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SPECTRUM OPERATIONS

CAREER FIELD EDUCATION AND TRAINING PLAN

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CAREER FIELD EDUCATION AND TRAINING PLAN
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PART I

Preface

1. The changing Command, Control, Communications, Computer, and Intelligence (C4I) and Air and Space Expeditionary Forces (AEF) environments require vision, preparation, and attention to ensure people have the right skills and tools to deliver the C4I capabilities and the support required by the war fighter in meeting the Air Force mission of today and the vision of the future. Declining resources, expanding diversity of mission, and ever-changing technologies in the Air Force are impacting the availability of our most valuable resource--people. These factors will continue to exist in the future, making it essential for the work force to be effectively and efficiently trained to perform duties within each skill level of an Air Force Specialty (AFS). To meet the challenges of tomorrow, the Air Force must place a greater emphasis on career field training. This Spectrum Operations Career Field Education and Training Plan (CFETP) is a comprehensive core training document that identifies life-cycle training/education requirements, support resources, and minimum core task requirements for the 3D1X4 specialty. The plan is a "training road map" for the career field. It provides personnel a clear career path to success and makes career field training identifiable, measurable, and budget defensible.

2. IMPORTANT: This CFETP is not a stand-alone document. It must be used in conjunction with the 3DXXX Cyberspace Support (Common Core) CFETP, which outlines tasks and courses shared by other 3D specialties. Together, the 3DXXX and 3D1X4 CFETPs provide comprehensive career field guidance and training for members of the AFSC 3D1X4.

3. The CFETP documents the career field training program and consists of two parts. Management uses both parts in conjunction with the Training Business Area (TBA) to plan, manage, and control training within the career field. **NOTE:** Civilians occupying associated positions will use Part II to support duty position qualification training.

3.1. Part I provides information necessary for overall management of the specialty. Section A explains how everyone will use the plan; Section B identifies career field progression information, duties and responsibilities, training strategies, and career field path; Section C associates each level with specialty qualifications (knowledge, education, experience, training, and other); and Section D indicates resource constraints. Some examples are funds, manpower, equipment, facilities; Section E identifies transition training guide requirements for SSgt through MSgt.

3.2. Part II includes the following: Section A identifies the Specialty Training Standard (STS) and includes duties, tasks, Training References (TRs) to support training, AETC-conducted training, wartime course and core task and correspondence course requirements. Section B contains the Course Objectives List (COL) and training standards supervisors will use to determine if Airmen satisfied training requirements; Section C identifies available support materials (e.g., Qualification Training Package, which may be developed to support proficiency training); Section D identifies a training course index supervisors can use to determine resources available to support training. Included here are both mandatory and optional courses; and Section E identifies MAJCOM-unique training requirements supervisors can use to determine

additional training required for the associated qualification needs. At unit level, supervisors and trainers will use Part II to identify, plan and conduct training commensurate with the overall goals of this plan.

4. Use of the guidance provided in this CFETP provides the foundation for effective and efficient training for individuals in this career field at the appropriate points in their careers. This plan enables the Air Force to train today's work force for tomorrow's jobs.

Abbreviations/Terms Explained

This section provides a common understanding of the terms that apply to the Spectrum Operations Career Field and Education Training Plan.

Advanced Training (AT). A formal course of training that leads to a technical or supervisory level of an AFS. Training is for selected Airmen at the advanced level of an AFS.

Air and Space Expeditionary Force (AEF). The AEF is the Air Force's methodology for organizing, training, equipping, and sustaining rapidly responsive air and space forces to meet defense strategy requirements. Through the AEF, consisting of enabler and tempo banded capabilities the Air Force supports defense strategy requirements using a combination of both permanently assigned and rotational (allocated) forces.

Air Education Training Command (AETC). Responsible for the recruiting, training and education of Air Force personnel. AETC also provides pre-commissioning, professional military, and continuing education.

Air Force Career Field Manager (AFCFM). Representative appointed by the respective HQ USAF Deputy Chief of Staff or Under Secretariat to ensure that assigned Air Force specialties are trained and utilized to support Air Force mission requirements.

Air Force Enlisted Classification Directory (AFECD). The official directory for all military enlisted classification descriptions, codes, and identifiers. Establishes the occupational structure of the Air Force enlisted force. The occupational structure is flexible to permit enlisted personnel to specialize and develop their skills and abilities while allowing the Air Force to meet changing mission requirements. Individual enlisted personnel have a joint responsibility with commanders and supervisors at all levels to fully develop their abilities consistent with Air Force needs and within the established patterns of specialization.

Air Force Job Qualification Standard (AFJQS). A comprehensive task list that describes a particular job type or duty position. Supervisors use the AFJQS to document task qualification. The tasks on AFJQSs are common to all persons serving in the described duty position.

Air Force Qualification Training Package (AFQTP). An instructional course designed for use at the unit to qualify or aid qualification in a duty position, program, or on a piece of equipment. It may be printed, computer-based, or other audiovisual media.

Air Force Specialty (AFS). A group of positions, with the same title and code that requires common qualifications.

Air Force Tactics, Techniques and Procedures (AFTTP). The actions and methods that implement joint doctrine that describe how forces will be employed in joint operations. They are promulgated by the Chairman of the Joint Chief of Staff in coordination with the Combatants Commands, Services and the JCS.

Air University Associate-to-Baccalaureate Cooperative (AU ABC). Allows Airmen to turn a Community College of the Air Force Associates Degree into a Bachelor's Degree from an accredited university. The ABC program has established a partnership with various civilian higher-education institutions to offer four-year degree opportunities via distance learning. The participating schools will accept all of the credits earned by Airmen who have attained a CCAF degree and apply them to a Bachelor's degree related to their Air Force specialty.

Career Field Education and Training Plan (CFETP). A CFETP is a comprehensive core training document that identifies: life-cycle education and training requirements; training support resources and minimum core task requirements for a specialty. The CFETP aims to give personnel a clear path and instill a sense of industry in career field training. CFETPs are officially posted at http://www.e-publishing.af.mil/.

Certification. A formal indication of an individual's ability to perform a task to required standards.

Certifying Official. A person assigned by the commander to determine an individual's ability to perform a task to required standards.

Chief Enlisted Manager (CEM) Code. CEM codes identify all chief master sergeant positions in the Enlisted Classification Structure. They also identify chief master sergeants who, through extensive experience and training, have demonstrated managerial ability to plan, direct, coordinate, implement, and control a wide range of work activity. Some managerial duties and responsibilities that are common to all chief enlisted managers are: managing and directing personnel resource activities; interpreting and enforcing policy and applicable directives; establishing control procedures to meet work goals and standards; recommending or initiating actions to improve functional operation efficiency; planning and programming work commitments, and schedules; developing plans regarding facilities, supplies, and equipment procurement and maintenance.

Collaboration. Collaboration is the interaction among two or more individuals encompassing a variety of behaviors including: communication, information sharing, coordination, cooperation, problem-solving, and negotiation.

Collaborative Tools. Collaborative tools consist of various web-based technologies including advanced white boarding, groupware, and facilitation. Collaborative capabilities assist significantly with managing information throughout its life cycle and enable Air Force members to perform most office-oriented and operational communication tasks from their desktops.

Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR). Integrated systems of doctrine, procedures, organizational structures, personnel, equipment, facilities, and communications designed to support a commander's exercise of command and control through all phases of the operational continuum. C4 systems include base visual information support systems.

Communications-Computer Systems (C-CS). The facilities, equipment, communications, procedures and personnel essential to a commander for planning, directing and controlling operations of assigned forces pursuant to the missions assigned.

Computer Based Training (CBT). A forum for training in which the student learns via a computer terminal. It is an especially effective training tool that allows the students to practice applications while they learn.

Content Management (CM). A set of processes and technologies supporting the evolutionary life cycle of digital information. This digital information is often referred to as content or, to be precise, digital content. Digital content may take the form of text, such as documents, multimedia like audio or video files, or any other file type that follows a content life cycle that requires management.

Continuation Training. Additional advanced training that exceeds the minimum upgrade training requirements and emphasizes present or future duty assignments.

Core Competency. An integrated bundle of expert knowledge and organizational skills inherent to a particular career field(s) which makes a disproportionate contribution to the success of providing the right skills needed for military operations, anywhere anytime. It cannot be duplicated by any other organization, and is critical for the future.

Core Task. A task AFCFMs identify as a minimum qualification requirement for everyone within an AFSC, regardless of duty position. A core task may be specified for a particular skill level or in general across the AFSC. Guidance for using core tasks can be found in the applicable CFETP narrative.

Course Objective List (COL). A publication derived from the initial/advanced skills Course Training Standard (CTS), identifying the tasks and knowledge requirements and respective standards provided to achieve a 3-skill level in this career field. Supervisors use the COL to assist in conducting graduate evaluations in accordance with AFI 36-2201, *Air Force Training Program.*

Course Training Standard (CTS). A standard developed for all courses not governed by an STS, including specialized training packages and computer-based training courses.

Critical Tasks. Critical Tasks are tasks that require specific training and certification above and beyond other tasks. Tasks may be defined as critical either through AFI, Technical Orders, higher headquarters, or at any level in the unit.

Cross-Utilization Training. Training on non-duty AFSC specific tasks.

Cyberspace. A global domain within the information environment consisting of the interdependent network of information technology infrastructures, including the Internet, telecommunications networks, computer systems, and embedded processors and controllers.

Cyberspace Operations. The employment of cyber capabilities where the primary purpose is to achieve objectives in or through cyberspace. Such operations include computer network operations and activities to operate and defend the DoD Information Network (DoDIN).

Data Management. The process of planning, coordinating, sharing, and controlling organizations' data resources (AFPD 33-3, *Information Management*).

Direct Reporting Unit (DRU). Air Force subdivisions directly subordinate to the CSAF. A DRU performs a mission that does not fit into any of the MAJCOMs. A DRU has many of the same administrative and organizational responsibilities as a MAJCOM. An example of a DRU: USAF Academy.

Document Management (DM). The process of managing documents through their life cycle; from inception through creation, review, storage, dissemination, and archival or deletion. Document management can also be a database system to organize stored documents, or a search mechanism to quickly find specific documents. (AFPD 33-3).

Duty Position Tasks. The tasks assigned to an individual for the position currently held. These include, at a minimum, all core tasks that correspond to the duty position, and tasks assigned by the supervisor (AFI 36-2201).

Education and Training Course Announcement (ETCA). Located at https://etca.randolph.af.mil. The ETCA contains specific MAJCOM procedures, fund cite instructions, reporting instructions, and listings for those formal courses the MAJCOMs or FOAs conduct or manage. It contains courses the Air Force and reserve forces conduct or administer and serves as a reference for the Air Force, DoD, other military services, government agencies, and security assistance programs.

Enlisted Specialty Training (EST). A mix of formal training (technical school) and informal training (on-the-job) to qualify and upgrade Airmen in each skill level of a specialty.

Enterprise. The entire range of communications/networking within garrison and tactical realms to include voice, video, data, imagery, and sensor.

Enterprise Information Management (EIM). Encompasses a set of strategies for organizational management of all aspects of enterprise data as information assets. The proper models, data architecture, application architecture, and integration vision enables using the "enterprise information asset" for strategic analysis, customer-centricity, performance and productivity analytics, and personalization, eventually providing a means for transitioning from an operational, line-of-business oriented application environment, to an intelligent, learning, and agile organization.

Enterprise Information System (EIS). A portfolio of services that bring about Enterprise Information Management (EIM) capabilities.

Exportable Training. Additional training via computer assisted, paper text, interactive video, or other necessary means to supplement training.

Field Operating Agency (FOA). FOAs are subdivisions of the Air Force directly subordinate to a headquarters US Air Force functional manager. A FOA performs field activities beyond the scope of any of the MAJCOMs. The activities are specialized or associated with an Air Force-wide mission. An example of a FOA: Air Force Weather Agency.

Field Training. Technical, operator, and other training that either a field training detachment or field training team conducts at operational locations on specific systems and associated direct-support equipment for maintenance and aircrew personnel.

Functional Area Manager (FAM). The individual accountable for the management and oversight of all personnel and equipment within a specific functional area to support operational planning and execution. Responsibilities include, but are not limited to, developing and reviewing policy; developing, managing, and maintaining Unit Type Codes (UTC); developing criteria for and monitoring readiness reporting; force posturing; and analysis. At each level of responsibility (Headquarters Air Force, MAJCOM, Air Component, FOA, DRU, and Unit), the FAM should be the most highly knowledgeable and experienced person within the functional area and have the widest range of visibility over the functional area readiness and capability issues.

Functional Manager (FM). An individual assigned collateral responsibility for training, classification, utilization, and career development of personnel. AFSC Functional Managers exist at MAJCOM, NAF and base level.

Global Command and Control System (GCCS). An automated information system designed to support deliberate and crisis planning with the use of an integrated set of analytic tools and flexible data transfer capabilities. GCCS will become the single C4I system to support the warfighter from foxhole to command post.

Go/No-Go. The "Go" is the stage at which a trainee has gained enough skill, knowledge, and experience to perform the tasks without supervision; meets the task standard. "No-Go" is the stage at which the trainee has not gained enough skill, knowledge, and experience to perform task without supervision; does not meet task standard.

Individual Training Plan (ITP). Use Training Business Area (TBA) to document training. TBA reflects past and current qualifications and is used to determine training requirements. It is intended to be a complete history of past training and current qualifications. Supervisors will ensure all documentation is accurate and comprehensive.

Information Life Cycle. Typically characterized as creation or collection, processing, dissemination, use, storage, protection, and disposition. (DoDD 8000.1, Management of the Department of Defense Information Enterprise).

