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CYBER DEFENSE OPERATIONS

BASIC

SENIOR

MASTER

CAREER FIELD EDUCATION AND TRAINING PLAN

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CYBER DEFENSE
OPERATIONS AFSC 1D7XX/X
CAREER FIELD EDUCATION AND TRAINING PLAN

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PART I

Preface

1. The dynamic nature of the Cyberspace landscape necessitates foresight, readiness, and vigilance to ensure that Airmen possess the required expertise, skillset, and resources to deliver vital cyberspace capabilities for today's Air Force mission while preparing for the challenges of tomorrow's highly competitive arena. The growing focus on Joint All Domain Command and Control (JADC2) and Information Operations aligns with the rapid pace of change. This transition from functionally stove-piped AFSCs to a consolidated mission-driven capability model fosters greater synergy and effectiveness. This Cyber Defense Operations Career Field Education and Training Plan (CFETP) outlines the foundational life cycle education and training requirements, resources, and core tasks for each specialization within this new framework. The CFETP offers Airmen a well-defined career trajectory, instilling rigor in all facets of career field training. As a talent management instrument, the CFETP ensures the effective development and administration of Airmen required for high-end combat scenarios. By promoting collaboration across the newly consolidated cyber career fields, the CFETP encourages Airmen to hone their skills, adapt, and expedite change to optimally serve the Air Force, Combatant Commanders, and our nation.

Note: Civilians occupying associated positions will use Part II to support duty position qualification training.

2. There are two parts of the Cyber Defense Operations CFETP. Part I describes the overall Air Force Specialty (AFS) management and description of the career path. Part II provides core tasks and reference materials.

2.1. Part I provides information for the management of the specialty family. Section A: explains how Cyber Defense Operations Airmen and their supervisors will use the plan; Section B: identifies career field progression, duties, responsibilities, training strategies, and career field paths; Section C: associates each level with specialty qualifications (knowledge, education, experience, training, and other); Section D: indicates resource constraints (e.g., funds, manpower, equipment, facilities); and Section E: identifies transition training guide requirements for SSgt through MSgt.

2.2. Part II includes the following: Section A: identifies the Specialty Training Standards (STS), the duties, tasks, and Training References (TRs) to support core task training such as AirEducation Training Command (AETC) training, wartime course and correspondence course requirements; Section B: contains the Course Objectives List (COL) and training standards supervisors will use to determine if Cyber Defense Operations Airmen have satisfied training requirements; Section C: identifies support materials, e.g., Qualification Training Package (QTP); Section D: identifies a training course index which includes 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 the unit level, supervisors and trainers will use Part II to identify, plan, and conduct training commensurate with the overall mission goals.

3. The CFETP is the overarching guide for the 1D7XX/X career field and provides the foundation for effective and efficient training for Cyber Defense Operations Airmen in each 1D7XX/X shred at the appropriate points in their careers. This plan enables the Air Force to train today's work force for tomorrow's technology.

Abbreviations/Terms Explained

This section provides a common understanding of the terms that apply to the 1D7XX/X CFETP.

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

AETC Training Manager (TM). An instructional systems specialist who serves as the liaison between the schoolhouse, training pipeline managers, training requirements quota managers, Numbered Air Force, and MAJCOM training functions. Manages training resources and student production.

Air Force Career Field Manager (AFCFM). The career field manager is appointed by the functional manager. Enlisted career field managers are E-9s. Focal point for the designated career field within a functional community. Serves as the primary advocate for the career field, addressing issues and coordinating functional concerns across various staffs. Responsible for the career field policy and guidance (DAFMAN 36-2689, *Training Program*)

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 Manpower Analysis Agency (AFMAA). AFMAA is organized to support the Air Force, MAJCOMs, and Commanders through the employment of management consultant services. AFMAA provides specialized management engineering services for the proper determination of manpower resources across the Air Force enterprise and the Department of Defense. Additionally, AFMAA collaborates with the Under Secretary of the Air Force, Management (SAF/MG), to engage with Air Force customers to promote the Air Force's Continuous Process Improvement program and assist commanders in achieving operational excellence.

