees in this series; rather it is reserved for those employees with a mastery of specific technologies or a particular expertise); when assigned as a project leader, manages and provides technical leadership of projects involving large-scale, complex and highly analytical tasks. Positions at this level are distinguished from Senior IS Programmer/Analysts in that the latter perform more specific and small-scale, though complex, analytical tasks. Work is performed within a broad framework of general policy and requires creativity and resourcefulness to accomplish goals and objectives. Judgement is required both in interpreting established policies, goals and objectives, and in applying concepts, plans and strategies which may deviate from traditional methods and practices.

SUPERVISION EXERCISED

May supervise subordinate Programmer/Analysts, Business Analysts, technical, clerical and other functional staff in the assigned work unit; or as a Project leader, coordinate a team of workers within the assigned work unit or jointly with other units.

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Provide assistance to staff in the analysis and determination of appropriate action to respond to service requests and problem reports; evaluate user service requests to determine and recommend the most appropriate solution which meets user business and application system requirements; coordinate scheduling between technical support staff and departments; prepare project plans, time and cost estimates of new projects and enhancements or changes to existing systems/applications.

Title: IS Programmer/Analyst - Principal
Job Code: 1064

2. Plan, analyze, design and implement a variety of new systems establishing internal and external controls; develop procedures for access, update and retrieval of information; ensure programs designs meet user requirements; ensure design/program adherence to standards.

3. Determine requirements for new systems and enhancements to existing systems; develop or modify and document general system design; establish a production environment and migrate approved programs to production.

4. Review departmental work-flows, functions performed and procedures used; consult with departmental personnel to obtain information on existing systems procedures; develop proposals and plans for installing new or revised complex systems.

5. Design, code, test and debug programs for special projects and interfaces; prepare final systems design and documentation necessary for programming; review the work of others and provide technical assistance.

6. Analyze, research and repair program logic and systems; modify program logic.

7. Analyze and respond to service requests; determine the most cost effective approach and the appropriate staff time required to achieve needed modifications; recommend appropriate solutions to meet user needs and project requirements.

8. Ensure program specifications are complete; produce basic components to ensure complete programming; review specifications submitted by vendors and users to ensure compatibility with current systems.

9. Analyze and logically design database systems to support on-line and batch reporting including data analysis and normalization, record specification and definition or logical relationships between records; define functional requirements.

10. Write, modify and/or run programs to provide reports and for extraction of database information and downloading to personal computers as necessary.

11. Assist users and other analysts in diagnosing complex program failures; develop recovery and backup procedures; detect, identify and correct software deficiencies.

12. Assist in developing and maintaining standards of hardware and software utilization.

13. Develop detailed specifications necessary to support applications programming.

14. Advise management on the capabilities and limitations of current systems and recommend improvements.

15. May create and document long term strategies for project related information systems operations; identify new information systems technologies.

16. May prepare project plans, time and cost estimates of new projects and enhancement or changes to existing systems/applications; coordinate integration into existing systems and procedures.

Title: IS Programmer/Analyst - Principal
Job Code: 1064

17. May prepare project budgetary cost estimates; develop project implementation proposals, documentation and scheduling; write technical specifications and request for proposals.

18. Coordinate and/or attend project team meetings, user meetings and the like as needed.

19. Monitor project related work schedules and completion dates.

20. Monitor and review work in progress, providing technical assistance and guidance.

21. Conduct studies of designated operations, work with assigned user department personnel; define projects.

22. Prepare user and technical manuals and instructions; instruct users on new capabilities.

23. Performs related duties and responsibilities, as assigned.

24. Write, modify and/or run programs to provide reports or file processing as necessary.

25. Provide advice and consult with users regarding problems, special reports, revisions and enhancements to existing systems; provide progress reports on programming activities.

26. Provide technical support for complex systems; monitor system performance to ensure proper functioning, interaction with other subsystems, and timely and accurate report production.

27. Analyze and resolve system problems; develop and implement solutions; resolve technical problems with end users in the implementation, maintenance and modification of complex application programs.

28. Coordinate with other agencies, units and vendors regarding interfaces and program requirements, or new development; advise and assist user departments in system planning.

29. Review, evaluate and purchase technical literature and documentation for reference, training and education; develop and implement training programs for staff or users as needed.

30. Analyze and recommend procedures consistent with departmental directives, policies and regulations which are developed by higher level management staff.

31. May research and evaluate new technologies, software and hardware products; consult with vendors regarding product functions and features; recommend software and hardware purchases.

32. May supervise, assign, review and participate in the work of subordinates in assigned unit.

33. May review and recommend a variety of personnel actions in such areas as performance evaluation, training, selection and disciplinary measures.

