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AFSC 3D1X3
RADIO FREQUENCY (RF) TRANSMISSIONS SYSTEMS



**CAREER FIELD EDUCATION
AND TRAINING PLAN**

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CAREER FIELD EDUCATION AND TRAINING PLAN
RF TRANSMISSION
AFSC 3D1X3
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**RF TRANSMISSION
AFSC 3D1X3
CAREER FIELD EDUCATION AND TRAINING PLAN**

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 RF Transmission Systems 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 3D1X3 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 3D1X3 CFETPs provide comprehensive career field guidance and training for members of the AFSC 3D1X3.

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 RF Transmission Systems 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 and Space Expeditionary Task Force (AETF). The AETF is the Air Force's primary warfighting organization and the means by which we present forces to a Joint Forces Commander (JFC). When established, AETFs will form up under the designated Air Force component headquarters.

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.

Air University/Air Force Career Development Academy AFCDA. The result of a reorganization of the Air Force Institute for Advanced Distributed Learning (AFIADL); provides access to the Extension Course Institute.

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.

Chemical, Biological, Radiological, Nuclear and High-Yield Explosive (CBRNE) Task Qualification Training (TQT). CBRNE TQT ensures personnel maintain proficiency in performing mission-critical tasks in a CBRNE environment. See AFI 10-2501, Air Force Emergency Management (EM) Program Planning and Operations, and AFMAN 10-2503, Operation in a Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive (CBRNE) Environment for additional information/requirements.

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.

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.

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 AFSCs 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).

DoD Directive 8570.01 “Information Assurance Training, Certification, and Workforce Management.” Provides guidance and procedures for the training, certification, and management of the DoD workforce conducting Information Assurance (IA) functions in assigned duty positions.

DoD Information Network (DoDIN). The globally interconnected, end-to-end set of information capabilities, associated processes, and personnel for collecting, processing, storing, disseminating and managing information on demand to warfighters, policy makers, and support personnel. The DoDIN includes all owned and leased communications and computing systems and services, software (including applications), data, security services, and other associated services necessary to achieve Information Superiority. The DoDIN supports all Department of Defense, National Security, and related Intelligence community missions and functions (strategic, operational, tactical, and business), in war and in peace. The DoDIN provides capabilities from all operating locations (bases, posts, camps, stations, facilities, mobile platforms, and deployed sites). The DoDIN provides interfaces to coalition, allied, and non-DOD users and systems.

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.

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. The ETCA 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.

Expeditionary Aerospace Force (EAF). The EAF concept is how the Air Force will organize, train, equip, and sustain itself by creating a mindset and cultural state that embraces the unique characteristics of aerospace power-range, speed, flexibility, precision-to meet the national security challenges of the 21st Century.

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. 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 Combat Support System–Air Force (GCSS-AF). An enterprise infrastructure program established to develop, integrate, and deploy combat support information capabilities. The mission of GCSS-AF is to provide timely, accurate, and trusted Agile Combat Support (ACS) information to Joint and Air Force commanders, their staffs, and ACS personnel at all ranks and echelons with the appropriate level of security needed to execute the Air Force mission throughout the spectrum of military operations. GCSS-AF is the means by which ACS functional systems will be modernized and integrated to improve business processes supported on a single robust network-centric infrastructure. In addition to integrating combat support applications, GCSS-AF also provides core enterprise services such as a common user presentation through the AF Portal, Enterprise Information Management (Workflow, Records Management, Document Management, Knowledge Management, and Collaboration), and an enterprise data warehouse.

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.

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 8000.01, 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).

Information Systems (IS). Set of information resources organized for the collection, storage, processing, maintenance, use, sharing, dissemination, disposition, display, or transmission of information.

Information Technology Fundamentals (ITF). The scope of training in the ITF course includes network theory, network components, software, cryptology, network fault isolation techniques, cyber security, communication and information professionals, operational risk management, legal and ethics, C4I security, enterprise systems, CBRN personal and family countermeasures and cyber operations.

Information Technology Fundamentals Electronic Principles (ITF EP). Training which includes electronic principles subjects of test equipment, basic circuits and components, electromagnetic devices, solid state devices, transistor amplifier circuits, power supplies, wave generation, digital numbering systems, digital logic, and basic communications theory.

Information Technology/National Security Systems (IT/NSS). Any equipment, or interconnected system or subsystem of equipment, that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by the Executive Agency. This includes equipment used by a DoD Component directly, or used by a contractor under a contract with the DoD Component, which requires the use of such equipment, or requires the use, to a significant extent, of such equipment in the performance of a service or the furnishing of a product. The term "IT" also includes computers, ancillary equipment, software, firmware and similar procedures, services (including support services), and related resources. Notwithstanding the above, the term "IT" does not include any equipment that is acquired by a Federal contractor incidental to a Federal contract. The term "IT" includes National Security Systems (NSS).

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 war fighter 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 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 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 execution processes have access to relevant cross-functional information in a collaborative, 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 Listing (MTL). A comprehensive list (100%) of all tasks performed within a work center and consisting of the current CFETP or AFJQS and locally developed AF Forms 797. Also, should include tasks required for deployment and/or UTC requirements.

Master Training Plan (MTP). Employs a strategy for ensuring the completion of all work center job requirements by using an MTL, providing milestones for task/CDC completion and prioritizes deployment/UTC tasks, home station training tasks, upgrade tasks, and qualification tasks.

Occupational Analysis Report (OAR). A detailed report showing the results of an occupational survey of tasks performed within a particular AFSC.

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) 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.

Specialized Training Package and COMSEC Qualification Training Package. A composite of lesson plans, test material, instructions, policy, doctrine, and procedures necessary to conduct training. These packages are prepared by AETC, validated by CYSS COMSEC policy branch, and administered by qualified communications security (COMSEC) maintenance personnel.

Specialty Training Requirements Team (STRT). A meeting chaired by the AFCFM with MAJCOM FMs, AETC Training Managers, Subject Matter Experts (SME), and HQ AETC Occupational Analysis Division (OAD) 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). An Air Force publication that describes an Air Force specialty in terms of tasks and knowledge that an airman in that specialty may be expected to 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 Air Force Specialty Code (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.

System Training Plan (STP). A living document that explains what training is needed for a system and how to obtain the training.

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 training application that provides Air Force war fighters with global, real-time visibility into qualifications, certifications and training status of communications professionals. TBA supports base, wing, and work center training management activities by automating business processes and capabilities to eliminate paper-based practices. The system centralizes management of training task data, provides user access to CFETPs/JQSs, and increases security through a single AF Portal log on.

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

Training Planning Team (TPT). Comprised of the same personnel as a U&TW, TPTs are more intimately involved in training development and the range of issues examined is greater than in the U&TW forum.

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. Training that leads to the award of a higher skill level.

Utilization and Training Pattern. A depiction of the training provided to and the jobs performed by personnel throughout their tenure within a career field or AFS. There are two types of patterns: 1) Current pattern, which is based on the training provided to incumbents and the jobs to which they have been and are assigned; and 2) Alternate pattern, which considers proposed changes in manpower, personnel, and training policies.

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. This is an executive decision meeting following the Specialty Training Requirements Team meeting.

Wartime Tasks. Those tasks which must be taught when courses are accelerated during a wartime environment. In response to a wartime scenario, these tasks will be taught in the 3-level course in a streamlined training environment. These tasks are only for those career fields that still need them applied to their schoolhouse tasks.

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 3D1X3 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 338th 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. The following career field description supplements the AFECD.

4.1. RF Transmission Systems Apprentice/Journeyman/Craftsman (3D133/3D153/3D173).

4.1.1. Specialty Summary: Deploys, sustains, troubleshoots, and repairs standard radio frequency wireless, line-of-sight, beyond line-of-sight, wideband, ground-based satellite, and encryption transmission devices in a fixed and deployed environment. Included are multiple waveform systems operating across the spectrum, keying and signal devices; telemetry and instrumentation systems. Establishes and maintains circuits, configures and manages system and network connectivity. **Related DoD Occupational Subgroup: 110100.**

4.1.2. Duties and Responsibilities:

4.1.2.1. Performs/supervises wireless radio and satellite systems and equipment maintenance activities. Oversees work in progress and reviews completed repairs for sound maintenance practices. Establishes requirements for maintenance equipment, support equipment, tools, and spare parts. Requisitions, accounts for, and turns in supplies and material. Interprets inspection findings and determines adequacy of corrective action. Reviews and ensures compliance with maintenance management publications and procedures. Identifies maintenance problem areas and recommends corrective action. Recommends methods to improve equipment performance and maintenance procedures. Evaluates justification and practicability of proposed modifications. Develops and enforces safety standards for ground RF system maintenance activities.

4.1.2.2. Inspects wireless radio/satellite communications activities. Determines equipment operational status. Serves on teams to evaluate transmission systems activities. Interprets inspection findings submitted by other inspecting activities, and initiates corrective action. Determines adequacy of corrective action. Checks installed and repaired components for compliance with technical publications.

4.1.2.3. Resolves installation, repair, overhaul, and modification problems associated with communications equipment. Employs orbiting communication satellite, line-of-sight, and tropospheric scatter techniques. Conducts tests to restore and maintain systems. Uses anti-jam equipment and techniques to neutralize effects of communication jamming. Uses layout drawings, schematics, and pictorial diagrams to solve maintenance problems. Analyzes construction and operating characteristics of equipment to determine source of malfunction. Performs intricate alignment and calibration procedures to ensure maximum operating efficiency. Determines repair procedures necessary to correct defective equipment.

4.1.2.4. Installs ground radio, satellite, and telemetry communications equipment. Consults layout drawings to ensure equipment is properly positioned. Checks equipment for serviceability prior to installation. Assembles, connects, secures, and interconnects components such as transmitters, power supplies, and antenna assemblies. Tests installed equipment for proper assembly of components and compliance with technical orders. Places in operation and tunes, adjusts, and aligns components to obtain maximum operating efficiency. Identifies and locates Radio Frequency interference sources.

4.1.2.5. Deploys and activates mobile and transportable transmission equipment. Refers to plans and equipment specifications to conduct site and equipment surveys, and establishes equipment systems interface. Unpacks, inspects, and positions communications equipment; erects antennas; and interconnects communications facilities.

4.1.2.6. Performs preventive maintenance on communications systems and related equipment. Inspects equipment at specified intervals to determine operational status. Replaces defective components. Performs operational checks. Updates maintenance data collection records and systems to document actions completed.

4.1.2.7. Repairs, overhauls, and modifies communications and related equipment. Isolates malfunctions using system checking procedures, required test equipment, analyzing voltage and waveform measurements, schematic diagrams, and equipment operating characteristics. Repairs equipment, including transmitters, receivers, transceivers, and related equipment. Tunes and adjusts components. Adjusts, aligns, and calibrates equipment for maximum operating efficiency. Fabricates and connects various types of antenna systems and transmission lines. Tests repaired components using bench mockups and related test equipment.