Air Force Manpower Document (AFMD). AFMDs are a special publication type and provide the missions for the Air Force's major subdivisions who report directly to Headquarters Air Force (Major Commands, Direct Reporting Units and Field Operating Agencies). Headquarters Air Force offices of primary responsibility use these guidelines to develop AFMDs for each Major Command, Direct Reporting Unit, and Field Operating Agency. The Vice Chief of Staff of the Air Force approves AFMDs for Major Commands and Direct Reporting Units. The appropriate Headquarters Air Force two-digit official (e.g., SAF/IG, AF/A3) approves AFMDs for their field operating agencies.

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 audio-visual media.

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

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

Career Field Education and Training Plan (CFETP). 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 https://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 AFI 10-2607, *Chemical, Biological, Radiological and Nuclear Survivability* for additional information/requirements. See Part II, Section A, Note 12 for implementation guidance.

Cloud Computing. The use of computing resources (hardware and software) delivered as a service over a network (typically the Internet).

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 acommander's exercise of command and control through all phases of the operational continuum. C4 systems include base visual information support systems.

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

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

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

Continuation Training. Advanced and qualification training that develops in-depth expertise within a specialty, broadens knowledge to new specialties, introduces new technologies and systems, develops analytical skills, or increases understanding of the relationship between cyber specialties.

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 and anytime. It cannot be duplicated by any other organization and is critical for the future.

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

Course Objective List (COL). A publication derived from 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 DAFMAN 36-2689.

Course Resource Estimate (CRE). Well-developed, initial estimated costs associated with training.

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 requiring specific training and certification above and beyond other tasks. Tasks may be defined as critical either through AFIs, Technical Orders, higher headquarters, or at any level in the unit. A task when not accomplished to the specified standard results in a serious adverse effect upon mission accomplishment, survivability or safety.

Cross Utilization Training. Provides units flexibility to train individuals to perform tasks not in their Primary AFSC to offset low skill level manning and enhance combat capability.

Cyber Fundamentals (CF). The Initial Skill Training course, comprised of six instructional blocks, covers a range of topics: network fundamentals, routing and switching, server appliances, client systems, cyber security, and culminates in a capstone event. In Fiscal Year 2021, the Cyber Fundamentals course was introduced as a replacement for the Information Technology Fundamentals course.

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 (CO). The employment of cyber capabilities where the primary purpose is to achieve objectives in or through cyberspace. Such operations include all applicable statuses, but specifically offense and defensive cyber operations, and all actions taken to configure, secure, operate, maintain, and sustain the Department of Defense Information Networks (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 (Example of a DRU: USAF Academy).

Document Management. 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 Cyber Workforce Framework (DCWF). DCWF is derived from the National Initiative for Cybersecurity Education (NICE) Workforce Framework and Joint Cyberspace Training & Certification Standards. It provides a mechanism to categorize, organize, and describe cyber work and reflects collaborative efforts among government, private industry, and academia. It establishes a standard lexicon of cyber work roles, classifies the duties and skill requirements of Department cyber work force (military, civilian, and contractors), and is the foundation for developing qualification requirements. More info can be found at the following link: https://cyber.mil/cw/dcwf/

The DoD Directive 8140.01 "Cyberspace Workforce Management." Reissues, renumbers, and cancels DoD Directive (DoDD) 8570.01 to update and expand established policies and assigned responsibilities for managing the DoD cyberspace workforce. The DoD 8570.01-M governing the IA workforce certification program still in effect. It authorizes establishment of a DoD Cyberspace Workforce Management Board (CWMB) as the governing body to ensure that the requirements of this issuance are met. Establishes the DoD Cyberspace Workforce Framework (DCWF) as the authoritative reference for the identification, tracking, and reporting of DoD cyberspace positions and foundation for developing enterprise baseline cyberspace workforce qualifications. Unifies the overall cyberspace workforce and establishes specific workforce elements (e.g., information technology (IT), cybersecurity, cyberspace effects, intelligence, and enablers) to align and manage the cyberspace workforce under the CWMB. In light of the issuance of DoD Directive 8140.01, there are ongoing changes to the qualification manuals for the cyber workforce. More info can be found at the following link: https://public.cyber.mil/wid/

DoD 8570.01-M "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, as a minimum, all core tasks that correspond to the duty position as directed by the AFCFM or MFM, and tasks assigned by the supervisor. (DAFMAN 36-2689)

Education and Training Course Announcement (ETCA). ETCA contains specific MAJCOM procedures, fund cite instructions, reporting instructions, and listings for those formal courses the MAJCOMs or FOAs conduct or manage. ETCA also 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. Located at https://usaf.dps.mil/teams/app10-etca/SitePages/home.aspx

Education with Industry (EWI). The EWI Program is a highly selective, competitive, career development program designed to improve the technical, professional, and management competencies of participating students by partnering with top tier public and private sector companies.