34. May ensure that appropriate policies and procedures are followed by subordinates.

35. May monitor, coordinate and assist in development of the assigned work budget.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

Knowledge of: Computer languages; electronic data processing and its applications; requirements, installation procedures, hardware, software and maintenance of systems;

Title: IS Programmer/Analyst - Principal
Job Code: 1064

emerging technologies and software; systems development life cycle; common operating systems; job flow within a large scale data processing environment; systems analysis and design; multi-platform applications and software; script/procedure languages; designing, coding, testing and implementing highly complex programs; relational database systems; functional requirements, structured systems or procedures analysis; data modeling; business applications development; technical writing; network environments; multi-platform applications and software; LAN and mainframe communications; systems development life cycle; training techniques; techniques and practices of supervision and project management.

Ability and Skill to: Manage and direct a group of workers, including the ability to provide counseling and mediation; persuade, convince and train others including the ability to act in a lead worker capacity; decide the time, place and sequence of operations within an organizational framework, as well as the ability to oversee their execution; exercise the judgement, decisiveness and creativity required in situations involving the direction, control or planning of a program or multiple programs; communicate effectively orally and in writing; use logic and analysis to solve computer and systems problems; prepare budgets and cost estimates; establish and maintain good working relationships with other employees in IS positions, vendors and end users; translate functional requirements into system specifications; perform data and process modeling and normalization; read and understand professional journals and literature; prioritize requests for service; develop new approaches and solutions outside of existing theories and principles; engage in high level consulting.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

An associate degree ~~from an accredited college or university~~ in computer science or closely related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field]**.

Experience:

Five (5) years of experience in applications or software programming or development.

License and Certification:

Substitution:

Additional experience as described above may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One (1) year* **is equivalent to** ~~T~~thirty (30) semester units or forty-five (45) quarter units **with a minimum of 10 semester / 15 quarter**

Title: IS Programmer/Analyst - Principal
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units in computer science or a closely related field ~~equal~~ *~~one (1) year~~*.

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer equipment. May require hand/eye coordination and manual dexterity for data entry. May involve extensive VDT exposure.

PROMOTIVE LINES

ORIGINATION DATE:	05/17/1997
AMENDED DATE:	06/27/16**: 09/XX/16**
REASON FOR AMENDMENT	*To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*
BUSINESS UNIT(S):	COMMN SFMTA SFCCD SFUSD

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IS Project Director
Job Code: 1070

INTRODUCTION

Under administrative direction, plans, directs and coordinates the operations and activities of a shop of moderate complexity or a distinct and/or varied unit of a complex shop; exercises discretion in applying general goal and policy statements and in resolving organizational and service delivery problems; may manage projects across sectional lines and/or major development projects; assumes supervisory responsibilities, including performance evaluations, training, selection and disciplinary actions.

DISTINGUISHING FEATURES

The IS Project Director class is the highest level in the IS professional series. This class is distinguished from the supervisory level in the various IS series by its higher and interdisciplinary responsibility. It is distinguished from the IS Director/Manager series by the lower complexity and scale of the units managed. Work is accomplished within a broad framework, with sole authority and responsibility in a given functional area(s) of service. Requires creative ability, resourcefulness and discriminating judgement in the analysis and solution of complex problems, and the ability to make technical decisions on specialized matters. Work is reviewed in terms of fulfillment of goals, program effectiveness and soundness of judgement.

NOTE: The degree to which size and complexity are distinguished between this class and the IS Directors/ Manager Series depends on a variety of factors: including number of employees under the manager's authority, value of assets for which the manager is held accountable number of users dependent upon the system and number of applications being run. variety of platforms and their interconnections within the organization, the level of new and emerging technologies employed in the organization, the allowable margin of error before critical operations of the users are impacted, the impact and potential for errors as measured by the likelihood of error and the cost to recover from errors, the frequency of required operational changes to meet the needs of users, and the extent that expert advice is readily available.

SUPERVISION EXERCISED

Supervises a variety of professional and technical staff, as well as contractors performing information systems work for the City/County; when assigned to DTIS Project Management Office, coach, mentor, and audit IS Project Directors within the organization in all aspects of IS Project Management.

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Organize, direct and supervise the work of subordinate staff.

2. Participate in the development and implementation of goals, objectives, policies, priorities

Title: IS Project Director
Job Code: 1070

and procedures for the assigned programs.

3. Ensure that activities are completed in a timely and efficient manner consistent with defined policies and regulations.

4. Assume significant responsibility for the preparation and administration of assigned budget(s).

5. Represent the department at various meetings.

6. Coordinate training programs for staff and users; design, fund, schedule and/or arrange for outside trainers.

7. Function as liaison to other units or departments for data processing activities; coordinate sharing of common software applications and data.

8. Develop and present information systems Master Plan.

9. Develop, program and maintain unit data processing applications.

10. Review and provide direction for system production activities.

11. Install new devices and software for computer and telecommunication systems; and/or coordinate installation plans with vendors, administrators, users, programmers, analysts, etc.

12. Perform complex system administrator and/or production functions for computer and communication systems.

13. Monitor, analyze and resolve problems for systems with varied environments, including PC-based networks, mini computers, mainframes and the like.

