Military Branch: Air Force

Military Occupation: COMPUTER SYSTEMS PROGRAMMING

Military Code: AFSC 3D0X4

Training Levels: All Air Force occupations have up to 5 different training levels: Helper, Apprentice, Journeyman, Craftsman and Superintendent.

Below are training levels with Occupation codes:

AFSC 3D074, Craftsman   **AFSC 3D034, Apprentice**

AFSC 3D054, Journeyman   **AFSC 3D014, Helper**

Go To: Occupation Details   **Civilian Competencies**

 (Changed 31 Jan 12)

1. Specialty Summary. Supervises and performs as computer analyst, coder, tester and manager in the design, development, maintenance, testing, configuration management, and documentation of application software systems, client-server, and web-enabled software and relational database systems critical to warfighting capabilities. Related DoD Occupational Subgroup: 153200.

2. Duties and Responsibilities:

2.1. Develops standardized tools and interfaces in accordance with Air Force Network Operations (AFNETOPS) guidance to transform raw data into actionable C2 information. Develops and implements policy to enable effective information discovery, indexing, storage, life-cycle management, retrieval, and sharing in a collaborative enterprise information environment. Harnesses capabilities of systems designed to collect, store, retrieve, process and display data to ensure information dominance.

2.2. Ensures compliance with DoD directives and standards for security and interoperability. Protects operating systems, application software, files, and databases from unauthorized access to sensitive information, or misuse of communication-computer resources.

2.3. Determines, analyzes, and develops requirements for software systems through interpreting standards, specifications, and user needs as a system analyst. Determines, designs, and develops data requirements, database structure, process flow, systematic procedures, algorithms, and file structures to implement and maintain software systems using software engineering techniques. Works with systems using software methodologies such as distributed processing, systems networking, advanced information storage and retrieval, and management techniques. Determines and recommends the most reasonable approach in designing new systems or modifying existing systems. Develops and maintains system specifications. Conducts and participates in system reviews and technical interchanges. Selects

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appropriate software development tools. Explores commercial off-the-shelf options to satisfy user requirements.

2.4. Translates system specifications and requirements into program code and database structures, implements designed functionality as software coders. Analyzes output products and debugs source code to isolate and correct errors in program logic, syntax, and data entry, and to ensure accuracy and efficiency. Conducts code reviews and unit-level testing. Develops and maintains unit-level test plans. Arranges test data and routines. Modifies existing programs to correct program errors or modifies existing functionality or interface. Prepares system graphical descriptions, standard language statements, workload data, and presents and proposes cost. Develops and maintains documentation such as program maintenance manuals and operational guides.

2.5. Designs, develops, maintains, and executes test plans for formal qualification testing, system integration testing, regression testing and verification, validation and acceptance testing as software testers. Conducts test events. Analyzes software system requirement documents. Develops and maintains test data. Performs analysis of test data, determines test results and develops test reports. Makes recommendations to release authorities concerning verifiability, validity, conformance, and interoperability of software systems.

2.6. Designs, develops, maintains, and executes processes to manage software or database components, specifications, test plans, procedures and results, and revision history applicable to a software system to ensure systems in use meet user requirements as software configuration managers. Controls software components at all times to ensure availability and stability of documented baselines. Prepares and manages processes for reporting deficiencies and requesting changes to software components or systems. Manages change packages through analysis and development efforts ensuring testing is performed and documentation is created or updated as required. Conducts reviews of proposed change packages by the user community and control authorities. Prioritizes deficiency reports and change requests using guidance from the user community and control authorities. Prepares and maintains software system baseline documentation and procedures. Prepares, packages, and documents deliverable products.

2.7. As software project manager, interacts with and provides oversight for software system developers and maintainers. Develops and prepares system requirements and proposals. Analyzes requests for information. Prepares documentation of proposal specifications and programs. Organizes system study teams and conducts briefings. Conducts and participates in design reviews and technical interchanges between developers and user representatives. Plans, conducts and reports on the results of system acceptance tests. Manages or participates in the contract management, software quality assurance, or quality assurance evaluation process.AFECD, 31 October 2013 195

2.8. Manages, supervises, and performs planning and implementation activities. Manages implementation and project installation and ensures architecture, configuration, and integration conformity. Develops, plans, and integrates base communications systems. Serves as advisor at meetings for facility design, military construction programs and minor construction planning. Evaluates

base comprehensive plan and civil engineering projects. Monitors status of base civil engineer work requests. Performs mission review with customers. Controls, manages, and monitors project milestones and funding from inception to completion. Determines adequacy and correctness of project packages and amendments. Monitors project status and completion actions. Manages and maintains system installation records, files, and indexes. Evaluates contracts, wartime, support, contingency and exercise plans to determine impact on manpower, equipment, and systems.

3. Specialty Qualifications:

3.1. Knowledge. Knowledge is mandatory of system capabilities, limitations, and programming logic; techniques and procedures of systems analysis and design; related information processing devices and systems; C-CS; software methodologies; methods of editing input and output data; configuration management techniques; security practices; customer relations; application of mathematical and analytical concepts to process problems within a C-CS; and computer program editing and testing techniques.

3.2. Education. For entry into this specialty, completion of high school is mandatory. Additional courses in algebra, geometry, computer science and computer programming is desirable.

3.3. Training. For award of AFSC 3D034, completion of a Computer Systems Programming initial skills course is mandatory.

3.4. Experience. The following experience is mandatory for award of the AFSC indicated:

3.4.1. 3D054. Qualification in and possession of AFSC 3D034. Experience performing programming functions such as designing, coding, testing, or documenting software.

3.4.2. 3D074. Qualification in and possession of AFSC 3D054. Experience performing or supervising one of the functions of programming, such as preparing system requirements, developing high-level or detailed designs, translating designs into code, testing, configuration management, or project management.

3.5. Other. The following are mandatory as indicated:

3.5.1. A minimum score of 71 on the Air Force Electronic Data Processing Test.

3.5.2. See attachment 4 for additional entry requirements.

☐3.5.3. For award and retention of these AFSCs, must maintain an Air Force Network License according to AFI 33-115, Vol 2, *Licensing Network Users and Certifying Network Professionals.*

3.5.4. Specialty requires routine access to Top Secret material or similar environment. For award and retention of AFSCs 3D034/54/74, completion of a current Single Scope Background Investigation (SSBI) according to AFI 31-501, *Personnel Security Program Management,* is mandatory.

NOTE: Award of the 3-skill level without a completed SSBI is authorized provided an interim Top Secret security clearance has been granted according to AFI 31-501.

Materials included in these reports are from:

• The AIR FORCE ENLISTED CLASSIFICATION DIRECTORY (AFECD)-The Official Guide to the Air Force Enlisted Classification Codes- Published October 2013

• The Department of Labor's My Next Move pages and links.

• The USAF public web pages.