Enlisted Cyber Education Opportunities (ECEO). This program provides training to further develop NCOs technical education and skills to enhance mission capability for diverse career fields with positions requiring a higher degree of education. Courses can be found on MyVector.

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.

Enlisted Talent Marketplace (eTM). A platform that streamlines the assignment process for Total Force enlisted personnel by increasing transparency and providing more control for Airmen and their supervisors. ETM matches Airmen with positions based on individual preferences, qualifications, and the needs of the unit.

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.

Enterprise Information Technology. This includes all applicable statutes, specifically related to the designing, building, and provisioning of IT systems within the Department of the Air Force.

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. An 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 is the Air Force Weather Agency).

Functional Authority (FA). Designated General Officers and members of the Senior Executive Service serving as Deputy Chiefs of Staff or Assistant Secretaries appointed by the Secretary of the Air Force to provide oversight and functional advisory services related to functional communities. Provide strategic oversight of force development to include determination and prioritization of functional community requirements to meet mission needs. **(T-1). (**DAFMAN 36-2689)

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 the 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 knowledgeable and experienced person within the functional area and have the widest range of visibility over functional area readiness and capability issues.

Functional Manager (FM). RegAF general officer or senior executive service members, designated by the appropriate functional authorities, who provide day-to-day management over specific functional communities. While functional managers should maintain an institutional focus with regard to resource development and distribution, they are responsible for ensuring their specialties are equipped, developed, and sustained to provide Air Force capabilities. (DAFMAN 36-2689)

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.

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

High Performance Team (HPT). Consists of SMEs nominated by MFMs. They are responsible for innovating force development requirements for Total Force Cyber Airmen.

The teams are charged with organizing, capturing, and creating viable learning resources including traditional text material, distance learning courses, instructional videos, and simulation programs. The HPTs also correlate to further the development of the Agile Airman Model (AAM).

Individual Training Plan (ITP). Used in myTraining to document training. The ITP 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, *Joint Operations,* 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 Systems (IS). Set of information resources organized for the collection, storage, processing, maintenance, use, sharing, dissemination, disposition, display, or transmission of information. (DoDI 8500.01, *Cybersecurity*)

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 by use under contract with a DoD Component, to the extent of such equipment is used in the performance of a service or 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 acquired by a federal contractor incidental to a federal contract. The term "IT" includes National Security Systems (NSS).

Initial Qualification Training (IQT). IQT is training needed to qualify personnel for basic duties in an assigned position for a specific Mission Defined Service, weapons system, function or activity, with-out regard for a unit's specific mission. Qualification evaluations consist of two structured phases, knowledge and task. The knowledge phase includes a series of examinations and the task phase includes a hands-on evaluation of job performance.

Initial Skills Training (IST). A formal school's course that results in an AFSC 3-skill level award for enlisted or mandatory upgrade training to qualified officers. (DAFMAN 36-2689)

Instructional System Design (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.

Integrated Maintenance Data System (IMDS). Is the standard Air Force system for maintenance information. All maintenance information should be accessible for collection, storage, and dissemination of critical data for repair and improvement of Air Force weapons systems and equipment.

Knowledge. Information from multiple domains being synthesized, through inference or deduction, into meaning or understanding 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. Learning gained through knowledge rather than hands-on experience. It may also be used in lieu of task performance when the training capability does not exist. (DAFMAN 36-2689)

Learning Program (LP). Learning Programs are developed to help support OJT and upgrade training as part of the AFSC's CFETP. LPs are published to provide the information necessary to satisfy the career knowledge component of OJT. These programs/courses are developed from references identified in the CFETP, by the Learning Program Manager (LPM), and by the AFSC's High Performance Team (HPT). LPs must contain information on basic principles, techniques, and procedures common to an AFSC. They do not contain information on specific equipment or tasks unless best illustrating a procedure or technique having utility to the entire AFSC. If available, supervisors will use LPs to satisfy career knowledge requirements for UGT. When LPs are not available, trainees will study the applicable technical references identified by the supervisor and/or CFETP. Also see High Performance Team (HPT) and Learning Program Manager (LPM).