14. Evaluate hardware and software.

15. Coordinate consultants in the purchase of hardware and software and the establishment of custom software applications for departments.

16. May prepare specifications and purchase orders; manage vendor accounts; recommend consulting services as needed: establish maintenance contracts for equipment.

17. Evaluate and recommend department equipment purchases; may maintain inventories of materials, supplies and equipment.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

Knowledge of: Project management and information systems development and maintenance; technical, operational, and programming problem solving analysis; computer languages; systems design: common operating systems and relational database systems; interactive or macro-based applications; practices and techniques of supervision; training techniques; job flow within a large scale data processing environment; and data processing methods.

Ability and Skill to: Supervise and direct a group of technical employees, including the ability to provide counseling and mediation; persuade, convince and train others; advise and interpret regarding the application of policies, procedures and standards to specific situations; exercise judgement, decisiveness and creativity required in situations involving the direction, control and

Title: IS Project Director
Job Code: 1070

planning of an entire program or multiple programs; modify existing policies, strategies and/or methods to meet unusual conditions within the context of existing management principles; communicate effectively orally and in writing; establish and maintain good working relationships with department personnel, staff, vendors, and peers; use logic and analysis to solve computer and systems problems; read and understand professional and technical journals and literature; produce complex reports; prioritize competing requests for service.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

An associate degree ~~from an accredited college or university~~ in computer science~~, data processing operations, business administration~~ or **a closely** related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field]**.

Experience:

Seven (7) years of experience in system administration, information systems development, maintenance and support, or information technology project management, including two (2) years of supervisory experience

License and Certification:

Substitution:

Additional experience as described above may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One (1) year* **is equivalent to** ~~T~~thirty (30) semester units ~~or~~ **/** forty-five (45) quarter units **with a minimum of 10 semester / 15 quarter units in computer science or a closely related field** ~~equal~~ *~~one (1) year~~*.

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: May require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer equipment. Requires bending, stooping and/or crawling in order to install or repair computer or printer cables. Requires hand/eye coordination for semi-skilled movements, such as taking apart casings, installing parts and reconnecting computers, and keyboard use. Involves extensive VDT exposure.

CITY AND COUNTY OF SAN FRANCISCO
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Title: IS Project Director
Job Code: 1070

PROMOTIVE LINES

ORIGINATION DATE:	05/17/1997
AMENDED DATE:	07/12/02; 06/27/16**; 09/XX/16**
REASON FOR AMENDMENT	*To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*
BUSINESS UNIT(S):	COMMN SFMTA SFCCD SFUSD

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IT Operations Support Administrator I
Job Code: 1091

INTRODUCTION

Under general supervision, provides or learns to provide technical support for moderately sized networks with single or multiple Local Area Networks (LANs) or data center operational support for multiple, distinctive computers, mobile devices and their networks; installs, maintains, and enhances software, hardware and peripherals; performs basic help desk functions; coordinates user training; performs data and access protection processes; and performs related work which may include computerized data input and record maintenance.

DISTINGUISHING FEATURES

The IT Operations Support Administrator I is the training-level classification in the IT Operations Support series where incumbents learn and perform technical and operational support functions. Positions at this level are distinguished from the IT Operations Support Administrator II in that the latter is the journey level class in the series. This class performs a significant portion of the work assigned to the journey level, but without the independence or full responsibility expected at the higher levels. Initially, incumbents work alongside more senior operations staff to learn all aspects of monitoring and operating a computer facility. Assignments are generally limited in scope and are set within procedural frameworks established by higher level positions. As experience accrues, the incumbent performs with increasing independence. Performance is measured by timely and accurate completion of work. Some direction is provided after assignment; however, employees have some choice of method and occasionally develop their own methods.

SUPERVISION EXERCISED

None

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Provide technical and operational support and maintenance for computers and networks; assist in network upgrades; log, track and monitor all problems and requests; provide technical support to department programs and staff in the use of computer applications. May assign logons and rights, print queues and directory structures; reset passwords; create departmental groups; run security programs.

2. Monitor and operate computer and telecommunications systems, including data lines, terminals and printers; troubleshoot hardware/software problems; may coordinate with vendors for equipment repair.

3. Perform help desk functions for routine issues including problem tracking, analysis, and resolution; define and document help desk solutions; provide problem determination; analyze and resolve system problems to ensure continuous system operations required for scheduled data processing functions; administer off-site storage of data.

Title: IT Operations Support Administrator I
Job Code: 1091

4. Install and configure server hardware, workstations and various peripherals; install software applications.

5. Produce, review and assist in the collection of client data, service and billing issues and documentation to comply with governmental mandates and regulations.

6. Monitor and review system software applications and procedures pertaining to accurate reporting; review system output and data processing operations for accuracy and completeness; provide communications support between systems.

7. Assist in the development and production of system/end-user documentation for applications processing and procedures.

8. Assist in the development and implementation of training activities and materials; instruct users in logon and document identification procedures.