Information Management (IM). The planning, budgeting, manipulating, and controlling of information throughout its life cycle. Joint Publication 3-0 further defines IM as the function of managing an organization's information resources by the handling of knowledge acquired by one or many different individuals and organizations in a way that optimizes access by all who have a share in that knowledge or a right to that knowledge.

Information Resources Management (IRM). The process of managing information resources to accomplish agency missions and to improve agency performance (e.g., the reduction of information collection burdens on the public).

Initial Skills Training. A formal school course that results in an AFSC 3-skill level award for enlisted or mandatory upgrade training to qualified officers.

Instructional System Development (ISD). A deliberate and orderly (but flexible) process for planning, developing, implementing, and managing instructional systems. It ensures personnel are taught in a cost efficient way to become educated on the knowledge, skills, and abilities essential for successful job performance.

Joint Tactical Radio System (JTRS). JTRS will link the power of the DoD Information Network (DoDIN) to the warfighter in applying fire effects and achieving overall battlefield superiority. By developing and implementing an open architecture of cutting-edge radio waveform technology, multiple radio types (e.g., handheld, ground-mobile, airborne, maritime, etc.) are now allowed to communicate with one another. The ultimate goal is to produce a family of interoperable, modular, software-defined radios that operate as nodes in a network to ensure secure wireless communication and networking services for mobile and fixed forces. These goals extend to U.S. allies, joint and coalition partners, and, in time, disaster response personnel.

Knowledge. Information from multiple domains that has been synthesized, through inference or deduction, into meaning or understanding that was not previously known. This includes: explicit knowledge, which can be easily articulated, codified, and stored; and tacit knowledge, which is based on personal experience, expertise, and judgment. Tacit knowledge is more challenging to capture and share than explicit knowledge.

Knowledge Management (KM). Handling, directing, governing, or controlling of natural knowledge processes within an organization in order to achieve the goals and objectives of the organization.

Knowledge Operations (KO). Application and adaptation of Knowledge Management (KM) into execution processes have access to relevant cross-functional information in a collaborative daily AF operations to enable information/decision superiority. KO leverages the interaction of people, processes, and EIS technologies to capture, store, organize, share, and control tacit and explicit knowledge, ensuring all mission, timely, and contextual manner.

Knowledge Training. Training used to provide a base of knowledge for task performance. It may also be used in lieu of task performance when the training capability does not exist. Learning gained through knowledge rather than hands-on experience.

Major Command (MAJCOM). A MAJCOM represents a major Air Force subdivision having a specific portion of the Air Force mission. Each MAJCOM is directly subordinate to HQ USAF. MAJCOMs are interrelated and complementary, providing offensive, defensive, and support elements.

Master Task List (MTL). A comprehensive list of all tasks performed within a work center and consisting of the current CFETP or AFJQS and locally developed AF Forms 797 (as a minimum). Should include tasks required for deployment and/or UTC requirements.

Master Training Plan (MTP). A comprehensive strategy for ensuring completion of all work center job requirements. The MTP includes a Master Task Listing and provides specific milestones for task, CDC completion, and prioritizes deployment/UTC, home station training tasks, upgrade, and duty qualification tasks.

Occupational Analysis Report (OAR). A detailed report showing the results of an occupational survey of tasks performed within a particular AFSC. Surveys are conducted by the Air Force Occupational Measurement Squadron (http://oa.aetc.af.mil/).

On-the-Job Training (OJT). Hands-on, over-the-shoulder training conducted to certify personnel in both upgrade (skill level award) and job qualification (duty position certification) training.

Proficiency Training. Additional training, either in-residence, or exportable advanced training courses, or on-the-job training, provided to personnel to increase their skills and knowledge beyond the minimum required for upgrade.

Qualification Training. Hands-on, task performance based training designed to qualify Airmen in a specific duty position. This training program occurs both during and after the upgrade training process and is designed to provide skills training required to do the job.

Records Management. The planning, controlling, directing, organizing, training, promoting, and other managerial activities involved in records creation, maintenance and use, and disposition in order to achieve adequate and proper documentation of the policies and transactions of the Federal Government and effective and economical management of agency operations.

Resource Constraints. Resource deficiencies (such as money, facilities, time, manpower and equipment) that preclude desired training from being delivered.

Specialty Training Requirements Team (STRT). A meeting chaired by the AFCFM with MAJCOM FMs, AETC Training Managers, Subject Matter Experts (SME), and Air Force Occupational Measurement Squadron (AFOMS) in attendance. Typically held three months prior to a Utilization and Training Workshop (U&TW) to finalize any CFETP changes or enlisted classification directory descriptions.

Specialty Training Standard (STS). A publication that describes an Air Force specialty in terms of tasks and knowledge that an Airman may perform or to know on the job. Also identifies the training provided to achieve a 3-, 5-, or 7-skill level within an enlisted AFS. It further serves as a contract between AETC and the functional user to show which of the overall training requirements for an AFSC are taught in formal schools and correspondence courses.

Standard. An exact value, a physical entity, or an abstract concept established and defined by authority, custom, or common consent to serve as a reference, model, or rule in measuring quantities or qualities, establishing practices or procedures, or evaluating results. It is a fixed quantity or quality.

Task Module (TM). A group of tasks performed together within an AFS that require common knowledge, skills, and abilities. TMs are identified by an identification code and a statement.

Total Force. All collective components (active, reserve, guard, and civilian elements) of the United States Air Force.

Training Advisory Group (TAG). Chaired by the AFCFM and attended by the MAJCOM, selected DRU's, and FOA functional managers. The TAG sets training goals and priorities, reviews training programs, and evaluates emerging training technologies. The group meets, as required, to prioritize training product development.

Training Business Area (TBA). A web-based system used to provide global, real-time visibility into the technical qualifications, certifications and training status of logistics, communications and information professionals Air Force wide. TBA supports base, wing and work center level training management activities by automating training management business processes.

Training Capability. The capability of a training setting to provide training on specified requirements, based on the availability of resources.

Training Planning Team (TPT). A team organized to examine training and development issues; comprises the same personnel as a Utilization and Training Workshop (U&TW), but more intimately involved in training development and examines a greater range of issues.

Training Requirements Analysis (TRA). A detailed analysis of tasks for a particular AFSC to be included in the training decision process.

Training Setting. The type of forum in which training is provided (formal resident school, on-the-job, field training, mobile training team, self-study, etc.).

Unit Type Code (UTC). A five-character alphanumeric code identifying a specific force package of personnel and/or equipment. The UTC is the means for linking logistics and manpower details within a unit type and is used to communicate force data. The UTC represents a wartime capability designed to fill a valid contingency requirement.

Upgrade Training. Mandatory training which leads to attainment of a higher level of proficiency.

Utilization and Training Workshop (U&TW). A forum of the AFCFM, MAJCOM Functional Managers, subject matter experts (SME), and AETC training personnel that determines career ladder training requirements.

Wartime Task. Those tasks taught when courses are accelerated in a wartime environment. In response to a wartime scenario, these tasks will be taught in the 3-level course in a streamlined training environment.

Workflow. A series of steps necessary for the initiation, tracking, and delivery of services or outputs with the capability to cut across existing or future organizational boundaries. Furthermore, web-based workflow products allow electronic coordination, staffing, and task management of documents and files. They are relational to an electronic version of the Staff Summary Sheet (SSS) and other AF/DoD forms used for routing/collection of information. Automation provides the capability to suspense and track correspondence through the workflow process and provides action officers and document originators status on their packages. Provides users the capabilities to comply with structured electronic workflow processes and the flexibility to create/develop ad hoc workflow courses of actions. Future use of standardized EIM tools will enhance usability and eliminate legacy methods.

Section A - General Information

1. Purpose of the CFETP. This CFETP, when used in conjunction with the 3DXXX Cyberspace Support CFETP provides the information necessary for AFCFMs, MAJCOM Functional Managers (MFM), commanders, training managers, supervisors, and trainers to plan, develop, manage, and conduct an effective and efficient career field training program. The plan outlines the initial skills, upgrade, qualification, advanced, and proficiency training those individuals in AFSC 3D1X4 should receive in order to develop and progress throughout their careers. Initial skills training is the AFS specific training an individual receives upon entry into the AF or upon retraining into this specialty for award of the 3-skill level. This training is provided by the 333rd Training Squadron (TRS) at Keesler AFB, MS. Upgrade training identifies the mandatory courses, task qualification requirements, Career Development Course (CDC) completion, and correspondence courses required for award of the 5-, 7-, or 9-skill level. Qualification training is actual hands-on task performance training designed to qualify an airman in a specific duty position. This training program occurs both during and after the upgrade training process. It is designed to provide the performance skills and knowledge required to do the job. Advanced training is formal specialty training used for selected Airmen. Proficiency training is additional training, either in-residence or exportable advanced training courses, or on-the-job training provided to personnel to increase their skills and knowledge beyond the minimum required for upgrade. The CFETP has several purposes, some of which are:

1.1. Serves as a management tool to plan, manage, conduct, and evaluate a career field-training program. Also, ensures that established training is provided at the appropriate point in an individual's career.

1.2. Identifies task and knowledge training requirements for each skill level in the specialty and recommends education and training throughout each phase of an individual’s career.

1.3. Lists training courses available in the specialty, identifies sources of training, and the training medium.

1.4. Identifies major resource constraints that impact implementation of the desired career field training program.

2. Use of the CFETP. The CFETP is maintained by the 3D1XX Air Force Career Field Manager (AFCFM), SAF/CIO A6SF. MAJCOM FMs and AETC review the plan annually to ensure currency and accuracy and forward recommended changes to the AFCFM. Using the list of courses in Part II, they determine whether duplicate training exists and take steps to eliminate/prevent duplicate efforts. Career field training managers at all levels use the plan to ensure a comprehensive and cohesive training program is available for each individual in the career ladder.

2.1. AETC training personnel develop/revise formal resident and exportable training based upon requirements established by the users and documented in the STS. They also develop procurement and acquisition strategies for obtaining resources needed to provide the identified training.

2.2. MAJCOM FMs ensure their training programs complement the CFETP for mandatory initial skill and upgrade requirements. They also identify the needed AFJQSs/AFQTPs to document unique upgrade and continuation training requirements. Requirements are satisfied through OJT, resident training, contract training, or exportable courseware/courses. MAJCOM-developed training to support this AFSC must be included in this plan.

2.3. 81 TRSS/TSQ Qualification Training Flight (Q-Flight) personnel develop training packages (AFJQSs/AFQTPs) based on requests submitted by the MAJCOMs and according to the priorities assigned by the AFCFM.

2.4. Unit level training managers and supervisors manage and control progression through the career field by ensuring individuals complete the mandatory training requirements for upgrade specified in this plan and supplemented by their MAJCOM. The list of courses in Part II is used as a reference for planning continuation or career enhancement training.

2.5. Submit recommended CFETP corrections to the 81 TRSS Q-Flight Customer Service Desk at 81 TRSS/TSQS, 601 D Street, Keesler AFB MS 39534-2235 or call DSN 597-3343. To contact electronically send email to: qflight.customer.service@us.af.mil.

2.6. Submit recommended CFETP additions/deletions through your MAJCOM Functional Manager.

3. Coordination and Approval of the CFETP. The AFCFM is the approval authority. MAJCOM representatives and AETC training personnel coordinate on the career field training requirements. The AETC training manager initiates an annual review of this document by AETC and MAJCOM functional managers to ensure the CFETP's currency and accuracy by using the list of courses in Part II to eliminate duplicate training.

Section B - Career Field Progression and Information

4. Specialty Description. This information supplements that presented in the AFECD.

4.1. Spectrum Operations Apprentice/Journeyman/Craftsman (3D134/3D154/3D174).

4.1.1. Specialty Summary: The Spectrum Operations technician analyzes requirements and requests frequencies to support terrestrial, aircraft and space systems and coordinate radio, radar, land, and other electromagnetic radiating or receiving requirements. They possess a solid understanding of wireless communications systems technologies and configurations and provide guidance to program offices, developers, and potential users of radiating and receiving equipment planned for introduction into the Air Force inventory and for modification to existing equipment. **Related DoD Occupational Subgroup**: **120100**.

4.1.2. Duties and Responsibilities:

4.1.2.1. Engineers, nominates, and assigns frequencies to support communications and operational requirements. Coordinates frequency needs with Federal, military, and civil spectrum management agencies. Secures operating authority and ensures the least possible interference is caused or received by Air Force electromagnetic systems. Reviews spectrum interference reports and helps resolve electromagnetic interference problems.

4.1.2.2. Analyzes radio frequency spectrum requirements and determines compatibility with other users considering transmitter and receiver specifications, antenna data, emission characteristics and modes of radio wave propagation. Examines radio link deficiencies and recommends corrective action to improve system performance. Recommends solutions to electromagnetic compatibility problems.

4.1.2.3. Maintains frequency records and associated databases. Provides guidance on the spectrum certification process for electromagnetic radiating and receiving equipment planned for introduction into the Air Force inventory and for modifications to existing equipment. Reviews plans and programming documents spectrum management actions. Prepares frequency annexes for contingency and operations plans. Examines spectrum allocation data and frequency assignment records to ascertain suitability of specific equipment planned for deployment.

4.1.2.4. Performs as joint task force spectrum manager. Provides spectrum management guidance to units deploying radio frequency equipment to support contingency, exercise, or wartime requirements. Analyzes and de-conflicts frequency assignments and databases to develop joint communications and electronics operating instructions.