Learning Program Manager (LPM). Formerly known as CDC Writers, LPMs are responsible for the development of their assigned AFSC shred Learning Programs (LPs). They not only write and update Learning Programs, but also work directly with the AFCFMs on several lines of effort to drive cyber workforce training into the next era. They serve as the chairperson for their AFSC's High Performance Team (HPT) and use the data gathered during STRTs, Training Planning Teams, and UT&Ws to modernize the CFETP and associated AFJQS/AFQTPs.

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.

MAJCOM Functional Managers (MFM). Advises the MAJCOM directorates and staff on 1D7XX/X 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 field units on 1D7XX/X personnel issues. Assists with the dissemination of information regarding Air Force and career field policies, plans, programs, and procedures to field units.

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 (as a minimum). Should include tasks required for deployment and/or UTC requirements.

milSuite. The purpose of milSuite is to provide a collection of social business tools for Department of Defense (DoD) personnel that facilitates professional networking, learning, and innovation through knowledge sharing and collaboration.

Mission Qualification Training (MQT). MQT follows IQT and is training needed to qualify personnel to perform their specific unit mission in an assigned position. Completion of Specialty Training Standard task and knowledge training requirements may be accomplished concurrently with MQT.

Mission Readiness Training (MRT). Is specialized training to ensure an organization's ability to understand, plan, program, and fulfill core mission responsibilities, even and especially in the face of emerging threats and other major changes in circumstance.

Occupational Analysis Report (OAR). A detailed report showing the results of an occupational survey of tasks performed within a particular AFSC. This data is used to provide personnel and training decision-makers with factual and objective job information which enables them to justify and/or change personnel utilization policies and programs, refine and maintain occupational structures, and establish, validate, and adjust testing and training programs.

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.

Personally Identifiable Information (PII). Information about an individual that identifies, links, relates, or is unique to, or describes the individual, e.g.: SSN, age, militaryrank, civilian grade, marital status, race, salary, home/office phone numbers, or other demographic, biometric, personnel, medical, and financial information, etc.

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.

Quality Assurance (QA). The Quality Assurance program ensures programs, functions, process, equipment, systems, end item or service are of the type and quality to meet/or exceed mission requirements. The QA program enhances mission accomplishment within

the confines of public law, DoD/AF policy and guidance or technical orders. QA empowers commanders to actively manage mission risk at the appropriate level.

Quality Assurance Representative (QAR). A QAR is a member of the unit, not permanently assigned to a QA program. QARs should be highly qualified persons identified by skill and experience, motivation, and knowledge of evaluation, analysis, and support duties. QARs are often used in small units or detachments where a full QA program does not exist, or when mission needs dictate a smaller permanent QA presence and still needs to complete inspections. When a military member is assigned as a QAR they must possess a minimum 5-skill level (PAFSC).

Quality Training Flight (Q-Flight). As part of the 81st Training Support Squadron at Keesler AFB, the primary mission of the Q-Flight is to develop on-the-job training tools used by trainers to train and qualify Airmen in position specific duties. The flight produces AFJQS's, AFQTP's, and handbooks for the following career fields: 1D7XX - Cyber Defense Operations and 3FXXX - Personnel/Administration. Additionally, Q-Flight assists with the development, standardization and publishing of all 1D7 Career Field Education and Training Plans (CFETP).

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. (AFPD 33-3, *Information Management*)

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

Senior Enlisted Leader (SEL). Senior Enlisted Leaders jobs are special positions awarded to senior NCOs based on their grade, an installation's needs and how well someone might perform in the job. They take on management duties, mentorship and career counseling, and other personnel and logistics issues within a unit. Some managerial duties and responsibilities common to all SELs 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, and developing plans regarding facilities, supplies, and equipment procurement and maintenance.

Service Oriented Architecture (SOA). A services-oriented architecture (SOA) environment makes it easier and faster to build and deploy information capabilities that directly serve the needs of the Air Force. SOA is an information technology environment where the following occur: Mission and business processes are supported by information assets. Information assets are delivered to consumers through content delivery services. Content delivery services and other services interact to support process threads or to deliver information assets. Core services, such as infrastructure and presentation services, are independent of the content delivery services. Net-centric protocols and services allow federating and re-using both content delivery and core services for multiple users, domains, and information sources.