4.1.2.8. Maintains inspection and maintenance records. Posts entries on maintenance and inspection records. Records meter readings and other pertinent data in equipment logs. Completes maintenance data collection forms.

4.1.2.9. Manages, supervises, and performs planning and implementation activities. Manages implementation and project installation and ensures architecture, configuration, and integration conformity. Develops, plans, and integrates base communications systems. Serves as advisor at meetings for facility design, military construction programs and minor construction planning. Evaluates base comprehensive plan and civil engineering projects. Monitors status of base civil engineer work requests. Performs mission review with customers. Controls, manages, and monitors project milestones and funding from inception to completion. Determines adequacy and correctness of project packages and amendments. Monitors project status and completion actions. Manages and maintains system installation records, files, and indexes. Evaluates contracts, wartime, support, contingency and exercise plans to determine impact on manpower, equipment, and systems.

4.2. Cyber Systems Superintendent (3D190)

4.2.1. Specialty Summary.

Manages cyberspace system 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 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 Systems 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 Airmen)*; *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 the 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 Airmen)*; *Air Force Enlisted Classification Directory*). Appointed by the Air Force Chief, Information Dominance and Chief Information Officer (SAF/A6). Advisor to the SAF/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 part of the CFETP and the [3D1X3 Education and Training Path](#) table will ensure individuals receive viable training at appropriate points in their careers. The training listed in this plan is specific to the 3D1X3 AFSC and must be used in conjunction with the common core training identified in the 3DXXX CFETP.

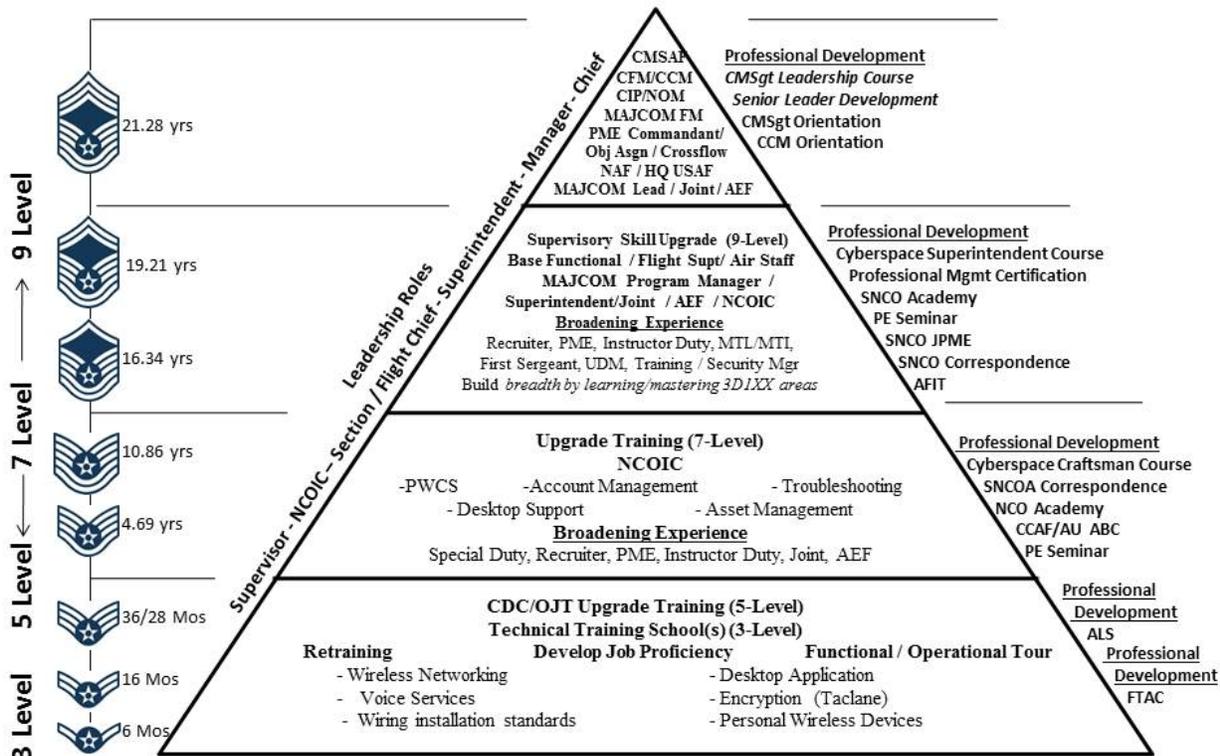
5.1. Apprentice (3) Level. The RF Transmissions Systems Apprentice Course, serves as the initial skills course and must be completed for the award of AFSC 3D133.

5.2. Journeyman (5) Level. Upgrade training consists of: (1) completing RF Transmission Systems CDC 3D153; (2) completing all core tasks identified for 5-level; (3) completing all 5-level requirements outlined in the 3DXXX Cyberspace Support CFETP; (4) meeting time-in-training requirements IAW AFI 36-2201; and (5) obtaining supervisor recommendation and commander approval for the award of AFSC 3D153.

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 3D173.

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

3D1X3 Career Path Chart



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 RF Transmission 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 is restricted to five 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 the 5-level CDC content for 3D1X3.

| 3DX5X | |
|--------------|---------------------------------------|
| VOLUME 1 | Support to the Cyberspace Mission |
| VOLUME 2 | Information Technology Concepts |
| 3D153 | |
| VOLUME 1 | General Subjects |
| VOLUME 2 | Advanced Communications Concepts |
| VOLUME 3 | Wideband and Satellite Communications |

6.2. Seven-Level Upgrade Training Requirements: Completion of the E6ACW3DX7X 01AA Cyberspace Career Advancement Course is mandatory until superseded by 3DX7X CDC.

6.3. Nine-Level training requirements. Completion of E6ACW3DX9X 00AA Cyberspace Superintendent Course required prior to 9-Level upgrade.

6.4. Commercial Certifications. Below are some available commercial certifications for 3D1X3 technicians. An “X” in the DANTES column indicates that testing may be completed at the base education office. Tuition Assistance (TA) pays for only one certification during an entire career. See the local base education office for more information. The Department of Veterans Affairs (VA) has licensing and certification benefits that can be used, including the Montgomery and Post 9/11 GI Bill. Visit <http://www.gibill.va.gov/pamphlets/lcweb.htm> for more information.

| Certifications | Criteria | Website | DANTES |
|---|---|---|---------------|
| Electronics Technician Association (ETA) <ul style="list-style-type: none"> • Associate (CET) • Journeyman (CET) <ul style="list-style-type: none"> Certified Satellite Installer Antenna Endorsement C & Ku Band Endorsement Commercial Endorsement SMATV Endorsement | <ul style="list-style-type: none"> • Experience • Written Exam | http://www.eta-i.org/ | X |
| National Association of Radio and Telecommunications Engineers (NARTE) <ul style="list-style-type: none"> • Junior Telecommunications Tech • Senior Telecommunications Tech • Master Telecommunications Tech | <ul style="list-style-type: none"> • Education • Experience • References • Written Exam | http://www.narte.org/h/telecom.asp | X |
| Federal Communications Commission (FCC) General Radio Operator's License (GROL) | <ul style="list-style-type: none"> • Written Exam | http://wireless.fcc.gov/comm/operators/index.htm?job=pg | X |
| IA Technical Level I A+ Network + | <ul style="list-style-type: none"> • Education • Experience • Written Exam | AF e-Learning Website Certification exam voucher available from CYCC | X |
| IA Technical Level II IA Management Level I Security + | <ul style="list-style-type: none"> • Education • Experience • Written Exam | AF e-Learning Website Certification exam voucher available from CYSS | X |
| IA Technical Level III IA Management Level II & Level III CISSP | <ul style="list-style-type: none"> • Education • Experience • Written Exam | AF e-Learning Website Certification exam voucher available from CYSS | X |
| Project Management Institute <ul style="list-style-type: none"> • Project Management Professional (PMP) | <ul style="list-style-type: none"> • Education • Experience • Written Exam | http://www.pmi.org/Certification/Project-Management-Professional-PMP.aspx | |

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 CCAF degree, all academic requirements must be completed before the student separates from the Air Force, retires, or is commissioned as an officer. In addition to the associate 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 Electronic Systems Technology (4VHP) program applies to this career fields.

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.

7.2.3. Leadership, Management, and Military Studies (6 semester hours): Professional military education and/or civilian management courses. 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. The Professional Manager Certification (PMC): The College offers a professional credential that formally recognizes an individual's advanced level of education and experience in leadership and management, as well as professional accomplishments. The program provides a structured professional development track that supplements Enlisted Professional Military Education (EPME) and Career Field Education and Training Plan (CFETP). Visit <http://www.au.af.mil/au/barnes/ccaf/certifications.asp> for more information.

7.3.1. The PMC is primarily designed for Air Force SNCO's. However, any enlisted Airmen who meet all program requirements may be nominated and awarded the PMC. Once an individual retires, separates or is commissioned, they are no longer eligible for the PMC.

7.3.2. PMC Requirements:

7.3.2.1. Award of 7 skill-level (Craftsman) or higher.

7.3.2.2. Complete ALS or equivalent EPME (In-residence or correspondence).

7.3.2.3. Complete NCOA or equivalent EPME (In-residence or correspondence).

7.3.2.4. Complete SNCOA or equivalent EPME (In-residence or correspondence).

7.3.2.5. Complete 30 semester hours of leadership/management coursework.

7.3.2.5.1. At least 6 semester hours of leadership/management course work must be completed from an accredited college or university by testing credit (CLEP/DSST/Excelsior).

7.3.2.5.2. Civilian courses must emphasize the fundamentals of leadership and/or management of human resources. Examples: Principles of Management, Personnel Management, Human Resource Management, Principles of Supervision, and Organizational behavior

7.3.2.6. A copy of the civilian college or university transcript reflecting completed leadership/management courses is required.

