

STATE OF OHIO (DAS)
CLASSIFICATION
SPECIFICATION

CLASSIFICATION SERIES
SOFTWARE DEVELOPMENT

SERIES NUMBER
6994

MAJOR AGENCIES
ALL AGENCIES

EFFECTIVE
6-7-2009

SERIES PURPOSE

The purpose of the Software Development classification is to develop programs for computer applications through analysis, testing and implementation, requirements management and solutions design.

Job duty, knowledge, skill, and ability statements at a lower-level are understood to be able to be performed at any higher level.

CLASS TITLE

Software Development Specialist 1

CLASS NUMBER

69941

PAY RANGE

33

EFFECTIVE

6-7-2009

CLASS CONCEPT

The first level specialist possesses a working technical knowledge of software development and receives general supervision in order to develop and/or modify programs for computer applications, perform testing and debugging and assist with analysis and design.

CLASS TITLE

Software Development Specialist 2

CLASS NUMBER

69942

PAY RANGE

34

EFFECTIVE

6-7-2009

CLASS CONCEPT

The second level specialist possesses a considerable technical knowledge of software development and receives direction in order to design and perform systems analysis, recommend application solutions and/or tests and corrects programs as it relates to testing and implementation and assists with documentation.

CLASS TITLE

Software Development Specialist 3

CLASS NUMBER

69943

PAY RANGE

35

EFFECTIVE

6-7-2009

CLASS CONCEPT

The advanced level specialist requires a thorough technical knowledge of software development and receives general direction in order to assure requirements are defined and approved, perform code reviews and ensure agency application development standards are met.

CLASS TITLE

Software Development Specialist 4

CLASS NUMBER

69944

PAY RANGE

36

EFFECTIVE

6-7-2009

CLASS CONCEPT

The expert level specialist requires an extensive technical knowledge of software development and receives general direction in order to provide solutions design, develop project plans with project manager or recommend approach through defining tasks and/or leading meetings relating to programs for computer applications.

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>B. U.</u>	<u>EFFECTIVE</u>	<u>PAY RANGE</u>
Software Development Specialist 1	69941	14	6-7-2009	33

JOB DUTIES IN ORDER OF IMPORTANCE (These duties are illustrative only. Incumbents may perform some or all of these duties or other job-related duties as assigned.)

1. Development.
 - a. Reads, writes, extracts and/or reports from individual file(s).
 - b. Creates and/or modifies existing program modules (the creation of static content or graphics related to web-design is not software development).
 - c. Complies with software reusability guidelines.
 - d. Uses report generators, data manipulation tools, data query tools, program tracing/debugging tools, software development tools and versioning tools as required.
 - e. Learns and acquires new skills via training, seminars, self-directed study, research of published materials, etc.
 - f. Applies development process.
2. Testing and implementation.
 - a. Writes test cases and/or scripts for unit and systems testing with minimal to no supervision.
 - b. Creates or sets-up test data for performing test scenarios.
 - c. Executes unit test scripts and assists in executing system test scripts independently.
 - d. Verifies and documents unit and system test results to ensure software is producing desired results.
 - e. Debugs and revises programs when unit and system tests do not produce desired results.
3. Analysis and design.
 - a. Assists in gathering system requirements.
 - b. Defines and documents current and/or future business process flows.
 - c. Assists in developing future process flows.
 - d. Gathers and analyzes facts.
 - e. Defines problems.
 - f. Assists in developing potential solutions.
 - g. Identifies and develops software solutions to business problems.
 - h. Assists in post production support of business applications, which may include routine maintenance and enhancements and the need to perform research to aid in troubleshooting software production errors.
4. Documentation.
 - a. Assists higher-level software developers in the development of application related training materials and software user-guides.
 - b. Creates and/or modifies necessary program and/or application source code documentation (e.g., use cases, in-line code comments) in accordance with agency standards.
 - c. Assists in records and/or reports development lifecycle activities.
 - d. Learns to develop and document appropriate standards and criteria for acceptable programming, documentation, and systems development lifecycle activities.
5. Communication.
 - a. Verbal.
 - i. Performs software development tasks per verbal instructions.
 - ii. Asks questions, listens to and processes answers in order to exchange technical information in support of software development.
 - iii. Obtains information on focused technical tasks involving database, infrastructure, and application information.
 - iv. Leads focused discussions with technical topics in support of software development.
 - v. Conveys information compiled from a variety of sources to technical and non-technical personnel and/or management.
 - b. Written.
 - i. Summarizes, in writing, information on a specific topic in support of software development.
6. Promotes system security and awareness by adhering to the Agency's and/or State's IT security policy(s) and standards.