Shred-outs (Shreds). Shreds are the alphabetical suffix that identifies specialization in a specific career path. For example, 1D7X1P is the Data Operations shred-out of Cyber

Defense Operations.

Specialized Training Package (STP) and COMSEC Qualification Training Package (QTP). A composite of lesson plans, test material, instructions, policy, doctrine, and procedures necessary to conduct training. These packages are prepared by AETC, validated by Cyberspace Capabilities Center (CCC), 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 annually to finalize any CFETP changes or enlisted classification directory descriptions.

Specialty Training Standard (STS). An Air Force publication describing an Air Force specialty in terms of tasks and knowledge for Airman in a specialty may be expected to perform or to know on the job. It also identifies the training provided to achieve a 3-, 5-, 7-, or 9-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.

Standardization and Evaluation (Stan Eval). The purpose of the Cybercrew Stan/Eval program is to provide commanders a tool to validate readiness and the effectiveness of unit operations, including documentation of individual member qualifications and certifications.

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

Task Module (TM). A group of tasks performed together within an AFS requiring 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 Capability. The ability of a unit or base to provide training. Authorities consider the availability of equipment, qualified trainers, study reference materials, and other factors in determining a unit's training capability.

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

Warfighter Communications. This includes all applicable statutes but specifically those systems designed to be employed in austere, mobile, and/or expeditionary environments, to provide command and control in support of Air or Space Force missions.

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

Section A - General Information

1. Purpose. This CFETP provides the information necessary for AFCFM, MFMs, commanders, training managers, supervisors and trainers to plan, develop, manage, and conduct an effective and efficient career field training program. The plan outlines the Air Force Specialty (AFS) training individuals should receive to develop and progress throughout their career. This plan identifies AFSC requirements for Apprentice (3-skill level), Journeyman (5-skill level) and Craftsman (7-skill level). Normally AETC conducts AFSC-specific initial skills training upon an individual's entry into the Air Force or upon retraining into this specialty. After successful completion, the Airmen is awarded the Apprentice 3-skill level. *Upgrade training* identifies the mandatory courses, task qualification requirements, and correspondence course completion requirements for award of the 3-, 5-, 7-, 9-skill levels. *Qualification training* is actual hands-on task performance training designed to qualify an Airman in a specific duty position. This training occurs 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 also:

1.1. Serves as a management tool to plan, manage, conduct, and evaluate a career field-training program. Also, it is used to help supervisors identify training at the appropriate point in an individual's career.

1.2. Identifies task and knowledge training requirements for each AFS skill level 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 delivery method.

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

2. Use of the CFETP. The plan is used by CFMs, MFMs, and supervisors at all levels to ensure comprehensive and cohesive training programs are available for each individual in the specialty.

2.1. AETC training personnel develop or revise formal resident, nonresident, field and exportable training based upon requirements established by the users and documented in Part 2 of the career field education and training plan. They also work with the Lead MAJCOMs in coordination with the AFCFMs to develop acquisition strategies for obtaining resources needed to provide the identified training.

2.2. MFMs ensure the CFETP mandatory requirements are incorporated as part of MAJCOM-specific functional training programs. On-the-jobTraining, resident training, and contract training or exportable courses can satisfy identified requirements. Ensure Major Command-developed and resource training to support this AFSC is identified for inclusion into the plan.

2.3. 81st 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 AFCFMs/MFMs.

2.4. Cyber Defense Operations Airmen complete the mandatory training requirements specified in this plan. The list of courses in Part 2 is used as a reference to support training.

2.5. MFMs submit recommended CFETP modifications to the 81st TRSS Q- Flight Customer Service Desk at 81st TRSS/TSQS, 601 D Street, Keesler AFB MS 39534-2235 or call DSN 597-3343 commercial 228-377-3343. To contact electronically send email to: qflight.customer.service@us.af.mil.

3. Coordination and Approval of the CFETP. The AFCFM develops the CFETP, the Functional Manager reviews and forwards the CFETP for Functional Authority approval. The AFCFM will initiate an annual review of this document to ensure currency and accuracy. MAJCOM representatives and AETC training personnel will identify and coordinate on the career field training requirements. Using the list of courses in Part 2, ensures elimination of duplicate training.