7.3.2.7. Credit by earned completion of EPME is applied toward the 30 semester hour requirement.

7.3.3. Awarded CCAF degree

7.3.4. Recommended for certification by the unit commander or commandant.

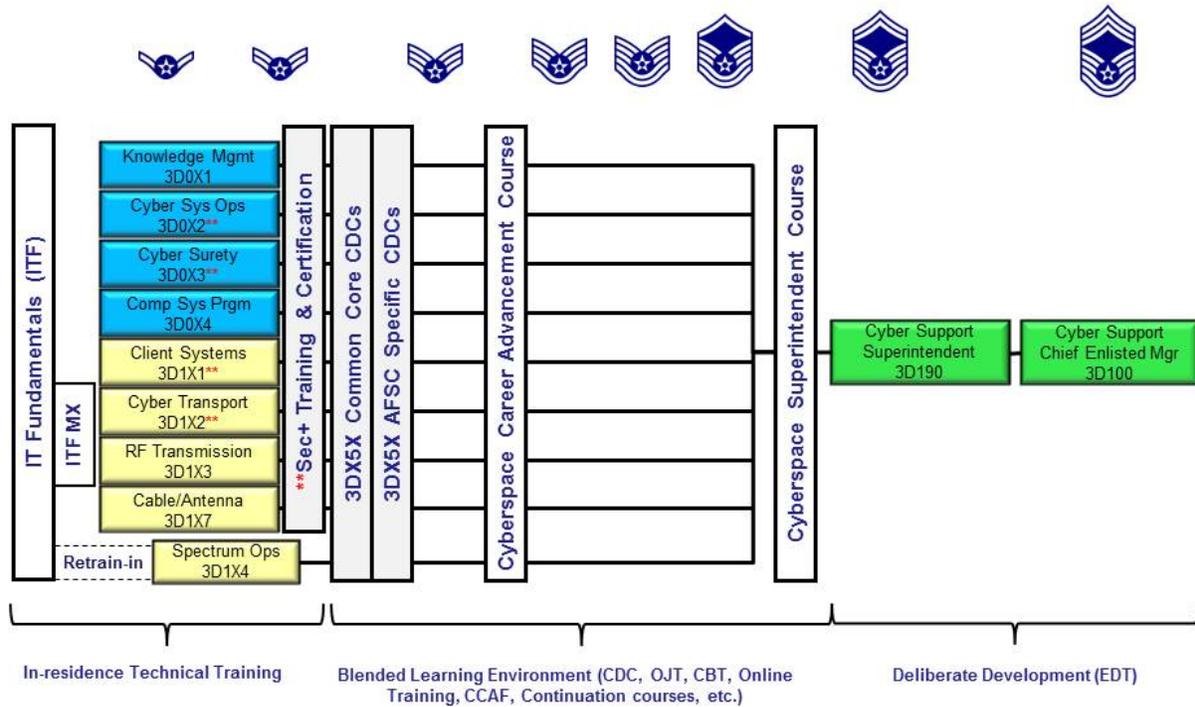
7.4. Trade Skill Certification. When a CCAF student separates or retires, a trade skill certification is awarded for the primary occupational specialty. The College uses a competency based assessment process for trade skill certification at one of four proficiency levels: Apprentice, Journeyman, Craftsman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

7.5. 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/>.

7.6. Additional off-duty education is highly encouraged. 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. 3DXXX personnel maintain their individual AFSC identifiers through the rank of MSgt. Upon promotion to SMSgt, all 3DXXX AFSCs merge to become a 3D190. 3D190's compete for the rank of Chief to become a 3D100. Specific demographic information is available on the Web at <http://www.afpc.af.mil/library/airforcepersonnel demographics.asp>.

Enlisted Cyberspace Support Career Field Progression



**3D1X3, RF TRANSMISSION
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) | Amn 6 months |
| UPGRADE TO JOURNEYMAN (5-SKILL LEVEL) MANDATORY - Minimum 12 months OJT training (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 LevelMandatory. - AETC Supplemental training courses as determined by MAJCOM Optional. - Community College of the Air Force Associates Degree Optional. | A1C 16months SrA..... 3 years Earliest..... 28 Months HYT 8 years |
| AIRMAN LEADERSHIP SCHOOL (ALS) - Minimum of 3 years TIS; no more than 6 years TIS. - ANG/AFRC may complete by correspondence course. | TRAINER: Must meet trainer eligibility requirements as per AFI 36-2201 |

**3D1X3, RF TRANSMISSION
EDUCATION AND TRAINING PATH**

| EDUCATION AND TRAINING REQUIREMENTS | AVERAGE SEW ON TIME AND COMMENTS |
|---|--|
| <p>UPGRADE TO CRAFTSMAN (7-SKILL LEVEL)</p> <ul style="list-style-type: none"> - Minimum rank of SSgt. Minimum 12 months OJT training (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.....if available. - CS Management and Generic AFJQSs/AFQTPs for various unit level duties.Mandatory. - Complete 3DXXX CFETP requirements for 7-Skill LevelMandatory. - AETC Supplemental training courses as determined by MAJCOM Optional. - Community College of the Air Force Associates Degree Desired. | <p>SSgt 4.69 years Earliest..... 3 years HYT..... 15 years</p> <p>TSgt 10.86 years Earliest..... 5 years HYT..... 20 years</p> <p>CERTIFIER: Must meet certifier eligibility requirements as per AFI 36-2201</p> |
| <p>NONCOMMISSIONED OFFICER ACADEMY (NCOA). Basic Phase 2 Distance Learning Course</p> <ul style="list-style-type: none"> - Must have 7 years TIS. | <p>MSgt 16.34 years Earliest..... 8 years HYT..... 24 years</p> |
| <p>USAF SENIOR NONCOMMISSIONED OFFICER ACADEMY (SNCOA)</p> <ul style="list-style-type: none"> - Must have 12 years TIS. | <p>SMSgt 19.21 years Earliest..... 11 years HYT..... 26 years</p> |
| <p>E6ACW3DX9X 00AA CYBERSPACE SUPERINTENDENT COURSE</p> <ul style="list-style-type: none"> - Attendance is limited to SMSgt selectees. Mandatory for upgrade to Nine Level, per CFM. | |
| <p>UPGRADE TO SUPERINTENDENT (9-SKILL LEVEL)</p> <ul style="list-style-type: none"> - Complete 3DXXX CFETP requirements for 9-Skill LevelMandatory. - CS Management and Generic AFJQSs/AFQTPs for various unit level duties.Mandatory. | |

| 3D1X3, RF TRANSMISSION EDUCATION AND TRAINING PATH | |
|---|--|
| EDUCATION AND TRAINING REQUIREMENTS | AVERAGE SEW ON TIME AND COMMENTS |
| Chief Enlisted Manager (CEM) | CMSgt 21.38 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 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 RF Transmission career field of the Cyberspace Support 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 | Electricity and Radio Theory, including Transistors, Solid-State Components, and Digital Techniques applying to Ground RF Communications and Related Equipment Maintenance; and Interpretation of Management Information Data, Technical Orders, Blueprints, Wiring Diagrams, and Schematic Drawings. |
| EDUCATION | Completion of high school is mandatory. Additional courses in Physics and Mathematics is desirable. |
| TRAINING | Completion of the Apprentice RF Transmissions Systems Specialist course, E3ABR3D133 01AA (PDS Code OWR) (See Part II, Section B for Course Objective List) |
| EXPERIENCE | None required |
| OTHER | For award and retention of AFSC 3D133, 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, <i>Personnel Security Program Management</i> , is mandatory for award and retention of this skill level. Normal color vision as defined in AFI 48-123, <i>Medical Examinations and Standards</i> . Must possess a valid state driver's license to operate government motor vehicles (GMV) in accordance with AFI 24-301, <i>Vehicle Operations</i> . |
| IMPLEMENTATION | Attendance at the Apprentice RF Transmissions Systems Specialist course is mandatory for award of the 3-skill level unless waived by the AFCFM. |

10.2. Journeyman (5-Level) Training.

| | |
|----------------|---|
| KNOWLEDGE | All 3D133 knowledge qualifications apply to the 3D153 requirements Completion of the 3D153 Career Development Course |
| TRAINING | Completion of all 5-level requirements outlined in the 3DXXX Cyberspace Support CFETP. No mandatory AETC training courses are required for upgrade. |
| EXPERIENCE | Qualification in and possession of AFSC 3D133 Experience performing; Testing, Tuning, Adjusting, Maintaining, or Repairing Ground RF Communications and Related Equipment and using Specialized Test Equipment Completion of all STS core tasks Completion of applicable AFJQs/AFQTPs Completion of all local tasks assigned for the duty position |
| OTHER | For award and retention of AFSC 3D153, 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, <i>Personnel Security Program Management</i> , is mandatory for award and retention of this skill level. Normal color vision as defined in AFI 48-123, <i>Medical Examinations and Standards</i> . Must possess a valid state driver's license to operate government motor vehicles (GMV) in accordance with AFI 24-301, <i>Vehicle Operations</i> . |
| 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 AFJQs/AFQTPs concurrently to obtain the necessary qualification for refresher and cross-utilization training. |

10.3. Craftsman (7-Level) Training.

| | |
|----------------|---|
| KNOWLEDGE | All 3D153 knowledge qualifications apply to the 3D173 requirements |
| TRAINING | Completion of the E6ACW3DX7X 01AA Cyberspace Career Advancement Course is mandatory, if available (to be replaced by 7-level CDCs.) Completion of all 7-level requirements outlined in the 3DXXX Cyberspace Support CFETP. |
| EXPERIENCE | Qualification in and possession of AFSC 3D153 Experience performing or supervising functions such as Siting, Installing, Repairing, Overhauling, or Modifying Ground RF Equipment or Intrusion Detection Systems and Using Test Equipment 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 3D173, 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, <i>Personnel Security Program Management</i> , is mandatory for award and retention of this skill level. Normal color vision as defined in AFI 48-123, <i>Medical Examinations and Standards</i> . Must possess a valid state driver's license to operate government motor vehicles (GMV) in accordance with AFI 24-301, <i>Vehicle Operations</i> . |
| 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-338 TRS, Keesler AFB, MS at <https://etca.randolph.af.mil/>.

10.5.2. CDCs 3D153 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 81 TRSS/TSQ (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 Enlisted Specialty Training*. AFJQsS/AFQTPs are listed in Part II 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 beginning NLT 20160714.
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-0237/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 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 Customer Service Information Line (CSIL) 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) 3D1X3

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.asp>

DISA Circulars and Instructions at <http://www.disa.mil/About/DISA-Issuances>

Technical Orders (TO) at <https://www.my.af.mil/etims/ETIMS/index.jsp>

AF e-Learning at

<https://usafprod.skillport.com/skillportfe/custom/login/usaf/seamlesslogin.action>

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: In the event of data network or computer system failure, courses are authorized to use alternative methods of instruction to fulfill this STS element.

NOTE 8: Unless otherwise stated in the objective, the student may be allowed two assists from the instructor and still successfully achieve the proper level of proficiency. An instructor assist is defined as anytime an instructor must intercede to provide guidance to a student which leads to a satisfactory completion of the objective or to prevent a student from continuing in a manner which will lead to an unsatisfactory conclusion, safety violation, or damage to the equipment. Successful students have performed the task to the satisfaction of the course; however, they may not be capable of meeting the field requirements for speed or accuracy.

NOTE 9: All equipment related objectives are performed by following procedures from technical orders, technical manuals, or student instructional material developed by the training facility.

NOTE 10: 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 MSgt's with UTC tasks to have an ITP.