9. Generate reports and statistics; perform system backups; retrieve documents.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

Knowledge of: On-site broad based user technical, operational, programming and analytical problem solving support; Data processing methods; Personal computer applications; Database and spreadsheet concepts.

Ability and Skill to: Communicate effectively orally and in writing; use logic and analysis to solve systems problems; Make minor mechanical repairs to computer and communications equipment; Classify, compute and tabulate data and information following a prescribed plan requiring exercise of some judgment; Advise and provide interpretation to others on how to apply policies, procedures and standards to specific situations; Exercise judgment, decisiveness and creativity in situations involving a variety of pre-defined duties subject to frequent change; Read and understand professional journals and literature; Prioritize competing requests for service.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

Requires an Associate's Degree ~~from an accredited college or university~~ in computer science~~,~~ ~~information systems~~ or a closely related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field]**.

Experience:

License and Certification:

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IT Operations Support Administrator I
Job Code: 1091

Substitution:

Additional eExperience **performing analysis, installation and technical support in a network environment** as described above may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One (1) year* **is equivalent to** Tthirty (30) semester units or / forty-five (45) quarter units **with a minimum of 10 semester / 15 quarter units in computer science or a closely related field** equal *one year*.

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer equipment. May require bending, stooping and/or crawling in order to install or repair computer or printer cables. May require hand/eye coordination for semi-skilled movements, such as taking apart casings, installing parts, reconnecting computers and data entry. May require rotational and shift assignment and may be required to travel to and work at a disaster recovery site, which may be located out of state, to resume data center operations after a disaster.

PROMOTIVE LINES

To: 1092 IT Operations Support Administrator II

From: Entrance Examination

ORIGINATION DATE:	01/10/2012 (Consolidation of the 100x IS Operator, 101x IS Technician and 102x IS Administrator Series)
AMENDED DATE:	06/27/16**: 09/XX/16**
REASON FOR AMENDMENT	*To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*
BUSINESS UNIT(S):	COMMN SFMTA SFCCD SFUSD

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IT Operations Support Administrator II
Job Code: 1092

INTRODUCTION

Under general direction, provides technical support for moderately sized networks with single or multiple Local Area Networks (LANs), data center operational support for multiple, distinctive computers, mobile devices and their networks and routine system administration activities, which may include network operations, installing, enhancing and maintaining computers, peripherals, and mobile device configuration, or combination of these activities. Troubleshoots or assists with problem resolution. May provide ongoing and remedial user training; establishes and performs data and access protection processes; and performs related work which may include data input and record maintenance.

DISTINGUISHING FEATURES

The IT Operations Support Administrator II is the journey level in the IT Operations Support series. Positions at this level are distinguished from those in the lower level of IT Operations Support Administrator I in that the latter is less independent, performing less complex technical and operational support activities which are narrower in scope. This classification is further distinguished from the higher level of IT Operations Support Administrator III in that the latter performs the full range of and more complex technical and operational support and system administration and may lead the work of a unit engaged in the same activities. At this level, incumbents work with only occasional instruction or assistance. Employee has latitude in determining work methods and assignment requirements. Performance is measured by accurate and timely completion of work. Work is reviewed upon completion and for overall results.

SUPERVISION EXERCISED

Journey level - may provide technical oversight to subordinate clerical or trainee operations support staff.

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Monitor, operate and enhance moderately complex computers with different and distinct platforms that may include mainframes, mid-range server systems, desktop computers, mobile devices, and communications systems to insure proper functioning, and recommend solutions to correct malfunctions.

2. Install and configure computer and/or telecommunications hardware and software; coordinate and schedule hardware repairs; perform routine equipment maintenance; repair and modify various computer and communications systems and related equipment; create user groups and individual accounts.

3. Maintain and document scripts and procedures used to enhance existing desktop computer functions.

Title: IT Operations Support Administrator II
Job Code: 1092

4. Provide problem determination and technical assistance to users; escalate and coordinate problem resolution activities; perform help desk functions.

5. Administer remote logons system securities, data transfers, and other remote activities.

6. Retrieve and download and/or upload data; assist with the transition of data/operations between systems; may provide on-site technical support for information technology equipment.

7. Research, analyze and test application or system software for compatibility and capability to specific job applications and assignments; may recommend hardware and software purchases.

8. May ensure the accuracy of computer reports and data integrity.

9. Maintain information technology materials and supply inventories; reconcile discrepancies of service and payments.

10. Prepare specifications, may get quotations from vendors.

11. Compile, tabulate and generate reports; document procedures and programs; may develop written help materials.

12. Perform and monitor scheduled job executions, including system and application backups and archiving tasks, on multiple, distinctive platforms, including mainframes, mid-range computers, and data storage; maintain system backups and control records; assist in the maintenance of files and libraries; create logical directory structure; may be responsible for retention and storage of databases; perform routine tape management functions for various, different computer platforms.