4.1.2.5. Evaluates and assists electromagnetic spectrum management activities. Determines if spectrum support is adequate and recommends changes. Educates customers on optimal and proper use of the electromagnetic spectrum. Plans for current and future electromagnetic spectrum needs. Identifies and locates Radio Frequency interference sources.

4.2. Cyber Systems Superintendent (3D190).

4.2.1. Specialty Summary. Manages cyberspace systems analysis and design, programming, systems operation and maintenance, resource management and security management. Directs activities for installing, maintaining, repairing, overhauling, deploying, and modifying cyberspace systems and equipment platforms. In addition, manages and directs network operations in garrison and at deployed locations by performing duties to develop, sustain, and enhance network and electromagnetic capabilities to defend national interests from attack.

Ensures personnel are trained, equipped, and available to perform the assigned mission. Conducts career field development and mentoring for subordinate cyberspace support personnel. Introduces Airmen to career field path and steers growth to feed into the cyberspace deliberate development program. **Related DoD Occupational Subgroups: 240300, 270500**.

4.2.2. Duties and Responsibilities:

4.2.2.1. Plans and organizes cyberspace support activities. Plans and supervises system installation, and evaluates facilities layout and performance standards. Designs and develops organizational structures and determines equipment, training, and supplies required for systems implementation and support. Interacts with customers to promote customer satisfaction. Establishes tactics, techniques and procedures. Evaluates operational readiness of communications equipment, network devices, sensors, intrusion detection, and related support equipment.

4.2.2.2. Directs activities responsible for system analysis and design, programming, operations and maintenance, security, systems management, technical support, plans, implementation, and resource management. Implements and interprets policies, directives, and procedures.

4.2.2.3. Establishes training requirements. Establishes training programs to meet local knowledge and certification requirements and to enhance professional awareness of technology.

4.2.2.4. Directs maintenance activities. Directs personnel employed in siting, deploying, inspecting, adjusting, removing, replacing, and repairing communications systems and related equipment. Prepares and analyzes reports encompassing siting, deploying, maintaining, installing, repairing, and removing communications systems and related equipment. Coordinates activities and resolves common problems. Directs overhaul and repair of communications systems and related equipment. Establishes local maintenance procedures and policies. Ensures work standards are maintained. Determines extent and economy of repair, including disposition of malfunctioning equipment.

4.2.2.5. Inspects and evaluates maintenance activities for compliance with directives. Evaluates, rates, and prepares reports. Recommends and implements corrective action for improved methods and procedures. Evaluates effectiveness of equipment usage, systems performance, customer service, supplies, system scheduling, processing, and maintenance.

4.2.2.6. Plans, programs, and develops budget inputs to ensure resource availability for operational requirements.

4.2.2.7. Manages plans, implementation and development functions. Helps functional users define requirements. Recommends automated methods to enhance resource use. Supervises functional user requirements translation into automated systems capabilities. Organizes teams that use methodologies to meet mission requirements. Supervises test and evaluation efforts to determine system performance. Organizes and participates in mission implementation and conversion. Ensures continued interface between functional users, and programming and operations personnel for implemented systems. Ensures compliance with standards for systems documentation.

4.3. Chief Enlisted Manager. This specialty “caps” at the Chief Master Sergeant level with those specialties that came up through the Cyber Support Specialist (3D1XX) career ladders. Personnel attaining the rank of CMSgt are assigned broad ranging duties in directing and managing diverse communication functions.

4.4. MAJCOM Functional Manager (MFM) for Cyber Systems. (AFI 36-2201, *Air Force Training Program*; AFI 36-2101, *Classifying Military Personnel (Officers and Enlisted)*; *Air Force Enlisted Classification Directory*). Appointed by the MAJCOM Director of Communications (A6) or equivalent. Advises the MAJCOM/A6 and staff on 3D1XX utilization and training issues. Serves as the MAJCOM voting representative during career field Utilization and Training Workshops. Assists in gathering inputs and data to complete enlisted grade allocation for Career Progression Group (CPG) reviews. Provides guidance to subordinate units on 3D1XX personnel issues. Assists with the dissemination of information regarding Air Force and career field policies, plans, programs, and procedures to subordinate units. Assists in identifying qualified subject matter experts to help with the development of Specialty Knowledge Tests (SKT) and the Career Development Course (CDC). Acts as the primary MAJCOM reviewer on CDC training and classification waiver request packages. Coordinates on all MAJCOM 3D1XX staffing and manpower issues.

4.5. Air Force Career Field Manager (AFCFM) for Cyber Systems Career Field. (AFPD 36-26, *Total Force Development*; AFI 36-2201, *Air Force Training Program*; AFI 36-2101, *Classifying Military Personnel (Officers and Enlisted)*; Air Force Enlisted Classification Directory). Appointed by the Air Force Chief, Information Dominance and Chief Information Officer (SAF/CIO A6). Advisor to the SAF/CIO A6 on all matters affecting the Cyber Systems career fields. Communicates directly with MFMs and AETC Training Managers to disseminate Air Force and career field policies and program requirements. Ensures development, implementation, and maintenance of the CFETP. Serves as the chairperson for the U&TW and uses it as a forum to determine and manage career field education and training requirements, as they apply to mission needs. Possesses final authority to waive CFETP requirements, including CDCs. Assists AETC training managers and course supervisors with planning, developing, implementing, and maintaining all AFSC-specific training courses. Assists in the development of AFSC-related manpower standards.

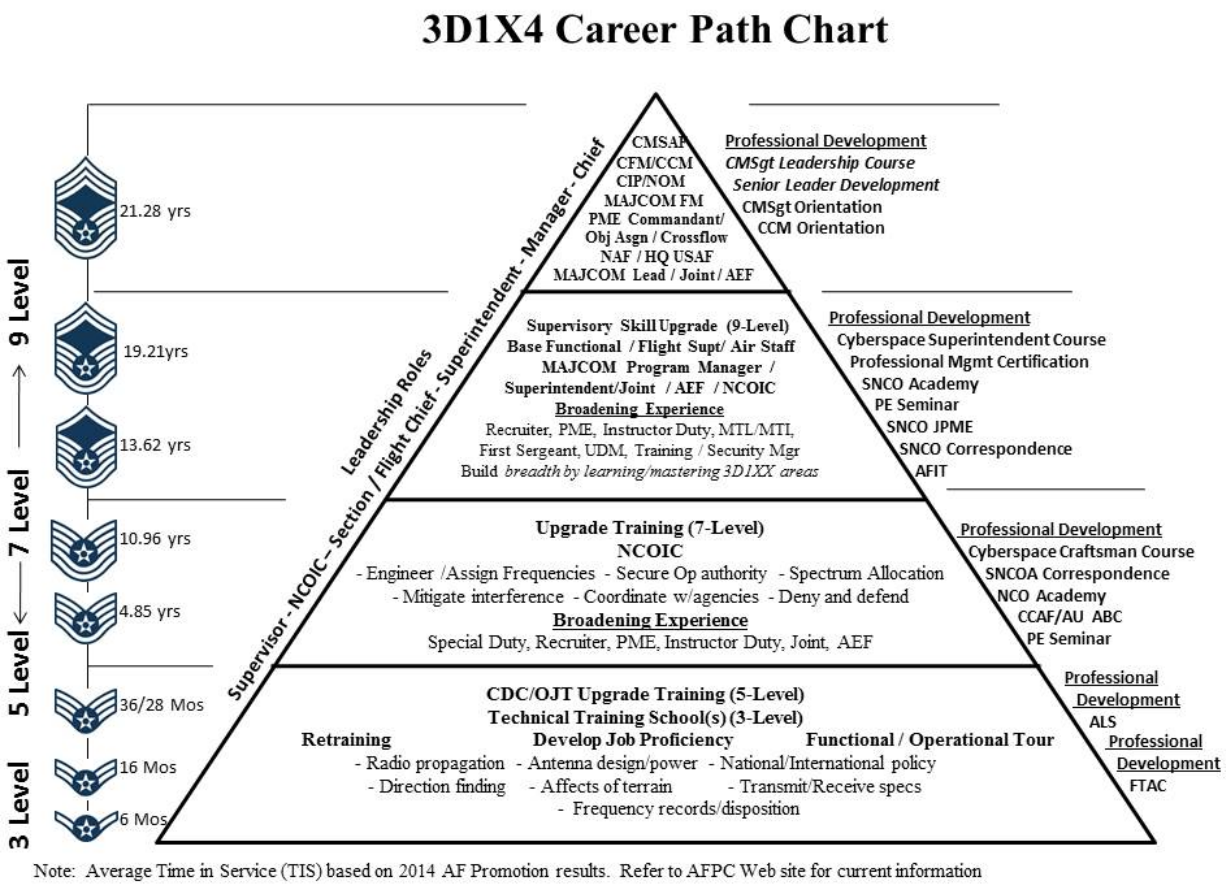
5. Skill/Career Progression. Adequate training and timely progression from the apprentice to superintendent skill levels play an important role in the Air Force's ability to accomplish its mission. It is essential that everyone involved in training do their part to plan, manage and conduct an effective training program. The guidance provided in this CFETP will ensure individuals receive viable training at appropriate points in their careers. The training listed in this plan is specific to the AFSC 3D1X4 and must be used in conjunction with the common core training identified in the 3DXXX CFETP.

5.1. Apprentice (3) Level. The Spectrum Operations Apprentice Course, serves as the initial skills course and must be completed for the award of AFSC 3D134.

5.2. Journeyman (5) Level. Upgrade training consists of: (1) completing Spectrum Operations CDC 3D154; (2) completing all core tasks identified for 5-level; (3) completing all 5-level requirements outlined in the 3DXXX Cyberspace Support CFETP; (5) meeting time-in-training requirements IAW AFI 36-2201; and (6) obtaining supervisor recommendation and commander approval for the award of AFSC 3D154.

5.3. Craftsman (7) Level. Upgrade training consists of: (1) completing all core tasks identified for 7-level; (2) completing all 7-level requirements outlined in the 3DXXX Cyberspace Support CFETP; (3) meeting time-in-training requirements as identified in AFI 36-2201; and (4) obtaining supervisor recommendation and commander approval for the award of AFSC 3D174.

5.4. Superintendent (9) Level. 3D190 skill level requirements are listed in the 3DXXX Cyberspace Support (Common Core) CFETP.



Note: Average Time in Service (TIS) based on 2014 AF Promotion results. Refer to AFPC Web site for current information

6. Training Decisions. This CFETP was developed to encapsulate an entire spectrum of training requirements for the Spectrum Operations career field, using a building block approach (simple to complex). Included in this spectrum was the strategy of when, where, and how to meet the training requirements. The strategy must be apparent and affordable to reduce duplication of training and eliminate a disjointed approach to training.

6.1. Proficiency Training. This training is job qualification for an assigned duty position. Additional qualification training becomes necessary when personnel transfer to another duty position, the unit mission changes, a new personnel program comes on board, or any time changes in techniques or procedures occur.

6.1.1. The 81 TRSS/TSQ (Q-Flight) develops AFJQSs/AFQTPs to support tasks relating to communications-electronics and communications-computer systems, functions and duties. Completion of AFJQSs/AFQTPs is mandatory by duty position for personnel in upgrade or qualification training.

6.1.2. CDC development will continue to be restricted to six volumes, two hundred pages each. The first volumes will be common to all 3D1XX AFSCs, followed by the respective AFSC-specific volumes. The following table outlines 5-level CDC contents.

3DX5X	
VOLUME 1	Support to the Cyberspace Mission
VOLUME 2	Information Technology Concepts and Maintenance Principles
3D154	
VOLUME 1	Principles of Spectrum Operations
VOLUME 2	Radio Wave Principles
VOLUME 3	Spectrum-Dependent Communications
VOLUME 4	Spectrum Management Operations

7. Community College of the Air Force (CCAF) Academic Programs. Enrollment in CCAF occurs upon completion of basic military training. CCAF provides the opportunity for all enlisted members to obtain an Associate in Applied Science degree. In order to be awarded the degree must be completed before the student separates from the Air Force, retires, or is commissioned as an officer. In addition to its associate's degree program, CCAF offers the following:

7.1. CCAF Instructor Certification. The College offers the CCAF Instructor Certification to instructors teaching full time in a CCAF affiliated school. To qualify, instructors must complete a 3 semester hour Instructor Methodology course, a 12 semester hour Teaching Internship, have one year teaching experience from date of Teaching Internship completion, hold an associate or higher degree, complete at least 1,000 hours of documented practical experience teaching a CCAF course(s),and be recommended by their commander/commandant.

7.2. The Information Systems Technology (OIYY) program applies to this career field.

7.2.1. Degree Requirements: Individuals must hold the 5-skill level at the time of program completion.

	Semester hours
Technical Education	24
Leadership, Management, and Military Studies	6
Physical Education	4
General Education	15
Program Electives	15
Total	64

7.2.2. Technical Education (24 semester hours): A minimum of 12 semester hours of technical core subjects and courses must be applied and the remaining semester hours will be applied from technical core/technical elective subjects and courses. Requests to substitute comparable courses or to exceed specified semester hour values in any subject/course must be approved in advance by the technical branch of the CCAF Administrative Center.

7.2.3. Leadership, Management, and Military Studies (6 semester hours): Professional military education (PME) and/or civilian management courses accepted in transfer and/or by testing credit. See CCAF General Catalog for application of civilian management courses.

7.2.4. Physical Education (4 semester hours): Satisfied upon completion of basic military training.

7.2.5. General Education (15 semester hours): Courses must meet the criteria for application of courses to the General Education requirement and be in agreement with the definitions of applicable General Education subjects/courses as outlined in the CCAF General Catalog.