7. Research.
 - a. Researches, reads, understands, and applies relevant techniques and procedures from data processing manuals to complete duties timely and efficiently.
 - b. Assists in supporting user acceptance testing.
 - c. Performs software implementation tasks, including source control and deployment activities.
8. Receives orientation related to mentorship and applies as necessary (e.g., definition, purpose, strategies, and evaluation techniques).

MAJOR WORKER CHARACTERISTICS

Knowledge of: computer and electronics, oral and written communication tools and techniques, customer support and personal service, state and agency policy, procedures and applicable laws*, vision, mission and goals of agency*, software development principles and methods for design, development, testing and implementation of new or modified software, commonly used query language, mathematic principles relative to assigned area in IT.

Skill for: reading comprehension, speaking, service orientation, and troubleshooting.

Ability to: stay abreast of current technologies in area of IT assigned and deal with problems involving several variables in familiar context.

(*)Developed after employment.

MINIMUM CLASS QUALIFICATIONS FOR EMPLOYMENT

Education Core undergraduate program in Computer Science or Information Systems or equivalent work experience.

AND

Experience Minimum 2 years combined work experience in any combination of the following: developing and/or modifying programs for computer applications, performing testing and debugging and assisting with analysis and design.

Note: the official position description on file with the designated agency is to reflect, in the minimum acceptable characteristics, the required technology related experience. Only those applicants possessing the required technology related experience listed in the position description are to be considered for any vacancies posted. The vacancy/job posting should also only list the required technology related experience commensurate with the position in question.

TRAINING AND DEVELOPMENT REQUIRED TO REMAIN IN THE CLASSIFICATION AFTER EMPLOYMENT

UNUSUAL WORKING CONDITIONS

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>B. U.</u>	<u>EFFECTIVE</u>	<u>PAY RANGE</u>
Software Development Specialist 2	69942	14	6-7-2009	34

JOB DUTIES IN ORDER OF IMPORTANCE (These duties are illustrative only. Incumbents may perform some or all of these duties or other job-related duties as assigned.)

1. Development.
 - a. Reads, writes, extracts and/or reports from compounded files.
2. Analysis and design.
 - a. Works with business personnel to identify and document system software requirements.
 - b. Defines problems and develops potential solutions.
 - c. Performs post production support for business applications which may include routine maintenance, enhancements and the need to perform research to aid in troubleshooting software production errors.
 - d. Assists in identifying alternate courses of action.
 - e. Assists in the review and evaluation of software development methodologies.
3. Testing and implementation.
 - a. Assists in supporting user acceptance testing.
 - b. Performs software implementation tasks, including source control and deployment activities.
 - c. Assists with development, implementation and monitoring IT quality assurance standards and testing.
4. Assists in the development and documentation of appropriate standards and criteria for acceptable programming and systems development lifecycle activities.
5. Communication.
 - a. Verbal.
 - i. Guides performance of software development tasks per verbal instructions.
 - ii. Answers questions on technical topics to assist other technical staff in software development.
 - iii. Obtains or imparts information from/to other technical staff and business personnel through discussion(s) involving database, infrastructure and/or application information.
 - iv. Leads discussion(s) or formal meetings with technical and/or non-technical personnel on simple to moderate technical topics in support of software development.
 - b. Written.
 - i. Summarizes, in writing, information on 1 or more related topics involving database, infrastructure and/or application information in support of software development.
 - ii. Conveys, in writing, recommendations or conclusions to another for decision making purposes in support of software development.
6. Gathers, interprets and applies information from a variety of sources to aid in software development duties, activities, events.
7. Answers questions and presents informal mentorship opportunities to peers and/or lower-level staff via conversation, observation or technical documentation.

MAJOR WORKER CHARACTERISTICS

Knowledge of: computer and electronics, oral and written communication tools and techniques, customer support and personal service, state and agency policy, procedures and applicable laws*, vision, mission and goals of agency*, software development principles and methods for design, development, testing and implementation of new or modified software, commonly used query language, mathematic principles relative to assigned area in IT, IT principles, methods and practices in assigned specialty area, standard software validation tools, software distribution tools and mechanisms, technical writing and documentation practices.

Skill for: reading comprehension, speaking, service orientation, troubleshooting, critical thinking, and complex problem solving.

