

STATE OF OHIO (DAS)
CLASSIFICATION
SPECIFICATION

<u>CLASSIFICATION SERIES</u> SOFTWARE DEVELOPMENT	<u>SERIES NUMBER</u>
<u>MAJOR AGENCIES</u> ALL AGENCIES	<u>EFFECTIVE</u>

SERIES PURPOSE

The purpose of the Software Development classification is to develop software and application systems through research, design and analysis, development, testing and implementation and technical documentation.

<u>CLASS TITLE</u> Software Development Specialist 1	<u>CLASS NUMBER</u>	<u>PAY RANGE</u>	<u>EFFECTIVE</u>
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CLASS CONCEPT

The first level specialist has a working knowledge of software development, under general supervision in order to assist in analyzing system(s) outlines, develop programs for computer applications, prepare and develop solution programs, document methods and procedures used in program development, and/or test and correct programs.

<u>CLASS TITLE</u> Software Development Specialist 2	<u>CLASS NUMBER</u>	<u>PAY RANGE</u>	<u>EFFECTIVE</u>
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CLASS CONCEPT

The second level specialist has considerable knowledge of software development, under direction in order to analyze system(s) outlines, develop programs for computer applications, prepare and develop solution programs, document methods and procedures used in program development, and test, correct, and revise programs independently or as part of a team.

<u>CLASS TITLE</u> Software Development Specialist 3	<u>CLASS NUMBER</u>	<u>PAY RANGE</u>	<u>EFFECTIVE</u>
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CLASS CONCEPT

The advanced level performs with a thorough working knowledge of software development, under general direction in order to assist in the planning, scheduling, and assigning of software development projects and/or coordinating projects, analyze proposed computer applications, prepare and develop program, and provide technical assistance independently or as part of a team

<u>CLASS TITLE</u> Software Development Specialist 4	<u>CLASS NUMBER</u>	<u>PAY RANGE</u>	<u>EFFECTIVE</u>
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CLASS CONCEPT

At the expert level, employees perform with an extensive working knowledge of software development, under general direction in order to plan, schedule, and/or assign programming projects, coordinate programming projects, analyze proposed computer applications, provide highly advanced technical assistance.

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>B. U.</u>	<u>EFFECTIVE</u>	<u>PAY RANGE</u>
Software Development Specialist 1				

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. Extracts and performs simple to moderate data manipulation tasks
 - b. Creates and/or modifies existing simple to moderate program modules (the creation of static content or graphics related to web-design is not software development)
 - c. Compiles 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 (e.g., Waterfall, RUP, any agile process, RAD)
2. Testing and implementation
 - a. Writes low to medium complexity test cases and/or scripts for unit and systems testing with minimal to no supervision
 - b. Creates or setup test data for performing test scenarios
 - c. Executes unit test scripts and assists in executing system test scripts independently
 - d. Verifies unit and system test results to ensure software is producing desired results
 - e. Debugs and revises low to medium complexity programs when unit and system tests do not produce desired results
3. Analysis and design
 - a. Assists in gathering system requirements for small to moderate applications
 - 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 small to moderate business applications, which may include routine maintenance, small to moderate 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 recording or reporting development lifecycle activities using 1 or more visual documentation (e.g., object interaction diagrams, data flow, activity diagrams)
 - 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 simple to moderate 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, architecture, 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. Security
 - a. 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. Mentoring
 - a. Assists in the development and training of peers and lower-level team members
 - b. Educates verbally and through documentation
 - c. Disseminates and responds to questions and requests of co-workers and/or clients on use of software or issues surrounding software functions and procedures

MAJOR WORKER CHARACTERISTICS

(*)Developed after employment.

MINIMUM CLASS QUALIFICATIONS FOR EMPLOYMENT

-Or equivalent of Minimum Class Qualifications For Employment noted above.