7.2.6. General Education Mobile (GEM): GEM is a partnership between CCAF and civilian academic institutions to offer general education courses to meet CCAF A.A.S. degree requirements. Courses are offered via distance learning which reduces CCAF educational impact of deployments, PCS and family commitments.

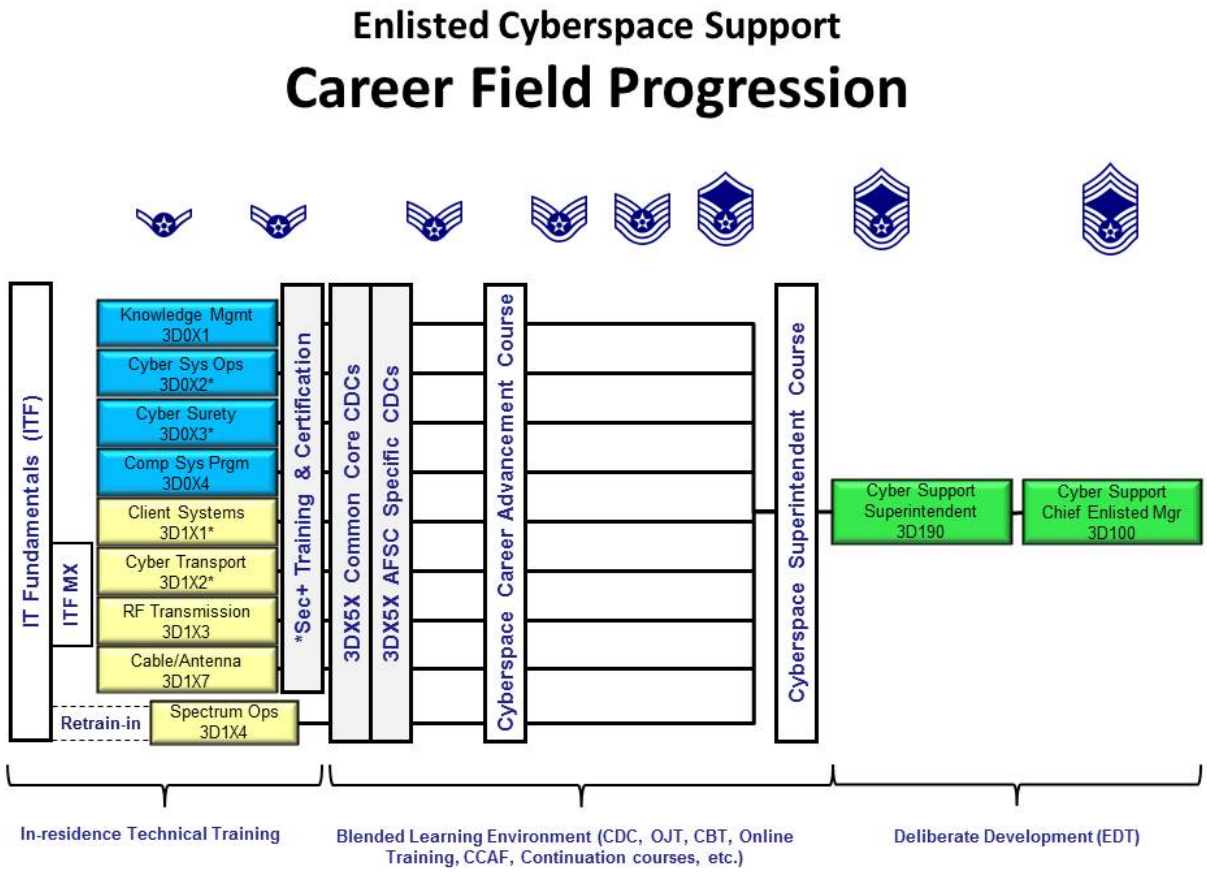
7.2.7. Program Elective (15 semester hours): Satisfied with applicable Technical Education; Leadership, Management, and Military Studies; or General Education courses, including natural science courses meeting General Education requirement application criteria. Six semester hours of CCAF degree applicable technical credit otherwise not applicable to this program may be applied.

7.3. Trade Skill Certification. When a CCAF student separates or retires, a trade skill certification is awarded for the primary occupational specialty. The College uses a competency based assessment process for trade skill certification at one of four proficiency levels: Apprentice, Journeyman, Craftsman (Supervisor), or Master Craftsman (Manager). All are transcribed on the CCAF transcript.

7.4. See the current CCAF General Catalog for details regarding the Associates of Applied Science in Electronic Systems Technology. The catalog is available at your education office, or from http://www.au.af.mil/au/barnes/ccaf/.

7.5. Additional off-duty education is highly encouraged, but is a personal choice that is encouraged for all. Individuals desiring to become an AETC instructor should be actively pursuing an associate degree. A degreed faculty is necessary to maintain CCAF's accreditation through the Southern Association of Colleges and Schools.

8. Career Field Path. The following summarizes career progression and personnel allocations across the career ladder. 3D0XX and 3D1XX personnel maintain their individual AFSC identifiers through the rank of MSgt. Upon promotion to SMSgt, 3D0X1/3D0X2/3D0X3/ 3D0X4 merge to become a 3D090; AFSCs 3D1X1/3D1X2/3D1X3/3D1X4//3D1X7 merge to become a 3D190. Specific demographic information is available on the Web at http://www.afpc.af.mil/library/airforcepersonneldemographics.asp.



3D1X4, SPECTRUM OPERATIONS
EDUCATION AND TRAINING PATH

EDUCATION AND TRAINING REQUIREMENTS	AVERAGE SEW ON TIME AND COMMENTS
BASIC MILITARY TRAINING SCHOOL (BMTS)	
APPRENTICE TECHNICAL SCHOOL (3-SKILL LEVEL)……Mandatory.	Amn.....6 months
UPGRADE TO JOURNEYMAN (5-SKILL LEVEL) Minimum 12 months OJT (9 months for retrainees). Complete 5-Level CDCs…….....Mandatory. Specific AFJQSs/AFQTPs for equipment at assigned location by duty position……...Mandatory. CS Management and Generic AFJQSs/AFQTPs for various unit level duties……..Mandatory. Complete 3DXXX CFETP requirements for 5-Skill Level ……Mandatory. AETC Supplemental training courses as determined by MAJCOM .....Optional. Community College of the Air Force Associates Degree .....Optional.	A1C .....16 months SrA.....3 years Earliest.....28 Months HYT.....8 years
AIRMAN LEADERSHIP SCHOOL (ALS) Attendance is limited to SSgt selectees or those attaining 48 months Total Active Federal Military Service (TAFMS) and who have not been selected for promotion to SSgt. Completion is mandatory before assuming the rank of SSgt. ANG/AFRC may complete by correspondence course……..Mandatory.	**TRAINER**: Must meet trainer eligibility requirements as per AFI 36-2201.

3D1X4, SPECTRUM OPERATIONS
EDUCATION AND TRAINING PATH

EDUCATION AND TRAINING REQUIREMENTS	AVERAGE SEW ON TIME AND COMMENTS
UPGRADE TO CRAFTSMAN (7-SKILL LEVEL) Minimum rank of SSgt. 12 months OJT (6 months for retrainees). Completion of 7-level CDCs, if available. Must be 7-level to sew on TSgt……..Mandatory. Completion of the E6ACW3DX7X 01AA Cyberspace Career Advancement Course…….Mandatory. CS Management and Generic AFJQSs/AFQTPs for various unit level duties……..Mandatory. Complete 3DXXX CFETP requirements for 7-Skill Level …….Mandatory. AETC Supplemental training courses as determined by MAJCOM .....Optional. Community College of the Air Force Associates Degree .....Desired.	SSgt .....4.85 years Earliest.....3 years HYT.....15 years TSgt .....10.96 years Earliest.....5 years HYT.....20 years **CERTIFIER:** Must meet certifier eligibility requirements as per AFI 36-2201.
NONCOMMISSIONED OFFICER ACADEMY (NCOA) Completion is mandatory before assuming the rank of MSgt. ……Mandatory. Active duty attendance is limited to TSgt, or MSgt. ANG/AFRC SSgt or TSgt may attend in-residence or complete by correspondence course. Community College of the Air Force Associates Degree…….Highly Desired	MSgt .....13.62 years Earliest.....8 years HYT.....24 years

3D1X4, SPECTRUM OPERATIONS
EDUCATION AND TRAINING PATH

EDUCATION AND TRAINING REQUIREMENTS	AVERAGE SEW ON TIME AND COMMENTS
USAF SENIOR NONCOMMISSIONED OFFICER ACADEMY (SNCOA) Attendance is limited to SMSgt or SMSgt Selectee. Completion is mandatory before assuming the rank of SMSgt ……Mandatory. SNCOA Correspondence Course……Optional. ANG/AFRC may complete by correspondence course. ANG/AFRC MSgts may attend in-residence……..Mandatory.	SMSgt.....19.21 years Earliest.....11 years HYT.....26 years
UPGRADE TO SUPERINTENDENT (9-SKILL LEVEL) Minimum rank of SMSgt……Mandatory. Complete 3DXXX CFETP requirements for 9-Skill Level ……Mandatory. CS Management and Generic AFJQSs/AFQTPs for various unit level duties……..Mandatory.	
Chief Enlisted Manager (CEM)	CMSgt .....21.28 years Earliest.....14 years HYT.....30 years

NOTE 1: Published sew-on times are Air Force averages. Refer to the Air Force Personnel Center's homepage to determine career field specific information: https://gum-crm.csd.disa.mil/app/answers/detail/a_id/13016.

NOTE 2: See Part II, Sections C and D for a list of AFJQSs/AFQTPs and AETC supplemental training.

NOTE 3: All core/duty position tasks must be completed prior to upgrade.

Section C - Skill Level Training Requirements

9. Purpose. The various skill levels in the career field are defined in terms of tasks and knowledge requirements for each skill level in the Spectrum Operations career field of the Cyber Systems career ladder. They are stated in broad, general terms and establish the standards of performance. Core tasks, knowledge items, and skill requirements for this specialty are identified in the STS, COL, CDCs, AFJQSs/AFQTPs, etc. Completion of the mandatory 3-level skill awarding course, CDCs, and applicable AFJQSs/AFQTPs define the Air Force core tasks for this specialty. **NOTE:** The 3DXXX Cyberspace Support CFETP lists additional skill-level requirements which are required by all 3DXXX AFSCs

10. Specialty Qualification Requirements.

10.1. Apprentice (3-Level) Training.

KNOWLEDGE	System Capabilities and Limitations. 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 Process to C-Cs Processing Problems.
EDUCATION	Completion of high school is mandatory. Additional Courses in Algebra, Geometry and Physics is Desirable.
TRAINING	Completion of the Spectrum Operations Apprentice course E8ALR3D134 00AA, (PDS Code XUI). (See Part II, Section B for Course Objective List)
EXPERIENCE	None required.
OTHER	For award and retention of AFSC 3D134, must maintain an Air Force Network License according to AFMAN 33-282, Computer Security (COMPUSEC). Eligibility for a Secret security clearance according to AFI 31-501, *Personnel Security Program Management*, is mandatory for award and retention of this skill level.
IMPLEMENTATION	Attendance at the Spectrum Operations Apprentice course is mandatory for award of the 3-skill level unless waived by the 3D1XX AFCFM.

10.2. Journeyman (5-Level) Training.

KNOWLEDGE	All 3D134 knowledge qualifications apply to the 3D154 requirements. Completion of the 3D154 Career Development Course.
TRAINING	No mandatory AETC training courses are required for upgrade.
EXPERIENCE	Qualification in and possession of AFSC 3D134. Completion of all STS core tasks. Completion of applicable AFJQSs/AFQTPs. Completion of all local tasks assigned for the duty position.
OTHER	For award and retention of AFSC 3D154, must maintain an Air Force Network License according to AFMAN 33-282, Computer Security (COMPUSEC). Eligibility for a Secret security clearance according to AFI 31-501, *Personnel Security Program Management*, is mandatory for award and retention of this skill level.
IMPLEMENTATION	Entry into formal journeyman upgrade training is accomplished once individuals are assigned to their first duty station. Qualification training is initiated anytime individuals are assigned duties for which they are not qualified. Use CDCs, CBTs and AFJQSs/AFQTPs concurrently to obtain the necessary qualification for refresher and cross-utilization training.

10.3. Craftsman (7-Level) Training.

KNOWLEDGE	All 3D154 knowledge qualifications apply to the 3D174 requirements.
TRAINING	Completion of the E6ACW3DX7X 01AA Cyberspace Career Advancement Course is mandatory.
EXPERIENCE	Qualification in and possession of AFSC 3D154. Completion of all STS core tasks. Completion of applicable AFJQSs/AFQTPs. Completion of all local tasks assigned for the duty position.
OTHER	For award and retention of AFSC 3D174, must maintain an Air Force Network License according to AFMAN 33-282, Computer Security (COMPUSEC). Eligibility for a Secret security clearance according to AFI 31-501, *Personnel Security Program Management*, is mandatory for award and retention of this skill level.
IMPLEMENTATION	Entry into OJT is initiated when individuals obtain the necessary rank and skill level. Qualification training is initiated anytime an individual is assigned duties for which they are not qualified. Use CDCs and AFJQSs/AFQTPs concurrently to obtain the necessary qualification for refresher and cross-utilization training.

10.4. Superintendent (9-Level) Training. 3D190 skill level requirements are listed in the 3DXXX Cyberspace Support (Common Core) CFETP.