Ability to: stay abreast of current technologies in area of IT assigned, deal with problems involving several variables in familiar context, and define problems, collect data, establish facts and draw valid conclusions.

(*)Developed after employment.

MINIMUM CLASS QUALIFICATIONS FOR EMPLOYMENT

Education Core undergraduate program in Computer Science or Information Systems or equivalent work experience.

AND

Experience Minimum 3 years combined work experience in any combination of the following: designing and performing systems analysis, developing and/or modifying programs for computer applications recommending application solutions and/or testing and correcting programs as it relates to testing and implementation and assisting with documentation including 2 years technology related work experience as specified by the agency position description and vacancy/job posting.

Note: the official position description on file with the designated agency is to reflect, in the minimum acceptable characteristics, the required technology related experience. Only those applicants possessing the required technology related experience listed in the position description are to be considered for any vacancies posted. The vacancy/job posting should also only list the required technology related experience commensurate with the position in question.

TRAINING AND DEVELOPMENT REQUIRED TO REMAIN IN THE CLASSIFICATION AFTER EMPLOYMENT

UNUSUAL WORKING CONDITIONS

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>B. U.</u>	<u>EFFECTIVE</u>	<u>PAY RANGE</u>
Software Development Specialist 3	69943	14	6-7-2009	35

JOB DUTIES IN ORDER OF IMPORTANCE (These duties are illustrative only. Incumbents may perform some or all of these duties or other job-related duties as assigned.)

1. Analysis and design.
 - a. Works with business area personnel to assure requirement(s) are thoroughly defined and approved.
 - b. Performs impacts analyses to identify interdependencies.
 - c. Assists with design reviews.
2. Development.
 - a. Performs code review(s).
 - b. Serves as technical lead, as assigned.
3. Testing and implementation.
 - a. Creates detailed test designs and test plans.
 - b. Creates and reviews test data for performing test scenarios.
 - c. Coordinates execution of unit and system test scripts.
 - d. Coordinates debugging efforts and defect tracking.
 - e. Coordinates support of user acceptance testing.
 - f. Coordinates software implementation and deployment tasks.
 - g. Leads the development, implementation and monitoring of IT quality assurance standards and testing.
 - h. Performs performance and load testing.
4. Documentation.
 - a. Writes, reviews, and coordinates development of:
 - i. application-related training materials and software user guides.
 - ii. program and/or application source code documentation (e.g., uses cases, in-line code comments).
 - iii. departmental standards.
 - iv. appropriate standards and criteria for acceptable programming.
 - v. documentation and systems development lifecycle activities.
 - vi. review development lifecycle activities.
5. Assists higher-level IT staff with estimating workload requirements.

MAJOR WORKER CHARACTERISTICS

Knowledge of: computer and electronics, oral and written communication tools and techniques, customer support and personal service, state and agency policy, procedures and applicable laws*, vision, mission and goals of agency*, software development principles and methods for design, development, testing and implementation of new or modified software, commonly used query language, mathematic principles relative to assigned area in IT, IT principles, methods and practices in assigned specialty area, standard software validation tools, software distribution tools and mechanisms, technical writing and documentation practices, systems performance management, requirements analysis principles and methods, back-up and recovery procedures, interrelationships of multiple IT specialties.

Skill for: reading comprehension, speaking, service orientation, troubleshooting, critical thinking, complex problem solving, lead work, programming software analysis and evaluation, using data recovery tools and techniques, judgment and decision making, assuring quality, and identifying and specifying business requirements.

Ability to: stay abreast of current technologies in area of IT assigned, deal with problems involving several variables in familiar context, define problems, collect data, establish facts and draw valid conclusions, and prepare meaningful, accurate and concise reports.

(*)Developed after employment.

MINIMUM CLASS QUALIFICATIONS FOR EMPLOYMENT

Education Core undergraduate program in Computer Science or Information Systems or equivalent work experience.

AND
Experience Minimum 4 years combined work experience in any combination of the following: assuring requirements are defined and approved, performing code reviews and ensuring application development standards are met including 2 years technology related work experience as specified by the agency position description and vacancy/job posting.

Note: the official position description on file with the designated agency is to reflect, in the minimum acceptable characteristics, the required technology related experience. Only those applicants possessing the required technology related experience listed in the position description are to be considered for any vacancies posted. The vacancy/job posting should also only list the required technology related experience commensurate with the position in question.