Qualitative Requirements

| | | |
|---|-----------------------------|----------------|
| <p><i>THIS BLOCK IS FOR IDENTIFICATION PURPOSES ONLY</i></p> <p>Personal Data – Privacy Act of 1974</p> | | |
| PRINTED NAME OF TRAINEE (<i>Last, First, Middle Initial</i>) | INITIALS (<i>Written</i>) | LAST 4 OF SSAN |
| PRINTED NAME OF TRAINER AND CERTIFYING OFFICIAL AND WRITTEN INITIALS | | |
| 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 | | |
| <p>* 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)</p> <p>** 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.</p> <p>X This mark is used alone in course columns to show that training is required but not given due to limitations in resources.</p> <p>NOTE: All tasks and knowledge items shown with a proficiency code are trained during wartime.</p> <p>(-) When this code is used in the Core Task Column it indicates that the qualification is a local determination.</p> <p>(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.</p> <p>(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.</p> | | |

| 1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES | 2. CORE & WARTIME TASKS | 3. Certification for 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. RF TRANSMISSION SYSTEMS CAREER FIELD | | | | | | | | | | |
| TR: AFI 36-2101; 3D1X3 CFETP; AFECD | | | | | | | | | | |
| 1.1. Structure | - | | | | | | A | A | - | - |
| 1.2. Read CFETP 3D1X3, Part I | 5 | | | | | | - | - | - | - |
| 1.3. Explain Duties 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 | - | - |
| 2.3. Practice Safety Precautions | | | | | | | | | | |
| 2.3.1. Maintenance Actions | - | | | | | | - | - | - | - |
| 2.3.2. Energized Equipment TR: AFI 91-203 chap 8 | - | | | | | | - | - | - | - |
| 2.3.3. High Voltage Equipment TR: AFI 91-203 chap 8 | - | | | | | | - | - | - | - |
| 2.3.4. Radio Frequency (RF) Hazard Environments TR: AFI 91-203 chap 30.15; TO 31Z-10-4; Command and Local Directives | 5 | | | | | | A | A | - | - |
| 2.3.5. Compressed Gas Cylinders TR: AFI 91-203 chap 40; TO 42B5-1-2; Command and Local Directives | - | | | | | | - | - | - | - |
| 2.3.6. Hazardous Materials TR: AFI 91-203 chap 22, 31, 33, 36, 40, & 43; TO 00-25-213 | - | | | | | | - | - | - | - |
| 2.4. Safety and Personal Protective Equipment TR: AFI 91-203 chap 14; TO 00-25-245; Command and Local Directives | | | | | | | | | | |
| 2.4.1. Use | 5 | | | | | | 2b | - | - | - |
| 2.4.2. Maintain | 5 | | | | | | - | - | - | - |
| 2.4.3. Inspect | 5 | | | | | | - | - | - | - |
| 2.5. Perform General Housekeeping TR: 91-203 chap 5 | 5 | | | | | | - | - | - | - |
| 3. UTILIZE PUBLICATIONS AND DIRECTIVES | | | | | | | | | | |
| TR: AFIs 33-Series; AF Records Distribution System ; http://www.e-publishing.af.mil/ETIMS | | | | | | | | | | |
| 3.1. Use Publications when Performing Work | 5 | | | | | | 2b | - | - | - |
| 4. AIR FORCE ONLINE TRAINING (Note 1) | | | | | | | | | | |
| TR: https://usafprod.skillport.com/skillportfe/custom/login/usaf/seamlesslogin.action | | | | | | | | | | |
| 4.1. 3D1XX Core Fundamentals 5-Level Curriculum | 5 | | | | | | - | - | - | - |
| 4.2. 3D1X3 RF Transmission Systems Curriculum | - | | | | | | - | - | - | - |

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|--|-------------------------|--------------------------|-----------|------------------|------------------|--------------------|---|---------------|---------------|---------------|
| | | 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 |
| 5. TEST EQUIPMENT | | | | | | | | | | |
| TR: Applicable Test Equipment Technical Orders; TO 33K-1-100-1 | | | | | | | | | | |
| 5.1. Identify Principles, Capabilities, Limitations of the following Test Equipment: | | | | | | | | | | |
| 5.1.1. Oscilloscope | - | | | | | | - | A | - | - |
| 5.1.2. Multimeter | 5 | | | | | | - | A | - | - |
| 5.1.3. Optical Time Domain Reflectometer | - | | | | | | - | - | - | - |
| 5.1.4. Time Domain Reflectometer | - | | | | | | - | - | - | - |
| 5.1.5. Bit Error Rate Test Set | 5 | | | | | | A | A | - | - |
| 5.1.6. Frequency Counter | - | | | | | | A | A | - | - |
| 5.1.7. Network/Protocol Analyzer | - | | | | | | - | A | - | - |
| 5.1.8. Spectrum Analyzer | 5 | | | | | | A | A | - | - |
| 5.1.9. Power Meter | - | | | | | | A | A | - | - |
| 5.1.10. RF Signal Generator | - | | | | | | A | A | - | - |
| 5.1.11. Insulation Test Set | - | | | | | | - | - | - | - |
| 5.1.12. Megaohmmeter | - | | | | | | - | - | - | - |
| 5.1.13. Built-in Test Equipment | - | | | | | | - | - | - | - |
| 5.1.14. Breakout Box | - | | | | | | - | - | - | - |
| 5.1.15. Communications System Analyzer | - | | | | | | A | A | - | - |
| 5.1.16. Sweep Generator | - | | | | | | - | - | - | - |
| 5.1.17. Function Generator | - | | | | | | A | - | - | - |
| 5.1.18. RMS Voltmeter | - | | | | | | A | - | - | - |
| 5.1.19. Distortion Analyzer | - | | | | | | A | - | - | - |
| 5.1.20. Wattmeter | - | | | | | | A | A | - | - |
| 5.1.21. Dummy Load | - | | | | | | A | A | - | - |
| 5.1.22. Audio Oscillator | 5 | | | | | | A | A | - | - |
| 5.1.23. Infrared Tester | - | | | | | | - | - | - | - |
| 5.1.24. Earth Ground Tester | 5 | | | | | | A | A | - | - |
| 5.1.25. Wavemeter | - | | | | | | - | - | - | - |
| 5.1.26. VSWR Tester | - | | | | | | - | - | - | - |
| 5.2. Perform Equipment Maintenance using the following Test Equipment: | | | | | | | | | | |
| 5.2.1. Oscilloscope | - | | | | | | - | - | - | - |
| 5.2.2. Multimeter | 5 | | | | | | - | - | - | - |
| 5.2.3. Optical Time Domain Reflectometer | - | | | | | | - | - | - | - |
| 5.2.4. Time Domain Reflectometer | - | | | | | | - | - | - | - |

| 1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES | 2. CORE & WARTIME TASKS | 3. Certification for 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 |
| 5.2.5. Bit Error Rate Test Set | 5 | | | | | | 2b | - | - | - |
| 5.2.6. Frequency Counter | - | | | | | | 2b | - | - | - |
| 5.2.7. Network/Protocol Analyzer | - | | | | | | - | - | - | - |
| 5.2.8. Spectrum Analyzer | 5 | | | | | | 2b | - | - | - |
| 5.2.9. Power Meter | - | | | | | | 2b | - | - | - |
| 5.2.10. RF Signal Generator | - | | | | | | 2b | - | - | - |
| 5.2.11. Insulation Test Set | - | | | | | | - | - | - | - |
| 5.2.12. Megaohmeter | - | | | | | | - | - | - | - |
| 5.2.13. Built-in Test Equipment | - | | | | | | - | - | - | - |
| 5.2.14. Breakout Box | - | | | | | | - | - | - | - |
| 5.2.15. Communications System Analyzer | - | | | | | | 2b | - | - | - |
| 5.2.16. Sweep Generator | - | | | | | | - | - | - | - |
| 5.2.17. Function Generator | - | | | | | | 2b | - | - | - |
| 5.2.18. RMS Voltmeter | - | | | | | | 2b | - | - | - |
| 5.2.19. Distortion Analyzer | - | | | | | | 2b | - | - | - |
| 5.2.20. Wattmeter | - | | | | | | 2b | - | - | - |
| 5.2.21. Dummy Load | - | | | | | | 2b | - | - | - |
| 5.2.22. Audio Oscillator | 5 | | | | | | 2b | - | - | - |
| 5.2.23. Infrared Tester | - | | | | | | - | - | - | - |
| 5.2.24. Earth Ground Tester | 5 | | | | | | 2b | - | - | - |
| 5.2.25. Wavemeter | - | | | | | | - | - | - | - |
| 5.2.26. VSWR Tester | - | | | | | | - | - | - | - |
| 6. SPECIALIZED TOOLS | | | | | | | | | | |
| TR: Applicable Technical Publications | | | | | | | | | | |
| 6.1. Amphenol Tool | - | | | | | | - | - | - | - |
| 6.2. Tone Generator | - | | | | | | - | - | - | - |
| 6.3. Inductive Amplifier | - | | | | | | - | - | - | - |
| 6.4. LAN Tester | - | | | | | | - | - | - | - |
| 6.5. Light Source | - | | | | | | - | - | - | - |
| 6.6. Pocket Transit | - | | | | | | A | A | - | - |
| 6.7. Fusion Splicer | - | | | | | | - | - | - | - |
| 6.8. Fiber Optic Source and Meter | - | | | | | | - | - | - | - |
| 7. STANDARD PRACTICES | | | | | | | | | | |
| TR: AFI 32-1065, American Public Works Association Policy and American National St; TOs 00-25-234-WA-1, 31-10-7-WA-1, 31-10-11-WA-1, 31-10-13-WA-1, 31-10-24-WA-1, 31-141-1-WA-1 series, 31W3 10-20, MIL-STD 2000A | | | | | | | | | | |
| 7.1. State Facts Related to the following Practices: | | | | | | | | | | |
| 7.1.1. Installation | 5 | | | | | | - | A | - | - |

| 1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES | 2. CORE & WARTIME TASKS | 3. Certification for 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 |
| 7.1.2. Configuration | 5 | | | | | | - | A | - | - |
| 7.1.3. Interconnection | 5 | | | | | | - | A | - | - |
| 7.1.4. Inspection | 7 | | | | | | - | A | - | - |
| 7.2. Underground Utilities | | | | | | | | | | |
| 7.2.1. Identify | - | | | | | | - | - | - | - |
| 7.2.2. Mark | - | | | | | | - | - | - | - |
| 7.3. Emission Security (EMSEC) Suppression Techniques | - | | | | | | - | B | - | - |
| 7.4. Documentation | - | | | | | | | | | |
| 7.4.1. Cabling | - | | | | | | - | A | - | - |
| 7.4.2. Installation | - | | | | | | - | A | - | - |
| 7.5. Wire Color-Coding Standards | - | | | | | | - | B | - | - |
| 7.6. Fiber Optics Installation Concepts | - | | | | | | - | A | - | - |
| 7.7. Characteristics of: | | | | | | | | | | |
| 7.7.1. Copper Cables | - | | | | | | - | A | - | - |
| 7.7.2. Coaxial Cables | - | | | | | | - | A | - | - |
| 7.7.3. Fiber Optic Cable | - | | | | | | - | A | - | - |
| 7.7.4. Interfacing Considerations (e.g. TRI-TAC, Pinouts, Signal Format) | - | | | | | | - | - | - | - |
| 7.8. Concepts of: | | | | | | | | | | |
| 7.8.1. Grounding | 5 | | | | | | A | B | - | - |
| 7.8.2. Bonding | 5 | | | | | | A | B | - | - |
| 7.8.3. Shielding | - | | | | | | A | B | - | - |
| 7.8.4. Lightning Protection | 5 | | | | | | A | B | - | - |
| 7.8.5. Electromagnetic Interference (EMI) Protection | - | | | | | | A | B | - | - |
| 7.8.6. Electromagnetic Pulse (EMP) Protection | - | | | | | | A | B | - | - |
| 7.9. Equipment Grounding and Lightning Protection | | | | | | | | | | |
| 7.9.1. Install | - | | | | | | - | - | - | - |
| 7.9.2. Remove | - | | | | | | - | - | - | - |
| 7.9.3. Perform Inspection | 5 | | | | | | - | - | - | - |
| 7.9.4. Perform Maintenance | 5 | | | | | | - | - | - | - |
| 7.10. Equipment Familiarization TR: TO 00-25-234, para 4.23. | | | | | | | | | | |
| 7.10.1. Visual Inspection | - | | | | | | A | - | - | - |
| 7.10.2. Basic Troubleshooting Techniques | 5 | | | | | | B | - | - | - |
| 7.11. Electrostatic Discharge TR: TO 00-25-234, chap 7; AFQTP3DXXX-202A Electrostatic Discharge Handbook | | | | | | | | | | |