10.5. Training Sources.

10.5.1. AFSC specific training - 333 TRS, Keesler AFB, MS at https://etca.randolph.af.mil/.

10.5.2. CDCs 3DXXX/3D154 are available for upgrade purposes through the unit training manager or online at Air University. For individual qualification and cross-utilization training, CDCs are ordered through the unit training office.

10.5.3. AFJQSs/AFQTPs are Air Force publications and are mandatory for use by personnel in upgrade or qualification training. They are developed by the 81st TRSS (Q-Flight), Keesler AFB, MS and may be downloaded from https://cs3.eis.af.mil/sites/20946/AFKN_Docs/Forms/AllItems.aspx. Procedures for requesting development of AFJQSs/AFQTPs are contained in AFI 33-154, *Air Force On-the-Job Training Products for Cyberspace Support Enlisted Specialty Training*. AFJQSs/AFQTPs are listed in Part II, Section C, of this CFETP.

Section D - Resource Constraints

11. There are currently no resource constraints. This area is reserved.

Section E - Transition Training Guide

There are currently no transition training requirements. This area is reserved.

PART II

Section A - Specialty Training Standard

1. Implementation. This STS will be used for technical training provided by AETC for the 3-level class on 23 September 2015.

2. Purpose. As prescribed in AFI 36-2201, this STS:

2.1. Lists in column 1 (Task, Knowledge, and Technical Reference) the most common tasks, knowledge, and technical references (TR) necessary for airman to perform duties in the 3-, 5-, and 7-skill level. Column 2 (Core Tasks) identifies by skill level, specialty-wide training requirements. **NOTE:** Core tasks are minimum task training requirements for upgrade.

2.2. Provides certification for OJT. Column 3 is used to record completion of tasks and knowledge training requirements. Use automated training management systems to document technician qualifications, if available. For initial certification or transcribing documentation complete the columns in accordance with AFI 36-2201.

2.3. Shows formal training and correspondence course requirements. Column 4 shows the proficiency to be demonstrated on the job by the graduate as a result of training on the task/knowledge and the career knowledge provided by the correspondence course. See the Air University Catalog maintained at https://cs3.eis.af.mil/sites/AE-ED-02-37/AFKN_Docs/Forms/AllItems.aspx?RootFolder=%2Fsites%2FAE%2DED%2D02%2D37%2FAFKN%5FDocs%2Fe%2DCDC%5FCDC%20Catalog for current CDC listings.

2.4. Qualitative Requirements. Attachment 1 contains the tasks, knowledge and proficiency levels referenced in paragraph 2. Columns are marked with a proficiency code to indicate subjects taught. An X in the proficiency code column indicates a lack of student man-years and instructor resources. Trainees without prerequisites specified in Education and Training Course Announcement (ETCA) cannot be expected to meet proficiency levels indicated.

2.5. Becomes a job qualification standard (JQS) for on-the-job training when placed in TBA and used as an electronic substitute according to AFI 36-2201.

2.6. Is a guide for development of promotion tests used in the Weighted Airman Promotion System (WAPS). Specialty Knowledge Tests (SKT) are developed at the AETC Airmen Advancement Division by senior NCOs with extensive practical experience in their career fields. The tests sample knowledge of STS subject matter areas judged by test development team members as most appropriate for promotion to higher grades. Questions are based upon study references listed in the Enlisted Promotion References and Requirements Catalog (EPRRC). Individual responsibilities are listed in chapter 1 of AFI 36-2605, *Air Force Military Personnel Testing System*. WAPS is not applicable to the Air National Guard or Air Reserve Forces.

3. Recommendations. Comments and recommendations are invited concerning the quality of AETC training. A Training Feedback Hotline has been installed for the supervisors' convenience. For a quick response to concerns, call our Training Feedback Hotline at DSN 597-4566, fax us at DSN 597-3790, or e-mail us at 81trg-tget@us.af.mil. Reference this STS and identify the specific area of concern (paragraph, training standard element, etc.).

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

WILLIAM J. BENDER, Lieutenant General, USAF
Chief, Information Dominance and
Chief Information Officer

Attachments:
1. Qualitative Requirements
2. Specialty Training Standard (STS) 3D1X4

PREFACE

NOTE 1: Users are responsible for annotating technical references to identify current references pending STS revision. Locate current Air Force publications at:

DOD Issuances and OSD Administrative Instructions at http://www.dtic.mil/whs/directives/
Air Force publications at http://www.e-publishing.af.mil/.
AFSSIs at https://cs3.eis.af.mil/sites/OO-SC-IA-01/default.aspx.
DISA Circulars and Instructions at https://www.disa.mil/About/DISA-Issuances.
Technical Orders (TO) at https://www.my.af.mil/etims/ETIMS/index.jsp.
Online Reference Ware and CBTs: https://www.my.af.mil/faf/FAF/fafHome.jsp (Under AF e-Learning)

NOTE 2: Knowledge and/or performance tasks are defined in the AFJQS. AFJQS items set the standard for qualification and certification and are mandatory for use in conjunction with this STS when applicable to the duty position.

NOTE 3: All objectives are trained during wartime.

NOTE 4: Commanders, supervisors and trainers will use TBA to track and manage training for all 3DXXX personnel.

NOTE 5: When an AFJQS is loaded into TBA, AFJQS task numbering will vary from the STS. The numbering scheme is defined by your work center specific master training plan.

NOTE 6: Third person certification is not required for all Cyber Support Specialist personnel. However, members (to include civilians and contractors) assigned to crew positions are still required position certification in accordance with Stan/Eval procedures.

NOTE 7: Senior NCO's in the 3DXXX AFSCs are not required to have an Individual Training Plan (ITP) with the following exceptions: personnel in upgrade training status, or performing equipment maintenance as part of primary duties. Unit Commanders can require Senior NCO's with UTC tasks to have an ITP.

NOTE 8: SXXI tasks (16.4 series) will be taught until such time that it is replaced by the new SXXI-Online software, at which time the SXXI-Online tasks (16.5 series) will be taught. The CFM will make the call on that time. Additionally, the identified core tasks will be switched from SXXI to SXXI-Online and a CDC edit will be produced to coincide with the changeover. Affected tasks are identified by use of the "/" in the core task and proficiency code columns. (i.e. 2b/-, 5/-).

THIS BLOCK IS FOR IDENTIFICATION PURPOSES ONLY Personal Data – Privacy Act of 1974		
PRINTED NAME OF TRAINEE *(Last, First, Middle Initial)*	INITIALS *(Written)*	LAST 4 OF SSAN

PRINTED NAME OF TRAINER AND CERTIFYING OFFICIAL AND WRITTEN INITIALS	
N/I	N/I
N/I	N/I
N/I	N/I
N/I	N/I
N/I	N/I
N/I	N/I

PROFICIENCY CODE KEY		
	SCALE VALUE	DEFINITION: The individual
Task Performance Levels	1	Can do simple parts of the task. Needs to be told or shown how to do most of the task. (EXTREMELY LIMITED)
	2	Can do most parts of the task. Needs help only on hardest parts. (PARTIALLY PROFICIENT)
	3	Can do all parts of the task. Needs only a spot check of completed work. (COMPETENT)
	4	Can do the complete task quickly and accurately. Can tell or show others how to do the task. (HIGHLY PROFICIENT)
***Task Knowledge Levels**	a	Can name parts, tools, and simple facts about the task. (NOMENCLATURE)
	b	Can determine step by step procedures for doing the task. (PROCEDURES)
	c	Can identify why and when the task must be done and why each step is needed. (OPERATING PRINCIPLES)
	d	Can predict, isolate, and resolve problems about the task. (ADVANCED THEORY)
****Subject Knowledge Levels**	A	Can identify basic facts and terms about the subject. (FACTS)
	B	Can identify relationship of basic facts and state general principles about the subject. (PRINCIPLES)
	C	Can analyze facts and principles and draw conclusions about the subject. (ANALYSIS)
	D	Can evaluate conditions and make proper decisions about the subject. (EVALUATION)

Explanations

* A task knowledge scale value may be used alone or with a task performance scale value to define a level of knowledge for a specific task. (Example: b and 1b)

** A subject knowledge scale value is used alone to define a level of knowledge for a subject not directly related to any specific task, or for a subject common to several tasks. This mark is used alone instead of a scale value to show that no proficiency training is provided in the course or CDC.

X This mark is used alone in course columns to show that training is required but not given due to limitations in resources.

NOTE: All tasks and knowledge items shown with a proficiency code are trained during wartime.

(-) When this code is used in the Core Task Column it indicates that the qualification is a local determination.

(5) When this code is used in the Core Task Column it indicates the CFM has mandated this task as a core 5-level requirement. The training to satisfy this requirement is either provided through OJT, CBTs, CDCs, or a combination.

(7) When this code is used in the Core Task Column it indicates the CFM has mandated this task as a core 7-level requirement. The training to satisfy this requirement is either provided through OJT, CBTs, CDCs, or a combination.

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	Course	CDC	OJT	OJT
1. SPECTRUM OPERATIONS CAREER FIELD TR: AFECD; AFH 33-337; AFIs 10-401, 33-115, 33-150, 36-2101; 3D1X4 CFETP; TO 00-33A-1001										
1.1. Structure	-						-	-	-	-
1.2. Progression within Air Force Specialty Code 3D1X4	-						-	B	-	-
1.3. Read CFETP 3D1X4	5						-	-	-	-
1.4. Air Force Specialty Code 3D1X4										
1.4.1. Duties/ Responsibilities of AFSC	5						A	A	-	-
2. SAFETY/ RISK MANAGEMENT (RM) TR: AFIs 90-802 and 91-203,										
2.1. Air Force Consolidated Occupational Safety Instructions for AFSC	5						A	A	-	-
2.2. Hazards of the AFSC	5						A	A	-	-
3. SPECTRUM MANAGEMENT TR: AFI 33-580; ITU Regulations, NTIA Manual; MCEB Pub 7 ; MCEB Pub 8; Radio Regulations										
3.1. International Telecommunications Union (ITU) Radio Regulations										
3.1.1. Purpose	5						B	B	-	-
3.1.2. Structure	5						B	B	-	-
3.1.3. Responsibilities	5						B	B	-	-
3.1.4. Radio Regulations	5						B	B	-	-
3.1.5. Terminology	5						B	B	-	-
3.1.6. International Frequency Table of Allocations	5						B	B	-	-
3.2. National and Government TR: AFI 33-580; MCEB Pub 7, MCEB Pub 8; NTIA Manual										
3.2.1. U.S. National Policy Regulation	5						B	B	-	-
3.2.2. National Telecommunications & Information Administration (NTIA)										
3.2.2.1. Purpose	5						B	B		
3.2.2.2. Structure	5						B	B		