TRAINING AND DEVELOPMENT REQUIRED TO REMAIN IN THE CLASSIFICATION AFTER EMPLOYMENT

UNUSUAL WORKING CONDITIONS

CLASS TITLE	CLASS NUMBER	B. U.	EFFECTIVE	PAY RANGE
Software Development Specialist 4	69944	14	6-7-2009	36

JOB DUTIES IN ORDER OF IMPORTANCE (These duties are illustrative only. Incumbents may perform some or all of these duties or other job-related duties as assigned.)

1. Solutions design.
 - a. Works with IT Architecture staff, CIO and/or IT Managers to design solutions that meet the agency's requirements.
 - b. Assists analysis of the solution design's business case.
 - c. Authors portions of the solution business case.
2. Project planning.
 - a. Seeks to develop expertise in leading complex initiatives and knowledge of organizational improvement frameworks.
 - b. Seeks to develop expertise in project management methodologies.
3. Edits or creates for recommendation and approval Enterprise or IT artifacts, including, but not limited to, policies, procedures, standards, guidelines, best practices and position papers.
4. Analysis and design.
 - a. Ensures current and/or future business process flows are defined and documented.
 - b. Conducts detailed alternative analyses and determines end-user requirement(s).
 - c. Consults with end-users, technicians, vendors, management, and others.
 - d. Leads design reviews.
 - e. Provides post production support for applications varying in size, scope and impact to agency operations which may include load balancing, failover, and clustering.
5. Communication.
 - a. Verbal.
 - i. Answers questions on technical topics to assist other technical staff in software development OR identifies sources capable of providing answers.
 - ii. Presents technical topics to a diverse group.
6. Testing and implementation.
 - a. Develops pass/fail testing criteria.
 - b. Assesses overall system performance including optimizing code and identifying and resolving peripheral software/hardware conflicts.
 - c. Oversees performance and load testing.
 - d. Finalizes implementation of plans, procedures and schedules.
 - e. Conducts lessons learned (testing perspective) and coordinates improvements to enterprise testing processes.
 - f. Understands technical environments and impacts on software execution in order to identify environmental components to be reviewed for adequacy.
7. Recommends software reusability guidelines.
8. Plans and conducts formal mentorship activities for peers and/or lower-level staff via verbal instruction or technical documentation.

MAJOR WORKER CHARACTERISTICS

Knowledge of: computer and electronics, oral and written communication tools and techniques, customer support and personal service, state and agency policy, procedures and applicable laws*, vision, mission and goals of agency*, software development principles and methods for design, development, testing and implementation of new or modified software, commonly used query language, mathematic principles relative to assigned area in IT, IT principles, methods and practices in assigned specialty area, standard software validation tools, software distribution tools and mechanisms, technical writing and documentation practices, systems performance management, requirements analysis principles and methods, back-up and recovery procedures, interrelationships of multiple IT specialties, cost-benefit analysis methods, IT lifecycle concepts.

Skill for: reading comprehension, speaking, service orientation, troubleshooting, critical thinking, complex problem solving, lead work, programming software analysis and evaluation, using data recovery tools and techniques, judgment and decision making, assuring quality, identifying and specifying business requirements, and developing and interpreting policy and strategies governing the planning and delivery of IT services.

Ability to: stay abreast of current technologies in area of IT assigned, deal with problems involving several variables in familiar context, define problems, collect data, establish facts and draw valid conclusions, prepare meaningful, accurate and concise reports, and provide expert technical advice, guidance, and recommendations to management and other technical specialists on critical IT issues.

(*)Developed after employment.

MINIMUM CLASS QUALIFICATIONS FOR EMPLOYMENT

Education Core undergraduate program in Computer Science or Information Systems or equivalent work experience.

AND
Experience Minimum 4 years combined work experience in any combination of the following: providing solutions design, developing project plans with project manager or recommending approach through defining tasks and/or leading meetings relating to programs for computer applications including 2 years technology related work experience as specified by the agency position description and vacancy/job posting.

Note: the official position description on file with the designated agency is to reflect, in the minimum acceptable characteristics, the required technology related experience. Only those applicants possessing the required technology related experience listed in the position description are to be considered for any vacancies posted. The vacancy/job posting should also only list the required technology related experience commensurate with the position in question.

TRAINING AND DEVELOPMENT REQUIRED TO REMAIN IN THE CLASSIFICATION AFTER EMPLOYMENT

UNUSUAL WORKING CONDITIONS