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| | | A | B | C | D | E | 3 SKILL LEVEL | 5 SKILL LEVEL | 7 SKILL LEVEL | 9 SKILL LEVEL |
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| 7.11.1. Principles | 5 | | | | | | A | B | - | - |
| 7.11.2. Concepts | 5 | | | | | | - | B | - | - |
| 7.11.3. Handling | 5 | | | | | | - | - | - | - |
| 7.11.4. Packaging | 5 | | | | | | - | - | - | - |
| 7.11.5. Storing | 5 | | | | | | - | - | - | - |
| 8. COMMUNICATIONS PRINCIPLES | | | | | | | | | | |
| TR: TO 31-1-141 Series | | | | | | | | | | |
| 8.1. Amplitude Modulation (AM) | 5 | | | | | | - | B | - | - |
| 8.2. Frequency Modulation (FM) | 5 | | | | | | - | B | - | - |
| 8.3. Phase Modulation (PM) | - | | | | | | - | B | - | - |
| 8.4. Pulse Code Modulation (PCM) | - | | | | | | - | B | - | - |
| 8.5. Bandwidth | - | | | | | | - | B | - | - |
| 8.6. Light Wave Communications | - | | | | | | - | B | - | - |
| 8.7. Asynchronous Modes | - | | | | | | - | B | - | - |
| 8.8. Synchronous Modes | - | | | | | | - | - | - | - |
| 8.9. Error Detection | - | | | | | | - | B | - | - |
| 8.10. Correction | - | | | | | | - | - | - | - |
| 9. ELECTRICAL POWER SYSTEMS | | | | | | | | | | |
| TR: Commercial Manuals | | | | | | | | | | |
| 9.1. Switched Electrical Power Systems | - | | | | | | A | A | - | - |
| 9.2. Uninterruptible Power Supplies (UPS) | - | | | | | | A | A | - | - |
| 9.3. Batteries | - | | | | | | - | - | - | - |
| 9.4. Rectifiers | - | | | | | | - | - | - | - |
| 9.5. Inverters | - | | | | | | - | - | - | - |
| 9.6. Generators | - | | | | | | - | - | - | - |
| 10. CRYPTO PRINCIPLES | | | | | | | | | | |
| TR: Applicable TOs and Manuals | | | | | | | | | | |
| 10.1. Common Cryptology Methods | - | | | | | | A | A | - | - |
| 10.2. Cryptological Equipment | - | | | | | | A | A | - | - |
| 10.3. Fill Devices | - | | | | | | A | A | - | - |
| 10.4. Operate Selected Crypto Logical Equipment | - | | | | | | 2b | - | - | - |
| 11. INSTALLATION NOTIFICATION AND WARNING SYSTEMS (GIANT VOICE) | | | | | | | | | | |
| TR: AFI 10-2501 and Commercial Manuals | | | | | | | | | | |
| 11.1. Principles, Capabilities and Limitations | - | | | | | | A | B | - | - |
| 11.2. Controls and Indicators | - | | | | | | A | - | - | - |
| 11.3. Functions of Modules | - | | | | | | A | - | - | - |
| 11.4. Perform Operational Checks | - | | | | | | 2b | - | - | - |

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| | | START DATE | STOP DATE | TRAINEE INITIALS | TRAINER INITIALS | CERTIFIER INITIALS | Course | CDC | OJT | OJT |
| 11.5. Configure | - | | | | | | 2b | - | - | - |
| 11.6. Align | - | | | | | | - | - | - | - |
| 11.7. Troubleshoot and Repair | - | | | | | | - | - | - | - |
| 11.8. Remove and Replace Sub-Assemblies | - | | | | | | - | - | - | - |
| 11.9. Setup and Teardown | - | | | | | | - | - | - | - |
| 12. GLOBAL POSITIONING SYSTEM RECEIVER | | | | | | | | | | |
| TR: TO 31R4-2PSN/13 Series and/or Applicable Commercial Manuals | | | | | | | | | | |
| 12.1. Principles, Capabilities and Limitations | - | | | | | | A | A | - | - |
| 12.2. Controls and Indicators | - | | | | | | A | - | - | - |
| 12.3. Perform Operational Checks | - | | | | | | - | - | - | - |
| 12.4. Configure | - | | | | | | - | - | - | - |
| 12.5. Operate a GPS Receiver | - | | | | | | 2b | - | - | - |
| 13. MULTI CHANNEL SATELLITE SYSTEMS | | | | | | | | | | |
| TR: Commercial Publications | | | | | | | | | | |
| 13.1. Introduction to UHF, SHF, EHF Terminals | - | | | | | | A | B | - | - |
| 13.2. Principles, Capabilities, and Limitations of UHF TACSAT DAMA/IW | | | | | | | | | | |
| 13.2.1. UHF TACSAT Transceiver | - | | | | | | B | - | - | - |
| 13.2.2. Control and Indicator Functions | - | | | | | | B | | | |
| 13.2.3. Operate the UHF TACSAT Transceiver | - | | | | | | 2b | | | |
| 13.3. Defense Satellite Communications System (DSCS) Purpose, Capabilities and Limitations TR: DISA Circular 800-70-1, Chap 3 | - | | | | | | A | - | - | - |
| 13.4. Defense Meteorological Satellite Program (DMSP) Purpose, Capabilities and Limitations TR: http://www.ospo.noaa.gov/operations/dmsp/index.html http://www.af.mil/AboutUs/FactSheets/Display/tabid/224/Article/104556/defense-meteorological-satellite-program.aspx | - | | | | | | - | A | - | - |
| 13.5. Defense Support Program (DSP) Purpose, Capabilities and Limitations TR: http://space.jpl.nasa.gov/msl/Programs/dsp.html http://www.af.mil/AboutUs/FactSheets/Display/tabid/224/Article/104611/defense-support-program-satellites.aspx | - | | | | | | - | A | - | - |

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| 13.6. MILSTAR Purpose, Capabilities and Limitations TR: http://www.af.mil/AboutUs/FactSheets/Display/tabid/224/Article/104563/milstar-satellite-communications-system.aspx | - | | | | | | A | - | - | - |
| 13.7. UHF Follow- Purpose, Capabilities and Limitations | - | | | | | | A | - | - | - |
| 13.8. Commercial C, Ku, K, X and Ka Band Purpose, Capabilities and Limitations TR: AF e-Learning Books 24x7, "Satellite Communications Systems" and "Satellite Networking: Principles and Protocols" | - | | | | | | A | - | - | - |
| 13.9. Commercial L Band Purpose, Capabilities and Limitations TR: http://www.iridium.com ; http://www.inmarsat.com ; http://www.dept.aoe.vt.edu/~cdhah/courses/aoe4065/FDReports/CDH04.pdf | - | | | | | | - | A | - | - |
| 13.10. Capabilities and Limitations of Integrated Waveform (IW) TR: CJCSI 6251.01D http://www.dtic.mil/cjcs_directives/cdata/unlimit/6251_01.pdf ; MIL-STD-188-185; http://harris.com/harris/whats_new/Milcom2009_paper3.pdf ; AF e-Learning Books 24x7, "Implementing Software Defined Radio" | - | | | | | | - | A | | |
| 13.11. Capabilities and Limitations of Mobile User Objective System (MUOS) TR: www.dtic.mil/dtic/tr/fulltext/u2/a547909.pdf ; AF e-Learning Books 24x7, "Tactical Wireless Communications and Networks: Design Concepts and Challenges" | - | | | | | | - | A | | |
| 13.12. Satellite Access Principles TR: CJCSI 6251.01; AF e-Learning Books 24x7 "Satellite Communications" Sources | | | | | | | | | | |
| 13.12.1. FDMA | - | | | | | | - | A | | |
| 13.12.2. TDMA | - | | | | | | - | A | | |
| 13.12.3. CDMA | - | | | | | | - | A | | |
| 13.12.4. DAMA | - | | | | | | - | A | | |
| 13.12.5. WGS | - | | | | | | - | A | | |
| 14. MULTICHANNEL SATELLITE CHARACTERISTICS TR: CJCSI 6250.01; Applicable DISA Circulars | | | | | | | | | | |