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	Course	CDC	OJT	OJT
3.2.2.3. Responsibilities	5						B	B		
3.2.2.4. NTIA Manual	5						B	B	-	-
3.2.2.5. Channeling Plans	5						B	B	-	-
3.2.3. Federal Communications Commission (FCC)	5						B	B	-	-
3.2.4. Code of Federal Regulations Title 47	5						A	A		
3.2.5. Spectrum Legislation	-						A	-	-	-
3.2.6. National Frequency Table of Allocations	-						B	B	-	-
3.3. DoD Spectrum Management Organization TR: AFI 33-580; DODD 4650.1										
3.3.1. Office of Assistant Secretary of Defense Command, Control Communications and Intelligence (OASD C3I)	5						A	A	-	-
3.3.2. Office of Spectrum Analysis Management (OSAM)	5						A	A	-	-
3.3.3. Joint Chiefs of Staff United States Military Command, Control, Communications, and Computers (C4) Executive Board (JCSMC4EB)	5						A	-	-	-
3.3.4. Military Command, Control, Communications, and Computers (C4) Executive Board (MC4EB) Frequency Panel (FP)	5						A	A	-	-
3.3.5. Joint Spectrum Center (JSC)	5						A	A	-	-
3.3.6. Unified/Specified Command	5						A	A	-	-
3.3.7. DoD Area Frequency Coordinator	5						A	A	-	-
3.3.8. MAJCOM	5						A	B	-	-
3.3.9. Wing/Base	5						A	B	-	-
3.3.10. Test Ranges	-						A	A	-	-
3.3.11. US Army Spectrum Organization	-						A	-	-	-
3.3.12. US Navy Spectrum Organization	-						A	-	-	-
3.3.13. US Marine Corps Spectrum Organization	-						A	-	-	-
3.3.14. US Air Force Spectrum Organization	5						A	B	-	-
3.3.15. DoD Policy	5						B	B	-	-
3.4. OCONUS Spectrum Management Structure (e.g. NATO)	-						A	A	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	Course	CDC	OJT	OJT
3.5. Spectrum Certification TR: AFI 33-580; CJCSM 3320.01 {Annex F}; NTIA Manual {Chapter 10}; Spectrum Certifications System (SCS) Online Help										
3.5.1. Process										
3.5.1.1. DD Form 1494	5						b	B	-	-
3.5.1.2. Note to Holders	5						B	B	-	-
3.5.1.3. Foreign Disclosure	5						B	B	-	-
3.5.1.4. Commercial Off the Shelf	5						B	B	-	-
3.5.2. JF-12 Database										
3.5.2.1. Query Database	5						2b	-	-	-
3.5.2.2. Perform Title Search	5						2b	-	-	-
3.5.2.3. Supportability Comments (e.g. Host Nation Documents)	5						-	B	-	-
3.6. Coordination Policy TR: ACP 190 (A), ACP190 USSUPP-1(C); AFI 33-580, CJCSM 3220.01, DODD 4650.										
3.6.1. Coordination Agencies	-						B	B	-	-
3.6.2. Frequency Assignment										
3.6.2.1. Peacetime	5						B	B	-	-
3.6.2.2. Wartime/Contingency	5						B	B	-	-
3.7. Develop and Maintain Position Continuity Plan	-						-	A	-	-
4. SPECTRUM MANAGEMENT PRINCIPLES ADMINISTRATION TR: ACP 190 Sup-1 and Sup-2; MCEB Pub 7, MCEB Pub 8; NTIA Manual										
4.1. Bandwidth TR: NTIA Manual										
4.1.1. Types (e.g. Necessary, Authorized and Occupied)	5						B	B	-	-
4.2. Emission Designators TR: MCEB Pub 7, MCEB Pub 8; NTIA Manual										
4.2.1. Composition	5						B	B	-	-
4.2.2. Formulation	5						B	B	-	-
4.2.3. Interpret	5						1b	-	-	-
4.2.4. Determine	5						1b	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	Course	CDC	OJT	OJT
4.3. Radio Communications Service and Station Classes TR: MCEB Pub 7, MCEB Pub 8; NTIA Manual										
4.3.1. Principles	5						B	-	-	-
4.3.2. Types	5						B	-	-	-
4.3.3. Research Table of Allocations	5						2b	-	-	-
4.3.4. Research Footnotes, Provisions and Remarks	5						2b	-	-	-
4.3.5. Determine Radio Service	5						2b	-	-	-
4.3.6. Determine Type Station Class	5						2b	-	-	-
4.4. Standard Frequency Action Format (SFAF) TR: ACP 190, MCEB Pub 7, MCEB Pub 8; NTIA Manual										
4.4.1. Administrative Data	5						B	-	-	-
4.4.2. Emission Characteristics Data	5						B	-	-	-
4.4.3. Organizational Data	5						B	-	-	-
4.4.4. Transmitter Data	5						B	-	-	-
4.4.5. Space Systems Data	5						B	-	-	-
4.4.6. Receiver Data	5						B	-	-	-
4.4.7. Supplemental Details Data	5						B	-	-	-
4.4.8. SFAF Processing	5						B	-	-	-
4.4.9. Prohibited Data Entries	5						B	-	-	-
4.4.10. Restricted Data Entries	5						B	-	-	-
4.4.11. Data Item Occurrence Identifiers	5						B	-	-	-
4.4.12. Data Item Purge Identifier	5						B	-	-	-
4.4.13. Mass Purge Identifier	5						B	-	-	-
4.4.14. Multiple Record Identifiers	5						B	-	-	-
4.4.15. Types of Input for SFAF Proposals (e.g. Theater Unique Requirements)	5						B	-	-	-
4.4.16. Mass Record Changes	5						B	-	-	-
4.4.17. SFAF Transaction Security Rules	5						B	-	-	-
4.4.18. Classification of Aggregate Frequency Records (e.g. Theater Unique Requirements)	5						B	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	Course	CDC	OJT	OJT
4.4.19. Emitter Surveys	5						A	A		
4.5. National and International Databases TR: ITU Regulations, MCEB Pub 7, MCEB Pub 8; NTIA Manual										
4.5.1. Frequency Resource Record System (FRRS)	5						B	A	-	-
4.5.2. Government Master File (GMF)	-						B	A	-	-
4.5.3. Federal Communications Commission (FCC) File	-						B	A	-	-
4.5.4. International Frequency List (e.g. IRFL)	-						B	-	-	-
4.5.5. Area Studies	-						B	-	-	-
4.6. Automated Tools										
4.6.1. Spectrum XXI	5						B	-	-	-
4.6.2. Joint Automated CEOI Systems (JACS)	-						B	-	-	-
5. MATHEMATICS OF SPECTRUM MANAGEMENT TR: TO 31-1-141-5										
5.1. Convert Between Units of Power, Voltage and Frequency	-						b	-	-	-
5.2. Decibels	-						B	B	-	-
5.3. Power, Voltage, Current & Resistance	-						B	B	-	-
5.4. Metric Conversion	-						2b	B	-	-
6. COMMUNICATIONS ELECTRONICS PRINCIPLES TR: TO 31-1-141 SERIES										
6.1. Modulation Techniques TR: TO 31-1-141 Series										
6.1.1. Amplitude Modulated	5						B	B	-	-
6.1.2. Frequency Modulated	5						B	B	-	-
6.1.3. Pulse/Phase Modulated	5						B	B	-	-
6.1.4. Principles of Transmitters/ Receivers	5						B	B	-	-
6.2. Receiver Sensitivity TR: TO 31-1-141-9, TO 31-1-141-10										
6.2.1. Internal Noise Theory	-						B	B	-	-
6.3. Receiver Selectivity TR: TO 31-1-141-9, TO 31-1-141-10	-						B	B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	Course	CDC	OJT	OJT
6.4. Transmission Lines TR: TOs 31-1-141-7, 31-1-141-8 and 31-1-141-11										
6.4.1. Coaxial Cables (Flexible, Semirigid, & Rigid)	-						A	A		
6.4.2. Open/Parallel Lines	-						A	A		
6.4.3. Wave Guides	-						A	A		
6.4.4. Fiber Optics	-						A	A		
6.4.5. Dielectric Types	-						A	A		
6.4.6. Attenuation	-						A	A		
6.4.7. Standing Wave Ratios	-						A	A		
6.4.8. Effective Isotropic Radiated Power (EIRP)	-						A	A		
6.4.9. Effective Transmit Power (ETP)	-						A	A		
6.5. Antenna Principles TR: ECAC-CR-82-125; JSC HDBK 98-091; TO 31-1-141-12										
6.5.1. Common Antennas										
6.5.1.1. Dipole	-						A	A	-	-
6.5.1.2. Whip	-						A	A	-	-
6.5.1.3. Longwire	-						A	A	-	-
6.5.1.4. Horn	-						A	A	-	-
6.5.1.5. Helical	-						A	A	-	-
6.5.1.6. Parabolic	-						A	A	-	-
6.5.1.7. Reflector	-						A	A	-	-
6.5.1.8. Array	-						A	A	-	-
6.5.2. Antenna Efficiency	-						A	A	-	-
6.5.3. Antenna Gain	-						A	A	-	-
6.5.4. Polarization	5						B	B	-	-
6.6. Electromagnetic Wave Propagation Theory TR: TO 31-1-141 Series										
6.6.1. Radio Wave Propagation										
6.6.1.1. Freespace	-						A	A	-	-
6.6.1.2. Refraction	-						A	A	-	-
6.6.1.3. Reflection	-						A	A	-	-
6.6.1.4. Diffraction	-						A	A	-	-
6.6.1.5. Knife Edge Diffraction	-						A	A	-	-
6.6.2. Path Loss	-						A	B	-	-
6.6.3. Multipathing	-						A	A	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	Course	CDC	OJT	OJT
6.6.4. Free Space Loss	-						A	A	-	-
6.7. Jam Resistant Communications TR: AFTTP (I) 3-2.4.9. “HAVE QUICK Multi-service Tactics, Techniques and Procedures for HAVE QUICK Radios"; CJCSI 6232.01 "Link 16 Spectrum De-confliction within the US&P"; SUG "JTIDS/MIDS Spectrum Users Guide"; Talk II - SINCGARS "Multiservice Communications Procedures for the SINCGARS"										
6.7.1. Frequency Hopping Theory	5						A	B	-	-
6.7.2. Spread Spectrum Theory	5						A	B	-	-
6.7.3. Jam Resistant Systems Employment	-						A	B	-	-
6.7.4. Frequency Agile Systems										
6.7.4.1. Have Quick Systems	-						A	B	-	-
6.7.4.2. Single Channel Ground and Airborne Radio System (SINCGARS)	-						A	B	-	-
6.7.4.3. Joint Tactical Information Distribution System (JTIDS)	-						A	B	-	-
6.7.4.4. Airborne\ Enhanced Position Location Reporting System (A\EPLRS) TR: https://www.doctrine.usmc.mil/signpubs/r3403a.pdf, MCEB Pub 7	-						A	B	-	-
6.7.4.5 Joint Tactical Radio System	-						A	A	-	-
7. SPECTRUM PLANNING FOR HIGH FREQUENCY (HF) SYSTEMS TR: AFMAN 33-120; DoD ECAC HDBK-CR-82-125, ECAC-CR-82-200; TO 31-1-141-12; MCEB Pub 7, MCEB Pub 8										
7.1. Solar Ionospheric Physics										
7.1.1. Physical & Non-Physical Emissions from the Sun	-						B	B	-	-
7.1.2. Ionization	-						B	B	-	-
7.1.3. Recombination	-						B	B	-	-
7.1.4. Earth’s Atmosphere	-						B	B	-	-
7.1.5. Sunspots	-						B	B	-	-
7.1.6. Sunspot Number	-						B	B	-	-
7.1.7. Solar Flares	-						B	B	-	-
7.1.8. Solar Variations	-						B	B	-	-
7.2. Skywave Fundamentals										
7.2.1. Skip Distance	-						B	B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	Course	CDC	OJT	OJT
7.2.2. Skip Zone	-						B	B	-	-
7.2.3. Critical Angle	-						B	B	-	-
7.2.4. Critical Frequency	-						B	B	-	-
7.2.5. Maximum Usable Frequency (MUF)	-						B	B	-	-
7.2.6. Frequency Optimum Transmission (FOT)	-						B	B	-	-
7.2.7. Lowest Usable Frequency (LUF)	-						B	B	-	-
7.2.8. Factors for Refraction	-						B	B	-	-
7.2.9. Ionospheric Sounders TR: ACP 191	-						B	B	-	-
7.2.10. Automatic Link Establishment (ALE)	-						B	B	-	-
7.3. Antenna Radiation Patterns TR: ECAC-CR-82-200	-						B	B	-	-
7.4. Antenna Planning TR: ECAC-CR-83-200										
7.4.1. Physical Properties of Antennas	-						B	-	-	-
7.4.2. HF Antenna Selection Based on Patterns Versus Path Requirements	-						B	-	-	-
7.5. Long-Wire Antennas TR: ECAC-CR-82-125										
7.5.1. Characteristics and Variations	-						B	-	-	-
7.5.2. Effects on Termination and Directivity	-						B	-	-	-
7.6. HF Tuning Techniques TR: NTIA Manual										
7.6.1. Principles of Sideband Techniques	-						B	B	-	-
7.6.2. Reference Frequency and Assigned Frequency Identification	-						B	B	-	-
7.6.3. Occupied Spectrum	-						B	-	-	-
7.7. HF Groundwave Propagation and Predictions TR: ECAC-CR-82-125										
7.7.1. Fundamentals	5						B	B	-	-
7.7.2. Reliability Factors	-						B	-	-	-
7.7.3. Interpret Propagation Prediction Products	-						2b	-	-	-
7.8. Use Automated HF Prediction Systems	-						2b	-	-	-
7.9. HF Systems Engineering										
7.9.1. Principles of HF System Planning	5						B	B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	Course	CDC	OJT	OJT
7.9.2. Determine best Antenna for Requirements	-						-	-	-	-
7.9.3. Determine Path Requirements using Propagation Data	-						-	-	-	-
7.9.4. Engineer Ground Wave Communications	-						2b	-	-	-
7.9.5. Engineer Skywave Communications	5						2b	-	-	-
7.9.6. Complete SFAF Proposals for HF Requirements	5						2b	-	-	-
7.9.7. Nominate HF Frequencies	5						2b	-	-	-
8. SPECTRUM PLANNING FOR VERY HIGH (VHF) & ULTRA HIGH FREQUENCY (UHF) SYSTEMS TR: AFI 33-580; MCEB Pub 7, MCEB Pub 8, NTIA Manual										
8.1. VHF/UHF Amplitude Modulated (AM)/ Frequency Modulated (FM) Air/Ground/Air (A/G/A) Systems										
8.1.1. Principles of VHF/UHF AM Systems Planning	-						B	-	-	-
8.1.2. Principles of Area Coverage of A/G/A Systems Calculation	-						B	-	-	-
8.1.3. Principles of AM/FM Air/Ground Communications Engineering	-						B	-	-	-
8.1.4. Complete SFAF Proposals for VHF/UHF AM/FM A/G/A Requirements	5						2b	-	-	-
8.1.5. Nominate VHF/UHF AM A/G/A Frequencies	5						2b	-	-	-
8.2. VHF/UHF Frequency Modulated (FM) Systems										
8.2.1. Principles of VHF/UHF FM Systems Planning	5						B	B	-	-
8.2.2. Spectrum Support for Land Mobile Radio (LMR) Systems										
8.2.2.1. Simplex	5						B	B	-	-
8.2.2.2. Duplex/ Repeater	5						B	B	-	-
8.2.2.3. Trunking	5						B	B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	Course	CDC	OJT	OJT
8.2.3. Principles of System Parameter Calculation (Distance, Reliability, Antenna Height, Frequency, Receive Signal Level and Systems Gain/ Losses)	-						B	B	-	-
8.2.4. Complete SFAF Proposals for LMR Requirements	5						2b	-	-	-
8.2.5. Nominate LMR Frequencies	5						2b	-	-	-
8.2.6. Complete SFAF Proposals for VHF/UHF G/G Requirements	5						2b	-	-	-
8.2.7. Nominate VHF/UHF G/G Frequencies	5						2b	-	-	-
9. SPECTRUM PLANNING FOR MULTICHANNEL SYSTEMS TR: AFI 33-580; MCEB Pub 7, MCEB Pub 8, NTIA Manual; TO 31-1-141 (SERIES)										
9.1. Microwave Antennas TR: NTIA Manual and TO 31-141-12										
9.1.1. Parabolic Antennas	-						B	-	-	-
9.1.2. Horn Antennas	-						B	-	-	-
9.1.3. Reflectors	-						B	-	-	-
9.1.4. Principles of the Gain Calculation of Parabolic Antennas	-						B	-	-	-
9.1.5. Principles of the Gain Calculation of Flat Passive Reflectors	-						B	-	-	-
9.2. Line of Site (LOS) Systems TR: TO 31-1-141-12										
9.2.1. Principles of Refraction	5						B	B	-	-
9.2.2. Principles of Direct and Ground Propagation Paths	5						B	B	-	-
9.2.3. Determine the Usable Frequency Range	-						-	-	-	-
9.2.4. Advantages/ Disadvantages of LOS Systems in Communications	-						B	-	-	-
9.2.5. LOS Equipment Capabilities and Limitations	-						B	-	-	-
9.2.6. Basic Configurations of LOS Systems	-						B	-	-	-
9.2.7. Propagation Considerations in LOS Communications	-						B	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	Course	CDC	OJT	OJT
9.2.8. Principles of Free Space Loss for LOS Systems Communications Calculation	-						B	-	-	-
9.2.9. Explain a Path Profile on Selected LOS Systems	-						B	-	-	-
9.2.10. Principles of LOS Systems Predicted Reliability	-						B	-	-	-
9.2.11. Develop SFAF Proposals for LOS Requirements	5						2b	-	-	-
9.2.12. Nominate LOS Systems Frequencies	5						2b	-	-	-
9.2.13. Frequency Share Plan for Operating Multiple Systems at a Single Location	-						A	-	-	-
9.3. Troposcatter (TROPO) Systems TR: TO 31-141-11, TO 31-1-141-12										
9.3.1. TROPO Theory	-						B	B	-	-
9.3.2. Capabilities/Limitations of TROPO Systems	-						B	-	-	-
9.3.3. Principles of TROPO Total Propagation Loss (TPL) Calculation	-						B	-	-	-
9.3.4. Principles of TROPO Receive Signal Level (RSL) Calculation	-						B	-	-	-
9.3.5. Principles of TROPO Median Receiver Input Signal Level Calculation	-						B	-	-	-
9.3.6. Principles of TROPO Minimum Receiver Input Signal Level Calculation	-						B	-	-	-
9.3.7. Principles of TROPO Fade Margin and Reliability Calculation	-						B	-	-	-
9.3.8. Principles of TROPO Total Path Loss Calculation	-						B	-	-	-
10. SPECTRUM PLANNING FOR SATELLITE SYSTEMS TR: CJCSI AFSATCOM Procedures Vol 1 and Vol 2; MCEB Pub 7, MCEB Pub 8, NTIA Manual										
10.1. Application of Satellite Systems	-						A	B	-	-
10.2. Satellite Terminology	-						A	B	-	-
10.3. Satellite Orbits	-						A	B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	Course	CDC	OJT	OJT
10.4. Interference Mechanisms Affecting Up/Down Link Performance (e.g. Scintillation)	-						A	B	-	-
10.5. SFAF Requirements for Satellite Access Authorization (SAA)s	-						B	-	-	-
10.6. Satellite Look and Elevation Angles	-						B	-	-	-
10.7. Satellite Access Request (SAR) Procedures										
10.7.1. Ground Mobile Forces SAR	-						A	-	-	-
10.7.2. Tactical UHF SAR (TACSAT)	-						A	-	-	-
10.8. DoD use of Commercial Satellites TR: AU-18, Space Handbook	-						A	B	-	-
10.9. Demand Assigned Multiple Access (DAMA) and Demand Assigned Single Access (DASA)	-						A	-	-	-
11. SPECTRUM PLANNING FOR NON-COMMUNICATIONS SYSTEMS TR: AFI 33-580; MCEB Pub 7, MCEB Pub 8, NTIA Manual; TO 131-1-141-14										
11.1. Radar Systems										
11.1.1. Principles of Radar Operations	5						B	B	-	-
11.1.2. Radar Types and Functions	5						B	B	-	-
11.1.3. IFF/SIF										
11.1.3.1. Operation	5						A	B		
11.1.3.2. Modes	5						A	B		
11.1.3.3. Complete SFAF	-						2b	-		
11.1.4. Principles of Radar Distance Calculation	-						B	-	-	-
11.1.5. Complete SFAF Proposals for Radar Requirements	-						2b	-	-	-
11.1.6. Nominate Radar Frequencies	5						2b	-	-	-
11.2. Navigational Aid (NAVAID) Systems (e.g. TACAN)										
11.2.1. Principles of NAVAID Operations	5						B	B	-	-
11.2.2. NAVAID Types and Functions	5						B	-	-	-
11.2.3. NAVAID Frequencies	5						B	-	-	-
11.2.4. Complete SFAF Proposal for NAVAID Requirements	-						2b	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
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11.2.5. Nominate NAVAID Frequencies	5						2b	-	-	-
11.2.6. Global Positioning System (GPS)										
11.2.6.1. Principles of GPS	5						A	B	-	-
11.2.6.2. Operate GPS Receiving Device	-						b	B	-	-
11.2.7. Military Aircraft Collision Avoidance System (MILACAS)	-						A	A	-	-
12. ELECTROMAGNETIC COMPATIBILITY (EMC) TR: AFIs 10-707, 33-580; DODD 3222.3/ AF Sup 1, NTIA Manual										
12.1. Fundamentals of EMC										
12.1.1. DoD EMC Programs	5						B	-	-	-
12.1.2. Effects of Electromagnetic Interference (EMI)	5						B	B	-	-
12.2. Harmonics and Intermodulation TR: TO 31Z-10-6										
12.2.1. EMI Potential	5						B	-	-	-
12.2.2. Harmonic-Free Complement Generation using Spectrum Management Software	-						A	-	-	-
12.2.3. Intermodulation-Free Compliment Generation using Spectrum Management Software	-						A	-	-	-
12.3. Types of Interference TR: NTIA Manual; TO 31Z-10-2										
12.3.1. Co-Channel Interference	5						B	B	-	-
12.3.2. Adjacent Channel Interference	5						B	B	-	-
12.3.3. Spurious Responses	5						B	B	-	-
12.3.4. Spurious Emissions	5						B	B	-	-
12.3.5. Intermodulation	5						B	B	-	-
12.3.6. Unintentional Interference/Jamming	5						B	B	-	-
12.3.7. Power Line Noise	5						B	B	-	-
12.3.8. Mutual Interference	5						B	B	-	-