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				

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. Extracts and performs simple to complex data manipulation tasks
 - b. Creates and/or modifies existing simple to complex program modules (the creation of static content or graphics related to web-design is not software development)
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 small-to-complex 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. Writes simple to complex test cases and/or scripts for unit and systems testing with minimal to no supervision
 - b. Debugs and revises simple to complex programs when unit and system tests do not produce desired results
 - c. Assists in supporting user acceptance testing
 - d. Performs software implementation tasks, including source control and deployment activities
 - e. Assists with development, implementation and monitoring IT quality assurance standards and testing
4. Documentation
 - a. Assists in the development of application-related training materials and software user-guides
 - b. Records and reports development lifecycle activities using 1 or more visual documentation tools (e.g., object interaction diagrams, data flow diagrams, activity diagrams)
 - c. 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 simple, focused 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, architecture, 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
 - v. Conveys information compiled from a variety of sources to technical and non-technical personnel and/or management (e.g., explaining technical information to non-technical management)
 - b. Written
 - i. Summarizes, in writing, information on 1 or more related topics involving database, architecture, 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. Security
 - a. Promotes system security and awareness by adhering to the Agency's and/or State's IT security policy(s) and standards.
7. Research
 - a. Gathers, interprets and applies information from a variety of sources to aid in software development duties, activities, events.
8. Mentoring
 - a. Plans and/or performs activities to support knowledge transfer
 - b. Aids in training and development of team members
 - c. Provides feedback on software development issues
 - d. Responds to peer questions and requests
 - e. Shares best practices

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TRAINING AND DEVELOPMENT REQUIRED TO REMAIN IN THE CLASSIFICATION AFTER EMPLOYMENT

UNUSUAL WORKING CONDITIONS

DRAFT

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>B. U.</u>	<u>EFFECTIVE</u>	<u>PAY RANGE</u>
Software Development Specialist 3				

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 ensure requirement(s) are thoroughly defined and approved
 - b. Performs impacts analyses to identify interdependencies
 - c. Assists with design reviews
 - d. Assists with estimation of workload requirements
2. Development
 - a. Performs code review(s)
 - b. Serves as technical lead, as assigned
3. 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., user cases, in-line code comments);
 - iii. departmental standards
 - iv. appropriate standards and criteria for acceptable programming
 - v. documentation and systems development lifecycle activities;
 - vi. record, report, and review development lifecycle activities using 1 or more visual tools (e.g., object interaction diagrams, data flow diagrams, activity diagrams)
4. Testing and implementation
 - a. Creates and reviews test data for performing test scenarios
 - b. Coordinates execution of unit and system test scripts
 - c. Coordinates debugging efforts and defect tracking
 - d. Coordinates support of user acceptance testing
 - e. Coordinates software implementation and deployment tasks
 - f. Leads the development, implementation and monitoring of IT quality assurance standards and testing
 - g. Performs performance and load testing
5. Security
 - a. Promotes system security and awareness by adhering to the Agency's and/or State's IT security policy(s) and standards.

MAJOR WORKER CHARACTERISTICS

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TRAINING AND DEVELOPMENT REQUIRED TO REMAIN IN THE CLASSIFICATION AFTER EMPLOYMENT

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<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>B. U.</u>	<u>EFFECTIVE</u>	<u>PAY RANGE</u>
Software Development Specialist 4				

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. 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
2. 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
 - iii. Coordinates resources with other technical and non-technical personnel (e.g., from database, architecture, infrastructure and/or application information)
 - b. Written
 - i. Summarizes, in writing, information on 1 or more related topics involving database, architecture, infrastructure and/or application information (e.g., documents load balance or tune for performance)
 - ii. Conveys, in writing, recommendations or conclusions to another for decision making purposes in support of software development (e.g. white paper, position paper, cost analysis)
3. 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. Understands technical environments and impacts on software execution in order to identify environmental components to be reviewed for adequacy
4. Development
 - a. Compiles with and recommends software reusability guidelines
 - b. Identifies and evaluates software development methodologies and tools to improve staff productivity
 - c. Participates in task management and resource allocation to optimize staff productivity
 - d. Recommends and/or develops training programs for staff
 - e. Leads code review(s)
 - f. Serves as technical lead
5. Security
 - a. Promotes system security and awareness by adhering to the Agency's and/or State's IT security policy(s) and standards.
6. Mentoring
 - a. Directs staff in planning, organizing and scheduling activities to transfer knowledge
 - b. Directs staff in preparing, training and enforcing policies and procedures relating to agency IT business practices.

MAJOR WORKER CHARACTERISTICS

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