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| 14.1. Satellite Access Processes | | | | | | | | | | |
| 14.1.1. Satellite Database | - | | | | | | A | A | - | - |
| 14.1.2. Satellite Access Request | - | | | | | | A | A | - | - |
| 14.1.3. Gateway Access Request | - | | | | | | A | A | - | - |
| 14.1.4. Circuits (NIPR, SIPR, DSN, DRSN, etc.) | - | | | | | | A | A | - | - |
| 14.2. Satellite System Segments Principles, Capabilities and Limitations | | | | | | | | | | |
| 14.2.1. Space Segment | - | | | | | | A | - | - | - |
| 14.2.2. Command and Control Segment | - | | | | | | A | - | - | - |
| 14.2.3. Terminal Segment | - | | | | | | A | - | - | - |
| 14.3. Acquisition and Tracking Principles | - | | | | | | - | B | - | - |
| 14.4. Calculate Satellite Look Angles | - | | | | | | 2b | A | - | - |
| 14.5. Airborne Satellite Antenna Applications | | | | | | | | | | |
| 14.5.1. Effects of Flight on Antenna Propagation | - | | | | | | - | A | - | - |
| 14.5.2. Antenna Configuration On Airframes | - | | | | | | - | A | - | - |
| 14.6. Tracking Systems Principles, Capabilities and Limitations TR: Applicable TOs and Manuals | | | | | | | | | | |
| 14.6.1. Tracking Feed System | - | | | | | | - | B | - | - |
| 14.6.2. Scanner | - | | | | | | - | B | - | - |
| 14.6.3. Tracking Down Converter | - | | | | | | - | B | - | - |
| 14.6.4. Antenna Position Control and Indicators | - | | | | | | - | B | - | - |
| 14.6.5. Antenna Drive Systems | - | | | | | | - | B | - | - |
| 14.7. Control, Monitoring and Alarm Equipment | - | | | | | | - | B | - | - |
| 14.8. Transmit Systems Principles, Capabilities and Limitations TR: Applicable TOs and Manuals | | | | | | | | | | |
| 14.8.1. Transmitter | - | | | | | | A | B | - | - |
| 14.8.2. Up Converters | - | | | | | | A | B | - | - |
| 14.8.3. Power Amplifiers (PA) | - | | | | | | A | B | - | - |
| 14.9. Receive Systems Principles, Capabilities and Limitations TR: Applicable TOs and Manuals | | | | | | | | | | |
| 14.9.1. Receiver | - | | | | | | A | B | - | - |
| 14.9.2. Low Noise Amplifiers (LNA) | - | | | | | | A | B | - | - |
| 14.9.3. Down Converters | - | | | | | | A | B | - | - |

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| 14.10. Information Processing | | | | | | | | | | |
| 14.10.1. Principles, Capabilities and Limitations of Modems | - | | | | | | A | B | - | - |
| 14.10.2. Principles, Capabilities and Limitations of Multiplexers | - | | | | | | B | B | - | - |
| 14.10.3. Capabilities and Limitations of IP Capable Modems | - | | | | | | A | B | - | - |
| 14.11. Timing and Frequency Standards | | | | | | | | | | |
| 14.11.1. Principles, Capabilities and Limitations of Timing and Frequency Distribution Systems | - | | | | | | - | B | - | - |
| 14.11.2. Principles, Capabilities and Limitations of Timing Receivers | - | | | | | | - | B | - | - |
| 14.11.3. Timing and Synchronization | - | | | | | | A | - | - | - |
| 14.12. Network Bandwidth Management Equipment | | | | | | | | | | |
| 14.12.1. Principles, Capabilities and Limitations | - | | | | | | A | B | - | - |
| 14.12.2. Multiplexing Equipment | | | | | | | | | | |
| 14.12.2.1. Principles, Capabilities and Limitations | - | | | | | | A | - | - | - |
| 14.12.2.2. Perform Operational Check | - | | | | | | 2b | - | - | - |
| 14.12.2.3. Configure | - | | | | | | 2b | - | - | - |
| 14.12.2.4. Troubleshoot | - | | | | | | 2b | - | - | - |
| 15. MICROWAVE TRANSMISSION SYSTEMS AND EQUIPMENT | | | | | | | | | | |
| TR: TO 31-1-141-11-WA-1, TO 31-1-141-12-WA-1 | | | | | | | | | | |
| 15.1. Line-of-Sight Radio Systems Principles, Capabilities and Limitations | - | | | | | | A | B | - | - |
| 15.2. Troposcatter Radio Systems | | | | | | | | | | |
| 15.2.1. TROPO Theory | - | | | | | | A | A | - | - |
| 15.2.2. Calculate TROPO Total Propagation Loss (TPL) | - | | | | | | - | - | - | - |
| 15.2.3. Calculate TROPO Receive Signal Level (RSL) | - | | | | | | - | - | - | - |
| 15.2.4. Calculate TROPO Median Receiver Input Signal Level | - | | | | | | - | - | - | - |
| 15.2.5. Calculate TROPO Minimum Receiver Input Signal Level | - | | | | | | - | - | - | - |
| 15.2.6. Calculate TROPO Fade Margin and Reliability | - | | | | | | - | - | - | - |
| 15.2.7. Calculate TROPO Total Path Loss | - | | | | | | - | - | - | - |
| 16. PERFORMANCE ASSESSMENT | | | | | | | | | | |
| TR: Applicable Circuit/System Standards; DISA Circulars 300-175-9, 310-70-1 and 310-70-57; MIL-STD-188-100 | | | | | | | | | | |
| 16.1. Identify Facts and Terms Associated with Performance Assessments | - | | | | | | - | - | - | - |

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| 16.2. Identify Circuit and Link Performance Standards | - | | | | | | - | - | - | - |
| 16.3. Perform System Testing | - | | | | | | - | - | - | - |
| 16.4. Compile Systems Test Data | - | | | | | | - | - | - | - |
| 16.5. Evaluate Systems Test Data | - | | | | | | - | - | - | - |
| 16.6. Report Link Status | - | | | | | | - | - | - | - |
| 16.7. Monitor Circuit and Link Quality | - | | | | | | - | - | - | - |
| 17. SATCOM LINK OPERATIONS | | | | | | | | | | |
| TR: Applicable DISA Circulars; Army Space Command (ASC) 1;CJCSI 6250.01C, manuals; System Control and Operational Concepts (SCOC); and TOs | | | | | | | | | | |
| 17.1. Identify the Principles of Establishing a Communications Link | - | | | | | | - | B | - | - |
| 17.2. Identify Counter-Counter Measures Facts and Terms | - | | | | | | - | A | - | - |
| 17.3. Develop After Action Reports | - | | | | | | - | - | - | - |
| 17.4. Maintain Station Logs | - | | | | | | - | - | - | - |
| 17.5. Accomplish the following DISA Reports: TR: DISA Circulars 270-A85-1, 310-55-1 | | | | | | | | | | |
| 17.5.1. SATCOM Equipment Reports (SERS) | - | | | | | | - | - | - | - |
| 17.5.2. HAZCON Reports | - | | | | | | - | - | - | - |
| 18. ANTENNA PRINCIPLES | | | | | | | | | | |
| TR: TO 31-1-141-12-WA-1 | | | | | | | | | | |
| 18.1. Common Antennas | | | | | | | | | | |
| 18.1.1. Dipole | - | | | | | | A | A | - | - |
| 18.1.2. Whip | - | | | | | | A | A | - | - |
| 18.1.3. Longwire | - | | | | | | A | A | - | - |
| 18.1.4. Horn | - | | | | | | A | A | - | - |
| 18.1.5. Helical | - | | | | | | A | A | - | - |
| 18.1.6. Parabolic | - | | | | | | A | A | - | - |
| 18.1.7. Reflector | - | | | | | | - | - | - | - |
| 18.1.8. Array | - | | | | | | A | A | - | - |
| 18.2. Antenna Efficiency | - | | | | | | A | B | - | - |
| 18.3. Antenna Waves | - | | | | | | A | A | - | - |
| 18.4. Antenna Site Selection and Configuration | - | | | | | | A | B | - | - |
| 18.5. Mutual Interference | - | | | | | | A | B | - | - |
| 18.6. Antenna Gain | - | | | | | | A | B | - | - |
| 18.7. Impedance Matching | - | | | | | | A | B | - | - |
| 18.8. Resonant & Non Resonant Antennas | - | | | | | | A | B | - | - |

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| 18.9. Law of Reciprocity | - | | | | | | A | A | - | - |
| 18.10. Polarization | - | | | | | | A | B | - | - |
| 18.11. Relationship of Antenna Height and Take Off Angle | - | | | | | | A | B | - | - |
| 18.12. Calculation of Electrical Length | - | | | | | | A | A | - | - |
| 18.13. Calculation of Physical Length | - | | | | | | A | A | - | - |
| 18.14. Beamwidth | - | | | | | | A | A | - | - |
| 18.15. Deployable Equipment | | | | | | | | | | |
| 18.15.1. Deployable Antennas | - | | | | | | A | - | - | - |
| 18.15.2. Deployable Antenna Masts | - | | | | | | A | - | - | - |
| 18.15.3. Erect Selected Deployable Antenna Masts and Antennas | - | | | | | | 2b | - | - | - |
| 19. ELECTROMAGNETIC WAVE PROPAGATION THEORY | | | | | | | | | | |
| TR: TO 31-1-141 Series | | | | | | | | | | |
| 19.1. Radio Wave Propagation | | | | | | | | | | |
| 19.1.1. Freespace | - | | | | | | A | B | - | - |
| 19.1.2. Refraction | - | | | | | | A | B | - | - |
| 19.1.3. Reflection | - | | | | | | A | B | - | - |
| 19.1.4. Diffraction | - | | | | | | A | B | - | - |
| 19.2. Path Loss | - | | | | | | A | B | - | - |
| 19.3. Atmospheric Attenuation | - | | | | | | A | B | - | - |
| 19.4. Multipathing | - | | | | | | A | B | - | - |
| 19.5. Free Space Loss | - | | | | | | A | B | - | - |
| 19.6. Anomalous Propagation | - | | | | | | A | B | - | - |
| 20. JAM RESISTANT COMMUNICATIONS | | | | | | | | | | |
| TR: CJCSI 6232.01E "Link 16 Spectrum De-confliction within the US&P", "HAVE QUICK Multi-service Tactics, Techniques and Procedures for HAVE QUICK Radios", JSUG "JTIDS/MIDS Spectrum Users Guide", Talk II - SINCGARS "Multiservice Communications Procedures for the SINCGARS" | | | | | | | | | | |
| 20.1. Frequency Hopping Theory | - | | | | | | A | B | - | - |
| 20.2. Spread Spectrum Theory | - | | | | | | - | A | - | - |
| 20.3. Jam Resistant Systems Employment | - | | | | | | - | - | - | - |
| 20.4. Frequency Hopping Systems | - | | | | | | A | A | | |
| 21. SOLAR IONOSPHERIC PHYSICS | | | | | | | | | | |
| TR: ACP 190 (C) | | | | | | | | | | |
| 21.1. Physical & Non-Physical Emissions from the Sun | | | | | | | | | | |
| 21.1.1. Ionization | - | | | | | | - | A | - | - |
| 21.1.2. Recombination | - | | | | | | - | A | - | - |
| 21.1.3. Earth's Atmosphere | - | | | | | | - | A | - | - |
| 21.1.4. Sunspots | - | | | | | | - | A | - | - |