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	Course	CDC	OJT	OJT
13. ELECTRONIC COUNTERMEASURES (ECM) AND ELECTRONIC WARFARE (EW) TR: AFI 10-706; CJCSM 3212.02, http://www.e-publishing.af.mil/shared/media/epubs/AFDD3-13.1.pdf.										
13.1. Types										
13.1.1. Electronic Attack	7						A	B	-	-
13.1.2. Electronic Protection	7						A	B	-	-
13.1.3. Electronic Support	7						A	B		
13.2. Clearance Process	7						B	B	-	-
13.3. Coordination (ECM and EW)	7						B	-	-	-
14. DOD ELECTROMAGENTIC ENVIRONMENTALS EFFECTS (E3) PROGRAM TR: DODD 3222.3/ AF Sup 1, MILHNDBK 237B; TO 31Z-10-4										
14.1. DoD RADHAZ Program	5						A	-	-	-
14.2. Effects of Non-Ionizing Radiation on Personnel, Fuels and Ordnance (e.g. HERO, HERP)	5						A	A	-	-
14.3. Electromagnetic Radiation (EMR) Survey Requirements TR: AFI 33-580; AFMAN 91-201	5						A	B	-	-
15. RF SPECTRUM INTERFERANCE RESOLUTION TR: AFI 10-707; CJCSM 3220-02, Equipment User Guide										
15.1. Joint Spectrum Interference Resolution (JSIR) Program	-						B	B	-	-
15.2. Air Force Spectrum Interference Resolution (AFSIR) Program	-						B	B	-	-
15.3. Direction Finding (DF) (e.g. Spectrum Analyzer)										
15.3.1. Purpose	5						A	A	-	-
15.3.2. Principles	5						B	B	-	-
15.3.3. Equipment Familiarization	-						A	-	-	-
15.3.4. Instrument Operations	-						2b	-	-	-

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15.3.5. Instrument Settings	-						2b	-	-	-
15.3.6. Software	-						A	-	-	-
15.3.7. Antenna Selection	-						2b	B	-	-
15.3.8. Waveform Recognition	-						A	-	-	-
15.3.9. Download Files	-						2b	-	-	-
15.3.10. DF Techniques (e.g. Azimuth Sweep)	-						2b	B	-	-
15.3.11. Land Navigation	-						2b	-		
15.3.12. Interference Resolution	-						b	-	-	-
16. SPECTRUM MANAGEMENT IN A JOINT ENVIRONMENT TR: CJCSM 3320.01, CJCSI 3320.01; DODD 4650.1; Joint Pub (JP)1-01.1, 3-0, 5-0, JP 6-0										
16.1. Joint Task Force (JTF)										
16.1.1. JTF Terminology	7						A	B	-	-
16.1.2. Associated Publications/ Directives	7						A	B	-	-
16.1.3. JTF Organizations	7						A	B	-	-
16.1.4. JTF Command & Control TR: JP 6-0	7						A	B	-	-
16.1.5. JTF Operational Phases	7						A	B	-	-
16.2. Information Warfare (Purpose and Relationship) TR: CJCSM 6510.01	7						A	A	-	-
16.3. JTF Planning, Deployment Buildup and Employment TR: CJCSI 3320.01, CJCSM 3320.01, DODD 4650.1; JP 3-0, JP 5-0, JP 6-0										
16.3.1. Crisis Action Planning (CAP) Process	7						A	B	-	-
16.3.2. CAP Spectrum Management Responsibilities	7						A	B	-	-
16.3.3. Global Command & Control System and Joint Operational Planning Execution System in CAP	-						A	-	-	-
16.3.4. Battlefield Spectrum Use Considerations	7						A	-	-	-
16.4. Spectrum XXI TR: Spectrum XXI User's Manual (NOTE 9)										
16.4.1. Overview	5 /-						A /-	A /-	-	-

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	Course	CDC	OJT	OJT
16.4.2. Install	5 /-						2b /-	- /-	-	-
16.4.3. System Preferences	5 /-						2b /-	- /-	-	-
16.4.4. Help Files	5 /-						A /-	- /-	-	-
16.4.5. Spectrum Certification System (SCS)										
16.4.5.1. Purpose	5 /-						B /-	B /-	-	-
16.4.5.2. Install	5 /-						2b /-	- /-	-	-
16.4.5.3. Manipulate SCS Data	5 /-						2b /-	- /-	-	-
16.4.6. Topographic Data										
16.4.6.1. Purpose	5 /-						A /-	B /-	-	-
16.4.6.2. Install Topographic Manager (TOPOMAN)	5 /-						2b /-	- /-	-	-
16.4.6.3. Perform Data Files Creation	5 /-						2b /-	- /-	-	-
16.4.6.4. Managing Data files	5 /-						2b /-	- /-	-	-
16.4.7. Data Exchange										
16.4.7.1. Purpose	5 /-						A /-	B /-	-	-
16.4.7.2. Initial Data Exchange Transfer	5 /-						2b /-	- /-	-	-
16.4.7.3. System Interfaces (e.g. STE, SIPRNET)	5 /-						A /-	- /-	-	-
16.4.8. Frequency Assignment Module										
16.4.8.1. Purpose	5 /-						A /-	B /-	-	-
16.4.8.2. Load Initial Frequency Assignments	5 /-						2b /-	- /-	-	-
16.4.8.3. Perform Database Query	5 /-						2b /-	- /-	-	-
16.4.8.4. Manipulate Database Query	5 /-						2b /-	- /-	-	-
16.4.8.5. Use Proposal Functions	5 /-						2b /-	- /-	-	-
16.4.8.6. Status Codes	5 /-						A /-	- /-	-	-
16.4.8.7. Review Digital Agendas	7 /-						- /-	B /-		
16.4.8.8. Produce Management Reports	5 /-						2b /-	- /-	-	-
16.4.8.9. Use System Manager Module	5 /-						2b /-	- /-	-	-
16.4.8.10. Use Allotment Plans Module	5 /-						2b /-	- /-	-	-
16.4.8.11. Use Interference Analysis Module	5 /-						2b /-	- /-	-	-
16.4.8.12. Use Interference Report Module	- /-						2b /-	- /-	-	-
16.4.8.13. Use Engineering Tools Module	5 /-						2b/ -	- /-	-	-