13. Perform work related to security and disaster recovery needs such as system backup and/or restoration, traveling to hotsite or recovery site, and operating restored systems.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

Knowledge of: On-site broad based technical, operational and analytical problem solving support; Installation, maintenance, expansion and upgrading of software, hardware, networks, desktops, mobile devices, peripherals; Common operating systems; information technology methods and procedures; training techniques

Ability and Skill to: Work as a member of a team, communicate effectively orally and in writing; Use logic and analysis to solve computer and systems problems; Establish and maintain effective working relationships; Apply new technologies and system changes; Analyze and categorize data and information in order to determine the relationship of the data with reference to established criteria/standards; Advise and provide interpretation to others on how to apply policies, procedures and standards to specific situations; Exercise the judgment, decisiveness and creativity required in situations involving the evaluation of information against measurable criteria; Read and understand professional journals and literature; Prioritize competing requests for service; Ability to mentor lower level staff as necessary.

MINIMUM QUALIFICATIONS

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IT Operations Support Administrator II
Job Code: 1092

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

Requires an Associate's Degree ~~from an accredited college or university~~ in computer science~~,~~ ~~information systems~~ or a closely related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field]**.

Experience:

One (1) year of experience performing analysis, installation and technical support in a network environment.

License and Certification:

Substitution:

Additional experience as described above may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One* **(1)** *year* **is equivalent to** ~~T~~thirty (30) semester units ~~or~~ **/** forty-five (45) quarter units **with a minimum of 10 semester / 15 quarter units in computer science or a closely related field** ~~equal~~ *~~one year~~*.

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer equipment. May require bending, stooping and/or crawling in order to install or repair computer or printer cables. May require hand/eye coordination for semi-skilled movements, such as taking apart casings, installing parts, reconnecting computers and data entry. This position may require rotational, shift overtime work. May be required to travel to and work at a disaster recovery site, which may be located out of state, to resume data center operations after a disaster.

PROMOTIVE LINES

To: 1093 IT Operations Support Administrator III

From: 1091 IT Operations Support Administrator I

ORIGINATION DATE: 01/10/12 (Consolidation of the 100x IS Operator, 101x IS Technician and 102x IS Administrator Series)

AMENDED DATE: 06/27/16**; 09/XX/16**

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IT Operations Support Administrator II
Job Code: 1092

REASON FOR AMENDMENT   *To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*

BUSINESS UNIT(S):   COMMN SFMTA SFCCD SFUSD

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IT Operations Support Administrator III
Job Code: 1093

INTRODUCTION

Under general direction, performs the full range of technical support, data center operational activities, and system administration, which includes network operations, installing, enhancing and maintaining computers, peripherals, and mobile device configuration, or a combination of these activities working in a moderately sized network with single or multiple Local Area Networks (LANs) or a data center with multiple and distinct computers. Troubleshoots network and computer operation issues, provides ongoing and remedial user training; establishes and performs data and access protection processes; integrates hardware, operating systems and program applications.

DISTINGUISHING FEATURES

The IT Operations Support Administrator III is the advanced journey level in the IT Operations Support series. At this level, incumbents may lead and/or provide more complex technical and operational support and systems administration activities. Positions at this level are distinguished from those in the lower level of IT Operations Support Administrator II in that the latter performs the more routine technical, operational and systems administration activities which are less complex and narrower in scope and does not exercise lead responsibility over subordinate staff. This classification is further distinguished from the higher level of IT Operations Support Administrator IV in that the later performs more specialized systems analysis and serves as the technical authority for operational activities. Positions at this level often exercise independent judgment in the performance of their duties. Supervisors determine objectives. Work is judged primarily on overall results with great latitude in determining work methods and assignment requirements. Employee has greater authority over assignments and decisions to complete the work than lower level classifications in this series.

SUPERVISION EXERCISED

Advanced journey level - may serve as lead over subordinate clerical or operations support staff or coordinate a defined program.

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Perform complex technical and operational IT support work and systems administration and/or lead the work of others engaged in routine technical and operational IT support; organize, prioritize and may distribute work assignments; may mentor, train and provide input into evaluation of subordinate staff.

2. Install, administer, maintain and upgrade operating systems; install, configure, repair, maintain and upgrade hardware and peripherals; install and enhance applications.

3. Monitor, operate and enhance complex computers of distinctive platforms, including mainframe, mid-range servers, and desktop computers, mobile devices, and

Title: IT Operations Support Administrator III
Job Code: 1093

communications systems, on-site or remote; develop, design and implement problem solutions, using standard analysis techniques; document eventual solutions.

4. Provide technical assistance to users; communicate with users and other technical staff to determine and communicate needs; recommend interfaces; assist technical staff in providing estimates; may consult on feasibility, costs and benefits of additions or enhancements.

5. Perform help desk functions for more complex problems, including problem tracking, analysis, resolution, escalation, and coordination.

6. Add and delete users, including their configurations, security rights and access rights.

7. Conduct application problem resolution; determine and clearly define problems; coordinate definitions with programmers and vendors, and/or operators; may write code as required.