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| 21.1.5. Sunspot Number | - | | | | | | - | A | - | - |
| 21.1.6. Solar Flares | - | | | | | | - | A | - | - |
| 21.1.7. Solar Variations | - | | | | | | - | A | - | - |
| 21.2. Skywave Fundamentals | | | | | | | | | | |
| 21.2.1. Skip Distance | - | | | | | | - | A | - | - |
| 21.2.2. Skip Zone | - | | | | | | - | A | - | - |
| 21.2.3. Critical Angle | - | | | | | | - | A | - | - |
| 21.2.4. Critical Frequency | - | | | | | | - | A | - | - |
| 21.2.5. Maximum Usable Frequency (MUF) | - | | | | | | - | A | - | - |
| 21.2.6. Frequency Optimum Transmission (FOT) | - | | | | | | - | A | - | - |
| 21.2.7. Lowest Usable Frequency (LUF) | - | | | | | | - | A | - | - |
| 21.2.8. Ionospheric Sounders | - | | | | | | - | A | - | - |
| 21.2.9. Automatic Link Establishment (ALE) | - | | | | | | - | B | - | - |
| 22. LAND MOBILE RADIO (LMR) TRANSMISSION SYSTEMS | | | | | | | | | | |
| TR: Applicable TOs and Commercial Manuals | | | | | | | | | | |
| 22.1. Conventional LMR Systems | - | | | | | | A | A | - | |
| 22.2. Trunked LMR Systems | - | | | | | | A | A | - | |
| 22.3. Program LMRs for Multiple Conventional Nets | - | | | | | | 2b | - | - | |
| 22.4. Program LMRs for Trunked Nets | - | | | | | | 2b | - | - | |
| 22.5. Enterprise LMR Systems | - | | | | | | A | A | - | |
| 23. RF SPECTRUM INTERFERENCE RESOLUTION | | | | | | | | | | |
| TR: AFI 10-707; CJCSM 3320-02C; Equipment User Guide | | | | | | | | | | |
| 23.1. Joint Spectrum Interference Resolution (JSIR) Program | - | | | | | | - | A | - | - |
| 23.2. Air Force Spectrum Interference Resolution (AFSIR) Program | - | | | | | | A | B | - | - |
| 24. MULTIBAND SATELLITE SYSTEMS | | | | | | | | | | |
| TR: Commercial Publications | | | | | | | | | | |
| 24.1. Principles, Capabilities and Limitations of Multiband Satellite Terminals | - | | | | | | B | B | - | - |
| 24.2. Antenna Systems | - | | | | | | A | A | - | - |
| 24.3. Power Distribution System | - | | | | | | A | - | - | - |
| 24.4. Order Wire Systems | | | | | | | | | | |
| 24.4.1. RFMOW System Overview | - | | | | | | A | B | - | - |
| 24.4.2. RFMOW User Interfaces | - | | | | | | A | B | - | - |
| 24.4.3. RFMOW Operations | - | | | | | | - | - | - | - |
| 24.4.4. RFMOW Alignment Procedures | - | | | | | | - | - | - | - |

| 1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES | 2. CORE & WARTIME TASKS | 3. Certification for 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 |
| 24.5. Control, Monitor and Alarm System | - | | | | | | B | - | - | - |
| 24.6. Perform Power Up/Down Procedures | - | | | | | | 2b | - | - | - |
| 24.7. Configure the Baseband Equipment | - | | | | | | 2b | - | - | - |
| 24.8. Perform Baseband Equipment Operational Check | - | | | | | | 2b | - | - | - |
| 24.9. Configure Transmit and Receive Equipment | - | | | | | | 2b | - | - | - |
| 24.10. Perform Transmit and Receive Equipment Operational Check | - | | | | | | 2b | - | - | - |
| 24.11. Configure the Antenna System | - | | | | | | 2b | - | - | - |
| 24.12. Configure Control, Monitor and Alarm system | - | | | | | | 2b | - | - | - |
| 24.13. Interface External Multiplexing Equipment | - | | | | | | 2b | - | - | - |
| 24.14. Troposcatter Satellite Support Radio (TSSR) TR: AFJQS 3D1X3-203TC | | | | | | | | | | |
| 24.14.1. Characteristics | - | | | | | | A | - | - | - |
| 24.14.2. Controls and Indicators | - | | | | | | B | - | - | - |
| 24.14.3. Configure TSSR | - | | | | | | 2b | - | - | - |
| 24.15. IP Modem TR: Commercial Publications | | | | | | | | | | |
| 24.15.1. Configure IP Modem | - | | | | | | 2b | - | - | - |
| 24.15.2. Operate IP Modem | - | | | | | | 2b | - | - | - |
| 25. EXPEDITIONARY CONCEPTS | | | | | | | | | | |
| TR: AEF On-Line https://aef.afpc.randolph.af.mil | | | | | | | | | | |
| 25.1. Deployment Process | - | | | | | | A | - | - | - |
| 25.2. Perform the following Functions to Establish Deployed Communication Services: TR: Applicable Commercial Manuals | | | | | | | | | | |
| 25.2.1. Establish an HF Command and Control Net | - | | | | | | 2b | - | - | - |
| 25.2.2. Establish UHF Line of Sight Communications | - | | | | | | 2b | - | - | - |
| 25.2.3. Establish UHF TACSAT Link | - | | | | | | 2b | - | - | - |
| 25.2.4. Establish a Mass Alert System | - | | | | | | 2b | - | - | - |
| 25.2.5. Establish Communications Services Using Microwave LOS Radios | - | | | | | | 2b | - | - | - |
| 26. TACTICAL VHF/UHF TRANSCEIVER | | | | | | | | | | |
| TR: TO 31R2-2PRC113 Series; TO 31R2-2URC62 Series | | | | | | | | | | |
| 26.1. Capabilities, Configurations and Limitations | - | | | | | | A | - | - | - |
| 26.2. Controls and Indicators | - | | | | | | A | - | - | - |
| 26.3. Function of Modules | - | | | | | | B | - | - | - |

| 1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES | 2. CORE & WARTIME TASKS | 3. Certification for 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 |
| 26.4. Operate the Transceiver | - | | | | | | 2b | - | - | - |
| 26.5. Perform Selected Preventive Maintenance Inspections | - | | | | | | 2b | - | - | - |
| 26.6. Perform Selected Alignments | - | | | | | | 2b | - | - | - |
| 26.7. Troubleshoot to the LRU | - | | | | | | 2b | - | - | - |
| 27. HIGH FREQUENCY (HF) TRANSCEIVER EQUIPMENT | | | | | | | | | | |
| TR: Commercial Publications (Harris Publication #10515-0103-4100 and Harris Publication # 10515-0103-4300) | | | | | | | | | | |
| 27.1. Capabilities and Limitations | - | | | | | | A | - | - | - |
| 27.2. Controls and Indicators | - | | | | | | A | - | - | - |
| 27.3. Function of Modules | - | | | | | | B | - | - | - |
| 27.4. Operate the HF Transceiver | - | | | | | | 2b | - | - | - |
| 27.5. Perform Preventative Maintenance Inspection | - | | | | | | 2b | - | - | - |
| 27.6. Troubleshoot to the Line Replaceable Unit | - | | | | | | - | - | - | - |
| 27.7. Survivable Communications | | | | | | | | | | |
| 27.7.1. Military Auxiliary Radio System | - | | | | | | - | A | | |
| 27.7.2. HFGCS | - | | | | | | - | A | | |
| 27.7.3. MILSTAR | - | | | | | | - | A | | |
| 28. BATTLEFIELD NETWORK LINKS | | | | | | | | | | |
| TR: AFTTP(I) 3-2.27, Commercial Publication (Raytheon Reference# 09-S-0296) | | | | | | | | | | |
| 28.1. Tactical Digital Information Link (TADIL) A | - | | | | | | A | A | - | - |
| 28.2. TADIL B | - | | | | | | A | A | - | - |
| 28.3. Link 16/TADIL J | - | | | | | | A | A | - | - |
| 28.4. Link 11 | - | | | | | | A | A | - | - |
| 28.5. Situation Awareness Data Link (SADL) | - | | | | | | A | A | - | - |
| 28.6. Enhanced Position Location Reporting System (EPLRS) TR: http://jcs.dtic.mil/j6/cceb/acps https://www.doctrine.usmc.mil/signpubs/r3403a.pdf | - | | | | | | A | A | - | - |
| 28.7. Advanced waveforms | - | | | | | | - | A | - | - |
| 28.8. Joint Tactical Information Distribution System (JTIDS) | - | | | | | | A | B | - | - |
| 29. RF DEVICES TO IP NETWORKING | | | | | | | | | | |
| TR: Commercial Publications | | | | | | | | | | |
| 29.1. Methods of Interfacing RF Devices with IP Networks | - | | | | | | A | - | - | - |
| 29.2. Interface Selected RF Equipment with an IP Network | - | | | | | | 2b | - | - | - |
| 30. IP NETWORKING | | | | | | | | | | |
| TR: EIA/TIA 568A/B; MIL STD 208-154A | | | | | | | | | | |

| 1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES | 2. CORE & WARTIME TASKS | 3. Certification for 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 |
| 30.1. Internetworking Basics | | | | | | | | | | |
| 30.1.1. Internetworking Basics Fundamentals | - | | | | | | A | - | - | - |
| 30.1.2. OSI Reference Model | - | | | | | | A | - | - | - |
| 30.1.3. Topologies | - | | | | | | A | - | - | - |
| 30.1.4. IPv4/IPv6 Addressing Fundamentals | - | | | | | | A | - | - | - |
| 30.1.5. Fundamentals of Protocols | - | | | | | | A | - | - | - |
| 30.2. Networking | | | | | | | | | | |
| 30.2.1. Internet Protocols | - | | | | | | A | - | - | - |
| 30.2.2. TCP/IP | - | | | | | | A | - | - | - |
| 30.2.3. LAN Technologies | | | | | | | | | | |
| 30.2.3.1. Switching Concepts | - | | | | | | B | - | - | - |
| 30.2.3.2. Switching Protocols/Standards | - | | | | | | A | - | - | - |
| 30.2.3.3. CSMA/CD | - | | | | | | A | - | - | - |
| 30.2.3.4. VLANs Fundamentals | - | | | | | | A | A | - | - |
| 30.2.3.5. Spanning-Tree Protocol Fundamentals | - | | | | | | A | - | - | - |
| 30.2.3.6. IEEE 802.3 | - | | | | | | A | - | - | - |
| 30.2.3.7. IEEE 802.1/IEEE 802.2 | - | | | | | | A | - | - | - |
| 30.2.4 WLAN (Wireless) | | | | | | | | | | |
| 30.2.4.1. Wireless Fundamentals | - | | | | | | A | - | - | - |
| 30.2.4.2. Wireless Protocols/Standards | - | | | | | | A | - | - | - |
| 30.2.4.3. IEEE 802.11 | - | | | | | | A | - | - | - |
| 30.2.4.4. Wireless Access Points Fundamentals | - | | | | | | A | A | - | - |
| 30.2.5. WAN Technologies | | | | | | | | | | |
| 30.2.5.1. WAN Fundamentals | - | | | | | | A | - | - | - |
| 30.2.5.2. Routing | | | | | | | | | | |
| 30.2.5.2.1. Routing Fundamentals | - | | | | | | A | - | - | - |
| 30.2.5.2.2. Configure Router | - | | | | | | 2b | - | - | - |
| 30.2.5.3. Bridge Virtual Interface (BVI) Fundamentals | - | | | | | | A | - | - | - |
| 30.2.5.4. DTE/DCE | - | | | | | | A | - | - | - |
| 30.2.5.5. Routing Protocol Concepts | - | | | | | | A | B | - | - |
| 30.2.5.6. VPN Concentrators | - | | | | | | A | A | - | - |
| 30.2.6. Unified Communications | | | | | | | | | | |
| 30.2.6.1. SIP/H.323 | - | | | | | | A | - | - | - |
| 30.2.6.2. Voice/Video Compression Standards | - | | | | | | - | A | - | - |