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	Course	CDC	OJT	OJT
16.4.8.14. Use Joint Restricted Frequency List Editor Module	- /-						2b /-	- /-	-	-
16.4.8.15. Use Electronic Warfare Deconfliction Module	- /-						2b /-	- /-	-	-
16.5. Spectrum XXI Online TR: Spectrum XXIO User's Manual										
16.5.1. System Overview										
16.5.1.1. System Overview	- /5						- /A	- /A	-	-
16.5.1.2. Record Processing and Workflow	- /5						- /A	- /A	-	-
16.5.2. Introduction to Standard Spectrum Resource Format (SSRF)										
16.5.2.1. Data Standardization	- /5						- /A	- /A	-	-
16.5.2.2. SFAF to SSRF	- /5						- /A	- /A	-	-
16.5.2.3. SSRF and The Spectrum Manager	- /5						- /B	- /B	-	
16.5.3. Getting Started										
16.5.3.1. Accessing SXXIO	- /5						- /2b	- /-	-	-
16.5.3.2. Workspace	- /5						- /A	- /A	-	-
16.5.3.3. Classification and Special Handling	- /5						- /A	- /A	-	-
16.5.3.4. Profiles and Job Accounts	- /5						- /A	- /A	-	-
16.5.3.5. Tools	- /5						- /A	- /A	-	-
16.5.3.6. Using SXXIO Help	- /5						- /2b	- /-	-	-
16.5.4. SXXIO Explorer										
16.5.4.1. Introduction to Explorer	- /5						- /A	- /A	-	-
16.5.4.2. Frequency Records										
16.5.4.2.1. Creating and Saving Queries	- /5						- /2b	- /-	-	-
16.5.4.2.2. Selecting Records	- /5						- /2b	- /-	-	-
16.5.4.2.3. Creating Folders	- /5						- /2b	- /-	-	-
16.5.4.2.4. Options in the Explorer	- /5						- /A	- /A	-	-
16.5.5. SXXIO Proposal Editor										
16.5.5.1. Introduction to Proposal Editor	- /5						- /A	- /A	-	-
16.5.5.2. Creating a Permanent Proposal	- /5						- /2b	- /-	-	-
16.5.5.3. Creating a Temporary Proposal	- /5						- /2b	- /-	-	-
16.5.5.4. Importing and Generating Proposals	- /5						- /2b	- /-	-	-

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	Course	CDC	OJT	OJT
16.5.5.5. Creating a New Proposal from an Existing Record	- /5						- /2b	- /-	-	-
16.5.5.6. Creating a New Proposal Using a Template	- /5						- /2b	- /-	-	-
16.5.5.7. Mass Changing Records	- /5						- /2b	- /-	-	-
16.5.5.8. Compliance Checking	- /5						- /2b	- /-	-	-
16.5.6. Engineering Analysis										
16.5.6.1. Purpose of Engineering Analysis	- /5						- /B	- /B	-	-
16.5.6.2. Engineering Preferences	- /5						- /A	- /A	-	-
16.5.6.3. Performing Engineering Analysis										
16.5.6.3.1. Engineering Analysis from the Editor	- /5						- /2b	- /-	-	-
16.5.6.3.2. Engineering Analysis from the Viewer	- /5						- /-	- /-	-	-
16.5.6.3.3. Engineering Analysis from the Explorer	- /5						- /-	- /-	-	-
16.5.6.4. Viewing Engineering Analysis Results										
16.5.6.4.1. Viewing Point-to-Point Analysis Results	- /5						- /-	- /-	-	-
16.5.6.4.2. Viewing Coverage Analysis Results	- /5						- /-	- /-	-	-
16.5.6.4.3. Viewing Interference Analysis Results	- /5						- /-	- /-	-	-
16.5.6.4.4. Viewing Simplex Nomination Results	- /5						- /-	- /-	-	-
16.5.6.4.5. Viewing Duplex Nomination Results	- /5						- /-	- /-	-	-
16.5.6.5. Spectrum Occupancy Analysis	- /5						- /A	- /A	-	-
16.5.7. Proposal Processing										
16.5.7.1. Proposal Processing	- /5						- /2b	- /-	-	-
16.5.7.2. Compliance Checking	- /5						- /2b	- /-	-	-
16.5.7.3. Coordination	- /5						- /2b	- /-	-	-
16.5.7.4. Adding Coordination Comments	- /5						- /2b	- /-	-	-
16.5.7.5. Closing Coordination	- /5						- /2b	- /-	-	-
16.5.7.6. Forwarding Proposals	- /5						- /2b	- /-	-	-
16.5.7.7. Assigning Proposals	- /5						- /2b	- /-	-	-
16.5.7.8. Submitting Proposals	- /5						- /2b	- /-	-	-
16.5.7.9. Rejecting Proposals	- /5						- /2b	- /-	-	-
16.5.7.10. Withdrawing Proposals	- /5						- /2b	- /-	-	-

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16.5.7.11. Deleting Proposals	- /5						- /2b	- /-	-	-
16.5.7.12. Creating Modification Proposals	- /5						- /2b	- /-	-	-
16.5.7.13. Creating Deletion Proposals	- /5						- /2b	- /-	-	-
16.5.7.14. Viewing Proposal Information	- /5						- /2b	- /-	-	-
16.5.8. Allotment Plans										
16.5.8.1. Purpose	- /5						- /A	- /B	-	-
16.5.8.2. Creating a New Allotment Plans	- /5						- /2b	- /-	-	-
16.5.8.3. Adding Allotment Plan Sections	- /5						- /-	- /-	-	-
16.5.8.4. Duplicating Allotment Plan Sections	- /5						- /-	- /-	-	-
16.5.8.5. Deleting Allotment Plan Sections	- /5						- /-	- /-	-	-
16.5.8.6. Publishing an Allotment Plan	- /5						- /-	- /-	-	-
16.5.8.7. Copying Allotment Plans	- /5						- /-	- /-	-	-
16.5.8.8. Editing Allotment Plans	- /5						- /-	- /-	-	-
16.5.8.9. Viewing Allotment Plans	- /5						- /2b	- /-	-	-
16.5.8.10. Exporting Allotment Plans	- /5						- /-	- /-	-	-
16.5.8.11. Importing Allotment Plans	- /5						- /-	- /-	-	-
16.5.8.12. Creating an Allotment Plan from Nomination Results	- /5						- /-	- /-	-	-
16.5.8.13. Creating Proposals from an Allotment Plan	- /5						- /2b	- /-	-	-
16.5.8.14. Generating an Allotment Plan from Proposals	- /5						- /-	- /-	-	-
16.5.8.15. Creating an Allotment Plan Report	- /5						- /-	- /-	-	-
16.5.8.16. Searching Allotment Plans	- /5						- /-	- /-	-	-
16.5.8.17. Deleting Allotment Plans	- /5						- /-	- /-	-	-
16.5.8.18. Frequency Scheduler	- /5						- /-	- /-	-	-
16.5.9. Joint Restricted Frequency List (JRFL)										
16.5.9.1 Purpose of JRFLs	- /5						- /A	- /A	-	-
16.5.9.2. The JRFL & CEOI Records Explorer	- /5						- /A	- /A	-	-
16.5.9.3. Importing a CEOI	- /5						- /2b	- /-	-	-
16.5.9.4. Viewing a CEOI	- /5						- /2b	- /-	-	-
16.5.9.5. Creating a New JRFL	- /5						- /2b	- /-	-	-
16.5.9.6. Publishing a New JRFL	- /5						- /-	- /-	-	-

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16.5.9.7. Merging a JRFL with another JRFL	- /5						- /-	- /-	-	-
16.5.9.8. Exporting a JRFL	- /5						- /-	- /-	-	-
16.5.9.9. Forwarding a JRFL	- /5						- /-	- /-	-	-
16.5.9.10. Rejecting a JRFL	- /5						- /-	- /-	-	-
16.5.9.11. Withdrawing a JRFL	- /5						- /-	- /-	-	-
16.5.9.12. Approving a JRFL	- /5						- /-	- /-	-	-
16.5.9.13. Viewing a JRFL	- /5						- /2b	- /-	-	-
16.5.9.14. Creating a JRFL Report	- /5						- /-	- /-	-	-
16.5.9.15. Modifying an Approved JRFL	- /5						- /-	- /-	-	-
16.5.9.16. Deleting an Approved JRFL	- /5						- /-	- /-	-	-
16.5.9.17. Searching for JRFLs	- /5						- /-	- /-	-	-
16.5.10. Electronic Warfare (EW) Deconfliction										
16.5.10.1. Purpose of EW Deconfliction	- /5						- /A	- /A	-	-
16.5.10.2. Accessing EW Deconfliction	- /5						- /-	- /-	-	-
16.5.10.3. Running the EW Deconfliction Analysis	- /5						- /-	- /-	-	-
16.5.10.4. Viewing the EW Deconfliction Analysis Results	- /5						- /-	- /-	-	-
16.6. Joint Automated Communication Electronics Operation Instructions (JCEOI) System (JACS) TR: CJCSM 3220.04, CJCSM 6230.04										
16.6.1. JACS Overview	-						A	A	-	-
16.6.2. Master Net List										
16.6.2.1. Overview	5						A	A	-	-
16.6.2.2. Build	-						-	-	-	-
16.6.2.3. Manipulate	-						-	-	-	-
16.6.3. Import Data	-						-	-	-	-
16.6.4. Complete Frequency Analysis	-						-	-	-	-
16.6.5. Generate SFAF Proposals Import/Export	-						-	-	-	-
16.6.6. Use Resource Manager Import/Export	-						-	-	-	-
16.6.7. Import SFAF Assignments	-						-	-	-	-
16.6.8. Generate JCEOI	-						-	-	-	-
16.6.9. Produce JCEOI Outputs										
16.6.9.1. Prints	-						-	-	-	-

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16.6.9.2. Reports	-						-	-	-	-
16.6.10. Operations										
16.6.10.1. Build HOPSET	-						-	-	-	-
16.6.10.2. Build LOADSET	-						-	-	-	-
16.6.10.3. Install LOADSET into Radio	-						-	-	-	-
16.7. SPEED										
16.7.1. Overview	-						A	A	-	-
16.7.2. Operate	-						2b	-	-	-
16.8. Service Specific Communications Operations Plans TR: CJCSI 3320.01A										
16.8.1. Annex K TR: AFI 10-401(v2)	7						A	B	-	-
16.8.2. Air Tasking Order (ATO)/Special Instructions (SPINS)	7						A	B	-	-
16.8.3. Afloat Spectrum Management Principles										
16.8.3.1. Shipboard Communications Planning (OPTASK COMMS)	-						A	-	-	-
16.8.3.2. Shipboard Radar Planning	-						-	-	-	-
16.8.3.3. Deconflict Strike Group Radar	-						-	-	-	-
16.8.3.4. Develop Strike Group Communication Plans	-						-	-	-	-
17. ADDITIONAL COMMUNICATIONS SPECTRUM DEPENDENT SYSTEMS TR: System User Manuals										
17.1. Wireless Technologies (e.g. Radio Frequency Identification, Wireless LAN)	-						A	B	-	-
17.2. Remotely Piloted Vehicles	-						A	B	-	-
17.3. Airborne ISR\C2 (e.g. AWACS, JSTARS)	-						A	B	-	-
18. AIR FORCE JOB QUALIFICATION STANDARDS APPLICABLE TO 3DXXX AFSCs. TR: AFI 33-150, AFI 33-154; MPTO 00-33A-1001; CFETP 3D1X4										
18.1. AFJQS3DXXX-200TBA Training Business Area (TBA) Handbook	5						-	-	-	-
18.2. AFJQS3DXXX-201M Cyberspace Infrastructure Planning System (CIPS)	7						-	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	Course	CDC	OJT	OJT
19. AIR FORCE ONLINE TRAINING TR: AF e-Learning										
19.1. 3D1XX Common Fundamentals 5-Level Training Curriculum	5						-	-	-	-

Section B - Course Objective List

4. Measurement. Each objective is indicated as follows: W indicates task or subject knowledge which is measured using a written test, PC indicates required task performance which is measured with a performance progress check and PC/W indicates separate measurement of both knowledge and performance elements using a written test and a progress check.

5. Standard. The standard is 70% on written examinations. Standards for performance measurement are indicated in the objective and delineated on the individual progress checklist. Instructor assistance is provided as needed during the progress check and students may be required to repeat all or part of the behavior until satisfactory performance is attained.

6. Proficiency Level. Most task performance is taught to the "2b" proficiency level which means the student can do most parts of the task, but does need assistance on the hardest parts of the task (partially proficient). The student can also determine step by step procedures for doing the task.

Section C - Support Materials

7. The following list of support materials is not all-inclusive; however, it covers the most frequently referenced areas. The most current products can be found at the 81st TRSS/TSQ web page and are available for download from the web site at https://cs3.eis.af.mil/sites/20946/AFKN_Docs/Forms/AllItems.aspx. Procedures for requesting product development are found in AFI 33-154.

Generic AFJQSs/AFQTPs applicable to 3D1X4:

Publication No.	Pseudo File	Publication Title
AFJQS 3D1X4-211N	N/A	Installation Spectrum Management

Generic AFJQSs/AFQTPs applicable to 3DXXX:

Publication No.	Pseudo File	Publication Title
AFJQS3DXXX-212E	N/A	Combined AN/PYQ-10 (C) Simple Key Loader and AN/CYZ-10/10A (V3) Data Transfer Device

Section D - Training Course Index

8. Purpose. This section of the CFETP identifies training courses available for continuation/ supplemental training. For information on all formal courses, refer to the Air Force Education and Training Course Announcements (ETCA) database, formerly AFCAT 36-2223, *USAF Formal Schools Catalog* at https://etca.randolph.af.mil/

9. Air Force In-Residence Courses.

Course Number	Course Title	Location
E8ALR3D134 00AA	Spectrum Operations Apprentice	Keesler
E8OZR17D3Z 00AA	Spectrum Operations Apprentice	Keesler
E8AZR3D174 00AA	Joint Task Force Spectrum Management	Keesler

10. Air University Courses.

For a current listing of Air University courses go to http://www.au.af.mil/au/afiadl/.

11. Exportable Courses.

For a current list of the available online training courses refer to AF e-Learning: https://usafprod.skillport.com

Section E - MAJCOM Unique Requirements

12. There are currently no MAJCOM unique requirements. This area is reserved.