8. Research hardware and software technologies; prepare specifications; purchase necessary hardware, software, manuals, and the like; prepare procedures documentation.

9. Perform a full range of data center operational activities.

10. Perform and monitor more complex scheduled job executions on multiple, distinct computer platforms, including performing regularly scheduled backups and archives, and tape management functions, including offsite storage for backup tapes.

11. Analyze, research, and test changes in operating systems and system software on multiple computers for compatibilities, performance, and capabilities in operational matters; and deploy new or enhanced system tools.

12. Perform work related to security and disaster recovery needs such as system backup and/or restoration, including operational support at a disaster recovery site or a recovery site.

13. Assess and coordinate user training.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

Knowledge of: On-site broad based technical, operational, analytical problem solving support; Installation, maintenance, expansion and upgrading of software, hardware, networks and peripherals; Computer languages; Common operating systems and relational database systems; Interactive or macro-based applications; Data processing methods; Training techniques; Functional requirements, structured systems or procedures analysis.

Ability and Skill to: Work effectively as a member of a team; Communicate effectively orally and in writing; Use logic and analysis to solve computer and systems problems; Establish and maintain effective working relationships; Analyze data and information using established criteria, in order to determine consequences and to identify and select alternatives; Advise and provide interpretation to others on how to apply policies, procedures and standards to specific situations; Train others; Exercise decisiveness and creativity required in situations involving the evaluation of information against judgmental criteria; Design and implement local, wide area and communication networks; Read and understand professional journals and literature; Prioritize competing requests for service.

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IT Operations Support Administrator III
Job Code: 1093

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

Requires an associate degree ~~from an accredited college or university~~ in computer science, ~~information systems~~ or a closely related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field]**.

Experience:

Three (3) years of experience performing analysis, installation, and technical support in a network environment.

License and Certification:

Substitution:

Additional experience as described above may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One **(1)** year* **is equivalent to** ~~T~~thirty (30) semester units ~~or~~ / forty-five (45) quarter units **with a minimum of 10 semester / 15 quarter units in computer science or a closely related field** ~~equal~~ *one year*.

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer equipment. May require bending, stooping and/or crawling in order to install or repair computer or printer cables. May require hand/eye coordination and manual dexterity for semi-skilled movements such as, taking apart casings, installing parts, reconnecting computers and data entry. This position may be required rotational, shift, and overtime work. May be required to travel and to work at a disaster recovery site, which may be located out of state, to resume data center operations after a disaster.

PROMOTIVE LINES

To: 1094 IT Operations Support Administrator IV

From: 1092 IT Operations Support Administrator II

ORIGINATION DATE: 01/10/12 (Consolidation of the 100x IS Operator, 101x IS

**CITY AND COUNTY OF SAN FRANCISCO
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**Title: IT Operations Support Administrator III
Job Code: 1093**

Technician and 102x IS Administrator Series)

AMENDED DATE:	06/27/16**; 09/XX/16**
REASON FOR AMENDMENT	*To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*
BUSINESS UNIT(S):	COMMN SFMTA SFCCD SFUSD

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: IT Operations Support Administrator IV
Job Code: 1094

INTRODUCTION

Under general direction, serves as the technical authority for operational activities in addition to performing the most complex technical and operational support work, project management, systems analysis , and systems and network administration which may include computers, peripherals, and mobile device configuration, or a combination of these activities working in a large network with multiple Local Area Networks (LANs) or in a major data center with multiple and distinct computers, servers and associated networks; researches problems, plans solutions, develops operational procedures, recommends software and systems; develops cost analysis, design considerations, and implementation timelines; provides ongoing and remedial user training; establishes and performs data and access protection processes; integrates hardware, operating systems and program applications; and performs the most difficult and highly complex duties of an IT unit.

DISTINGUISHING FEATURES

The IT Operations Support Administrator IV is the advanced senior level in the IT Operations Support series. Positions at this level are distinguished from those in the lower level of IT Operations Support Administrator III in that the latter is responsible for smaller and less complex systems and though it performs complex work, the IT Operations Support Administrator IV performs technical functions, analysis and administration of the highest complexity in an IT unit requiring specialized technical or functional expertise beyond that expected at the advanced journey level. This classification is further distinguished from the higher level of IT Operations Support Administrator V in that the latter exercises full supervisory responsibilities over staff and the work of the unit. Positions at this level perform within a broad framework of general policy. Employee exercises broad judgment in defining work objectives and determining methods and systems to meet objectives. Performance is measured by timely completion of predetermined goals and objectives, as well as the smooth operation of the systems under their authority.

SUPERVISION EXERCISED

Advanced senior level - may serve as lead over subordinate clerical or operations support staff or coordinate a defined program. May oversee staff and operations in supervisor's absence, however is not charged with full functional supervisory responsibilities.

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Perform highly complex technical and operational IT support work, and systems analysis and administration and/or lead the work of others engaged in routine to complex IT support; organize, prioritize and may distribute work assignments; may mentor, train and provide input into evaluation of subordinate staff; may oversee IT operations in the absence of a supervisor.