| 1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES | 2. CORE & WARTIME TASKS | 3. Certification for 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 |
| 30.2.6.3. Quality of Service (QoS) | | | | | | | | | | |
| 30.2.6.3.1. QoS Fundamentals | - | | | | | | A | - | - | - |
| 30.2.6.3.2. Differentiated Services Code Point (DSCP) Fundamentals | - | | | | | | A | - | - | - |
| 30.2.6.4 Redundancy | | | | | | | | | | |
| 30.2.6.4.1. Redundancy Fundamentals | - | | | | | | A | B | - | - |
| 30.2.6.4.2. Ether-Channel Fundamentals | - | | | | | | A | B | - | - |
| 30.2.6.5. IP Network Monitoring (SNMP) | - | | | | | | A | B | - | - |
| 30.2.6.6. IP Network Security | | | | | | | | | | |
| 30.2.6.6.1. Network Equipment Logical Security Concepts | - | | | | | | A | B | - | - |
| 30.2.6.6.2. Network Equipment Physical Security | - | | | | | | A | B | - | - |
| 31. ELECTRONIC COMBAT | | | | | | | | | | |
| TR: AFI 10-706 and AFT 51-45 | | | | | | | | | | |
| 31.1. Electronic Combat Phenomenon as it Applies to/Impacts RF Systems | - | | | | | | - | A | - | - |
| 31.2. Concepts of Electronic Attack (EA) | - | | | | | | - | A | - | - |
| 31.3. Concepts of Electronic Warfare Support (ES) | - | | | | | | - | A | - | - |
| 31.4. Concepts of Electronic Protection (EP) | - | | | | | | - | A | - | - |
| 32. AIR FORCE JOB QUALIFICATION STANDARDS APPLICABLE TO 3D1XX AFSCs | | | | | | | | | | |
| TR: AFI 33-150, 33-154, MPTO 00-33A-1001, CFETP 3D1X3 | | | | | | | | | | |
| 32.1. AFJQS3D1XX-201C Corrosion Prevention and Control | 5 | | | | | | - | - | - | - |
| 33. AIR FORCE JOB QUALIFICATION STANDARDS APPLICABLE TO 3DXXX AFSCs | | | | | | | | | | |
| TR: AFI 33-150, 33-154, MPTO 00-33A-1001, CFETP 3D1X3 | | | | | | | | | | |
| 33.1. AFJQS3DXXX-200TBA Training Business Area (TBA) Handbook | 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.

7.1. Generic AFJQSs/AFQTPs applicable to AFSC 3D1X3:

Publication No.

Publication Title

| | |
|------------------|---|
| AFJQS3D1X3-200K | TDC Transmission |
| AFJQS3D1X3-201TA | Modular Control Equipment (Radios) |
| AFJQS3D1X3-202E | AN TSC-179 Ground Multi-Band T |
| AFJQS3D1X3-203TA | AN/TRC-170(V2) AND (V3) Mobile Tropo Radio Set |
| AFJQS3D1X3-203TC | AN/GRC-239 Tropo Satellite Support Radio |
| AFJQS3D1X3-203V | AN/PSC-5 Radio Set |
| AFJQS3D1X3-204C | AN/FSQ-143(V) Weapons Storage and Security System |
| AFJQS3D1X3-205C | AN/TSC-154 Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T) |
| AFJQS3D1X3-205SB | AN/GRC-171 B(V)4, Ultra High Frequency Transceiver |
| AFJQS3D1X3-206G | AN/PRC-117 Tactical Frequency Hopping Radio |
| AFJQS3D1X3-206H | AN/URC-119 HF Communications System |
| AFJQS3D1X3-206Y | AN/GSC-42 (V) AFSATCOM Terminal |
| AFJQS3D1X3-207EB | AN/GRC-206 (V) 5 Communications Central |
| AFJQS3D1X3-207EC | AN/PRC-104 Radio Set |
| AFJQS3D1X3-207G | AN/GRC-221 Aircraft Alerting Communication EMP (Electromagnetic Pulse) System |
| AFJQS3D1X3-207SB | AN/USC-28(V) Satellite Communications Set |

| | |
|------------------|---|
| AFJQS3D1X3-207SF | Standard Tactical Entry Point (STEP) |
| AFJQS3D1X3-208B | OE-593/FR Quad-Band Large Aperture Antenna (Q-LAA) |
| AFJQS3D1X3-208D | AN/USC-60 Flyaway Tri-Band Satellite Terminal |
| AFJQS3D1X3-209F | AN/UMQ-13, MARK IVB Meteorological Data Station |
| AFJQS3D1X3-209H | PRC-148 Multiband Inter/Intra Team Radio |
| AFJQS3D1X3-215A | AN/PSC-11 Single Channel Anti-Jam Manportable (SCAMP) Terminal |
| AFJQS3D1X3-215B | AN/FSC-125 Fixed Site Single Channel Anti-jam Manportable (SCAMP) (FSS) Communication Set |
| AFJQS3D1X3-215C | AN/PRC-150 Manpack Radio |
| AFJQS3D1X3-215J | AN/GSC-52 Medium Satellite Communications Terminal |
| AFJQS3D1X3-215N | AN/FRC-181(V)1,2,3 Milstar Terminal |
| AFQTP3D1X3-208A | Ultra High Frequency Demand Assigned Multiple Access Familiarization |
| AFQTP3D1X3-213B | Commercial Satellite Services |

7.2. Generic AFJQSs/AFQTPs applicable to 3D1XX AFSCs:

Publication No.

Publication Title

| | |
|------------------|--|
| AFJQS3D1XX-200F | Engineering Installation (EI) Team Chief |
| AFJQS3D1XX-201EA | Core Automated Maintenance System with GUI |
| AFJQS3D1XX-201P | Work Center Test Equipment Management |
| AFJQS3D1XX-201X | Engineering Installation (EI) Quality Assurance |
| AFJQS3D1XX-204V | AN/FCC-100(V)7 & 9 Multiplexer Set |
| AFJQS3D1XX-205Q | AN/GRT-21/22 VHF/UHF Transmitter |
| AFJQS3D1XX-205R | AN/GRR-23/24, VHF/UHF Receiver |
| AFJQS3D1XX-205SA | AN/GRC-171(V1, AV1) UHF Transceiver and AN/GRC-211 VHF Transceiver |
| AFJQS3D1XX-206TA | OK-423/G Control Monitor Group |
| AFJQS3D1XX-206TB | CU-547/GR Antenna Coupler |
| AFJQS3D1XX-207X | AN/TRC-187A Time Signal Set |
| AFJQS3D1XX-210AB | Scope Shield II Maintenance |
| AFJQS3D1XX-210W | Personal Wireless Communications Systems |
| AFJQS3D1XX-211D | Air Force Tactical Receive System |
| AFJQS3D1XX-218A | Predator Ground Communications |
| AFQTP3D1XX-200S | Basic/Advanced Soldering |

7.3. Generic AFJQSs/AFQTPs applicable to 3DXXX AFSCs:

Publication No.

Publication Title

| | |
|------------------|---|
| AFJQS3DXXX-200EC | AN/GSQ-272 Distributed Common Ground Systems Data Links |
| AFJQS3DXXX-200N | DoD 8570 IA Workforce Improvement Program |
| AFJQS3DXXX-201F | Communications Focal Point |

AFJQS3DXXX-201G
 AFJQS3DXXX-201TC
 AFJQS3DXXX-208N
 AFJQS3DXXX-212Z
 AFJQS3DXXX-213I
 AFJQS3DXXX-213J
 AFJQS3DXXX-230T
 AFQTP3DXXX-200D

AFQTP3DXXX-202A
 AFQTP3DXXX-213R

Quality Assurance
 JTIDS Module
 Battle Control System-Fixed (BCS-F)
 Global Broadcast Service Ground Receive Suite
 Military Construction Program
 Second Generation Wireless Local Area Network
 Remedy
 Integrated Maintenance Data System (IMDS)
 Handbook
 Electrostatic Discharge Handbook
 Support Agreements and Administrative Contract
 Management

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 at <https://etca.randolph.af.mil/default1.asp>.

9. Air Force In-Residence Courses.

| Course Number | Course Title | Location |
|----------------------|---|-------------------------|
| E3AZR3D153 01AB | Expeditionary Combat Support Radio Communications | Keesler |
| E7AST3D153 01CB | Ground Multiband Terminal O/I Maintenance (MTT) | Keesler |
| EBAZA3D153 01BA | SATCOM Strategic Terminals AN/GSC-52 (V) (Army # 102-F104 (OS)) | Ft Gordon, 338 TRS/OL-B |
| EBAZA3D153 01DA | Digital Communications Satellite Subsystem (Army # 102-F40 (OS) (2) Version 003) | Ft Gordon, 338 TRS/OL-B |
| E9AZA3D153 01AA | MILSTAR SMART-T Operator/Maintainer (Army # 260-F9 (OS)) | Ft Gordon, 338 TRS/OL-B |
| E9AZA3D153 01BA | AEHF Mission Planning Element (MPE) Comm Planning – Tactical (Army # 4C-F72/260-F24 (CT)) | Ft Gordon, 338 TRS/OL-B |
| ECAZP3D153 01DA | MILSTAR Operations and Maintenance | Ft Gordon, 338 TRS/OL-B |
| J8AZR3D157 0F5A | Fiber Optic Cable Installation, Splicing and Maintenance | Sheppard |
| J7AST3D157 0F5A | Fiber Optic Cable Installation, Splicing and Maintenance (MTT) | Various Locations |
| E3AZR1C8XX 00DA | High Reliability Soldering and Connections | Keesler |
| E3AZR3DXXX 00AA | Cyberspace Support Quality Assurance Procedures Course | Keesler |
| E7AST3DXXX 00AA | Cyberspace Support Quality Assurance Procedures Course (MTT) | Various Locations |
| E3ABR3D133 01AB | Radio Frequency (RF) Transmission Systems | Keesler |
| EBAZAXXXX 01AA | Joint C4 Planners Course (JC4PC) (Army # 4C-F55/260-F15) | Ft Gordon, 338 TRS/OL-B |
| | Satellite Terminal and Baseband Sustainment Training Course | Tobyhanna Army Depot |

10. Air University Courses.

For a current listing of Air University courses go to <http://www.au.af.mil/au/index.asp>

11. Exportable Courses.

For a current list of the available CBT courses refer to <https://www.my.af.mil/faf/FAF/fafHome.jsp>, (Under AF e-Learning).

Section E - MAJCOM Unique Requirements

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