2. Analyze, design and develop operational procedures; review, analyze, and resolve

operational problems; apply automation tools to resolve operational problems.

3. Analyze and recommend procedures consistent with departmental directives, policies and regulations.

4. Install, operate, administer, maintain and upgrade complex operating systems; provide technical assistance to users; assist in the transition of data between systems on multiple platforms.

5. Performs help desk functions for more complex problems, including coordinating the development and implementation of problem resolutions; coordinate hardware, software and service repairs.

6. Interface with users, engineers, and other analysts for multi-department system projects and system related activities to meet the needs of the department.

7. Assist with designing the growth of the systems and networks; monitor and enhance complex computer and telecommunications systems; assist in developing City/County standards for LAN/WAN administration.

8. Review plans for software and hardware equipment and services; develop detailed specifications; research and evaluate software and hardware technologies; consult on feasibility, costs and benefits of additions or enhancements; participate in the request for proposal process; oversee the maintenance inventories; plan for equipment needs; research, evaluate and test hardware and software products; coordinate hardware and software purchases; prepare procedures documentation.

9. Analyze, research, and test changes in operating systems and system software on multiple computers for compatibilities, performance, and capabilities in operational matters; and deploy new or enhanced system tools.

10. Perform work related to security and disaster recovery needs such as system backup and/or restoration, including operational support at a hotsite or a recovery site.

11. Work directly with contractors and vendors.

12. Perform project management activities on operations projects.

13. Assess user training needs; develop training programs and materials.

14. Attend meetings; represent the unit on committees as necessary.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

Knowledge of: On-site broad based technical, operational, programming and analytical problem solving support; Installation, maintenance, expansion and upgrading of software, hardware, networks and peripherals; Practices and techniques of supervision and project management; Training techniques; Computer languages; Interactive of macro-based applications; Data processing methods; Common operating systems and relational database systems; Systems analysis and design; Functional requirements, structured or procedures analysis; Emerging technologies.

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Ability and Skill to: Work effectively in a team; If position is assigned the role of lead, requires the ability to manage and direct a group of workers, including the ability to provide counseling and mediation; Persuade, convince and train others; Decide the time, place and sequence of operations within an organizational framework, as well as the ability to oversee their execution; Communicate effectively orally and in writing; Establish and maintain good working relationships with peers, vendors and contractors; Analyze data and information using established criteria, in order to determine consequences and to identify and select alternatives; Advise and provide interpretation to other on how to apply policies, procedures and standards to specific situations; Exercise decisiveness and creativity required in situations involving the evaluation of information against judgmental criteria; Conduct cost/benefit analyses; Use logic and analysis to solve computer and systems problems; Read and understand professional journals and literature; Prioritize competing requests for service.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

Requires an associate degree ~~from an accredited college or university~~ in computer science, ~~information systems~~ or a **closely** related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field]**.

Experience:

Four (4) years of experience performing analysis, installation, technical support, and system administration in a network environment.

License and Certification:

Substitution:

Additional experience as described above may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One **(1)** year* **is equivalent to** ~~T~~thirty (30) semester units ~~or~~ / forty-five (45) quarter units **with a minimum of 10 semester / 15 quarter units in computer science or a closely related field** ~~equal~~ ~~*one year*~~.

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer equipment. May require bending, stooping and/or crawling in order to install or repair computer or printer cables. May require hand/eye coordination and manual dexterity for semi-skilled movements, such as taking apart casings, installing parts, reconnecting

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computers and data entry. This position may require rotational, shift and overtime work. May be required to travel to and work at a disaster recovery site, which may be located out of state, to resume data center operations after a disaster.

PROMOTIVE LINES

To: 1095 IT Operations Support Administrator V

From: 1093 IT Operations Support Administrator III

ORIGINATION DATE:	01/10/12 (Consolidation of the 100x IS Operator, 101x IS Technician and 102x IS Administrator Series)
AMENDED DATE:	06/27/16**; 09/XX/16**
REASON FOR AMENDMENT	*To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*
BUSINESS UNIT(S):	COMMN SFMTA SFCCD SFUSD

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DEPARTMENT OF HUMAN RESOURCES

Title: IT Operations Support Administrator V
Job Code: 1095

INTRODUCTION

Under general direction, provides direct ongoing supervision to operations support staff in the performance of providing technical support, data center operational activities, systems analysis, and systems and network administration, which may include computers, peripherals, and mobile device configuration, or a combination of these activities working in a large network with multiple Local Area Networks (LANs) or in a major data center with multiple and distinct computers, servers and associated networks; and performs the most difficult and complex duties of the unit.

DISTINGUISHING FEATURES

The IT Operations Support Administrator V is the supervising level in the IT Operations Support series. Positions at this level are distinguished from those in the lower level of IT Operations Support Administrator IV in that the latter does not exercise supervisory responsibilities, though it may lead and provide oversight to unit operations. The emphasis for positions at this level is on supervision and performing the more complex work of the unit. Work is performed within a broad framework of general policy. Employee exercises broad judgment in defining work objectives and determining methods and systems to meet objectives. Performance is measured by timely completion of predetermined goals and objectives, as well as the smooth operation of the systems under their authority.

SUPERVISION EXERCISED

Supervising level - provides technical and functional supervision for a unit of clerical and operations support staff.

MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

1. Perform the most complex work of the unit; perform escalated problem resolution; plan, organize and supervise unit staff and activities; assign, monitor and review work, provide technical assistance and guidance; review and recommend personnel actions such as performance monitoring, training, selection and disciplinary actions.

2. Monitor, coordinate and assist in developing the assigned work unit budget.

3. Analyze, recommend and implement procedures consistent with departmental directives, policies and regulations.

4. Install, operate, administer, maintain and upgrade complex operating systems; provide technical assistance to users; consult on feasibility, costs and benefits of additions or enhancements; assist in the transition of data between systems on multiple platforms.

5. Direct help desk functions; provide 2nd level network administration and desktop support for escalated calls; oversee the development and implementation of problem resolutions; coordinate hardware/software repairs; prioritize, schedule, resolve, monitor and track IT

problems and service requests.

6. Coordinate system related activities with other departments for multi-departmental system projects; interface with users, engineers, and other analysts to meet the needs of the department.

7. Manage and design the growth of the systems and networks; monitor and enhance complex computer and telecommunications systems; assist in developing standards for LAN/WAN administration.

8. Review plans for software and hardware equipment and services; develop detailed specifications; research and evaluate software and hardware technologies; plan for future requirements; oversee request for proposal process; oversee the maintenance inventories; plan for equipment needs; research, evaluate and test hardware and software products; coordinate hardware and software purchases; prepare procedures documentation.

9. Manage and review the performance of contractors and vendors; resolve disputes.

10. Perform project management activities on larger operation projects including data center and network infrastructure projects.

11. Assess user training needs; develop training programs and materials.

12. Attend meetings; represent the unit on committees as necessary.

IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES

<u>Knowledge of</u>: On-site broad based technical, operational, programming and analytical problem solving support; Installation, maintenance, expansion and upgrading of software, hardware, networks and peripherals; Practices and techniques of supervision and project management; Training techniques; computer languages; Interactive of macro-based applications; Data processing methods; Common operating systems and relational database systems; Systems analysis and design; Functional requirements, structured or procedures analysis; Emerging technologies

<u>Ability and Skill to</u>: Work as a member of a team; Supervise a group of workers, including the ability to provide counseling and mediation; Persuade, convince and train others; Decide the time, place and sequence of operations within an organizational framework, as well as the ability to oversee their execution; Communicate effectively orally and in writing; Establish and maintain good working relationships with peers, vendors and contractors; Exercise decisiveness and creativity required in situations involving the evaluation of information against judgmental criteria; conduct cost/benefit analyses; Use logic and analysis to solve computer and systems problems; Read and understand professional journals and literature; Prioritize competing requests for service.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

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Education:

Requires an associate degree ~~from an accredited college or university~~ in computer science, ~~information systems~~ or a **closely** related field *from an accredited college or university* **OR its equivalent in terms of total course credits/units [i.e., at least sixty (60) semester or ninety (90) quarter credits/units with a minimum of twenty (20) semester or thirty (30) quarter credits/units in computer science or a closely-related field]**.

Experience:

Five (5) years of experience in technical support, help desk management, system administration, or data center operations.

License and Certification:

Substitution:

Additional experience as described above may be substituted for the required degree on a year-for-year basis (up to a maximum of two (2) years). *One **(1)** year* **is equivalent to** ~~T~~thirty (30) semester units ~~or~~ / forty-five (45) quarter units **with a minimum of 10 semester / 15 quarter units in computer science or a closely related field** ~~equal *one year*~~.

SUPPLEMENTAL INFORMATION

Essential duties require the following physical skills and work requirements: Some positions may require sufficient strength and coordination for lifting, pushing, pulling and/or carrying the weight of computer equipment. May require bending, stooping and/or crawling in order to install or repair computer or printer cables. May require hand/eye coordination and manual dexterity for semi-skilled movements, such as taking apart casings, installing parts, reconnecting computers and data entry. This position may require rotational, shift and overtime assignment work. May be required to travel to and work at a disaster recovery site, which may be located out of state, to resume data center operations after a disaster.

PROMOTIVE LINES

From: 1094 IT Operations Support Administrator IV

ORIGINATION DATE:	01/10/12 (Consolidation of the 100x IS Operator, 101x IS Technician and 102x IS Administrator Series)
AMENDED DATE:	06/27/16**; 09/XX/16**
REASON FOR AMENDMENT	*To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*
BUSINESS UNIT(S):	COMMN SFMTA SFCCD SFUSD

Title: IT Operations Support Administrator V
Job Code: 1095