Section B - Career Field Progression and Information

4. Specialty Descriptions. This information supplements the AFECD. AFSC specific descriptions can be found in the AFECD. Duties and Responsibilities:

4.1. Enterprise Operations delivers enduring cyber mission capabilities. Enterprise Operations includes all applicable statutes, but specifically the designing, building, provisioning, maintaining, and sustaining information systems, including warfighter communications, within

the Department of the Air Force (DAF). The Department of Defense Information Network (DoDIN) operations mission includes operational actions taken to secure, configure, operate, extend, maintain, and sustain DoD cyberspace and to create and preserve the confidentiality, availability, and integrity of the DoDIN

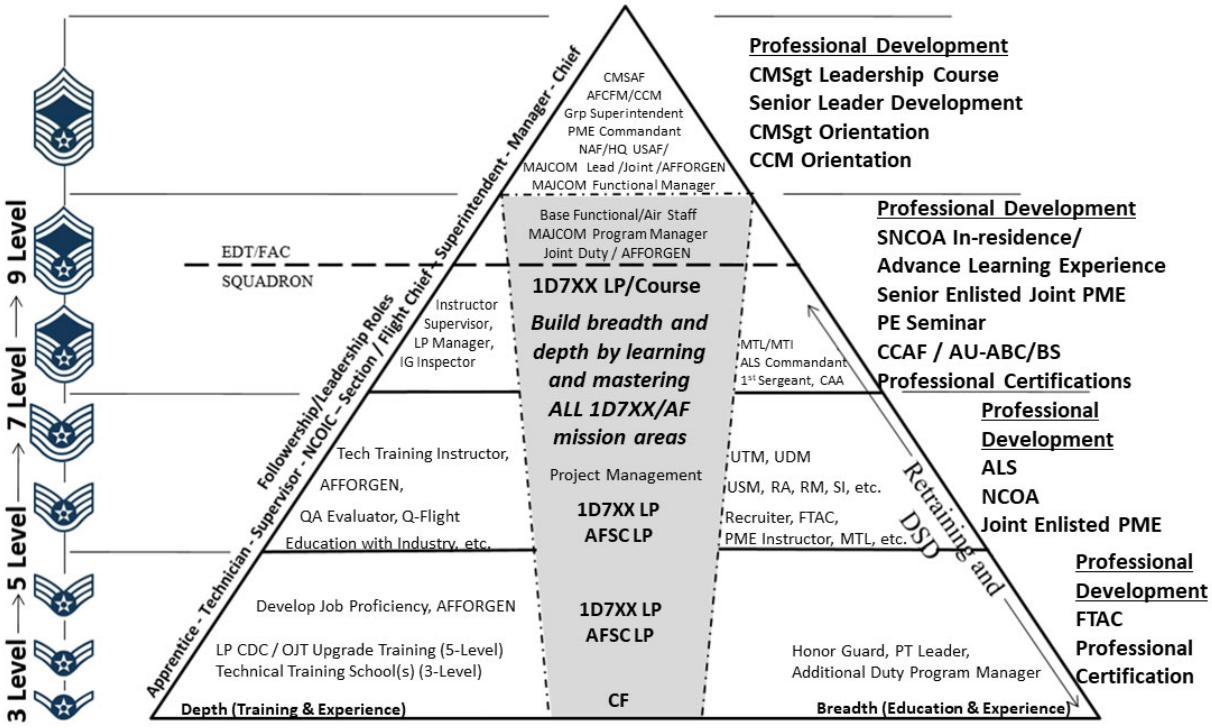
4.2. Mission Defense Activities conducts targeted defense of the DoDIN and other DoD systems to execute DAF operations. Operations focus on identifying, locating, and defeating specific threats that compromise the security of the communications, information, electromagnetic environment, or industrial systems through defensive and protective measures within a specified operational area. Operations in contested, degraded, and denied environments to include but not limited to DoD networks, airborne platforms, austere environments, AOC/JOCs (Air & Space Operations Center/Joint Operations Center), Weapons Systems, ICS (Industrial Control Systems) & SCADA (Supervisory Control and Data Acquisition) systems, and other interconnected devices that play a role in mission effectiveness

4.3. Data Operations enables data driven decisions through delivering the employment of information operations and software development methodologies. Operations modernizes and enhances warfighter and weapon system/platform capabilities through the rapid design, development, testing, delivery, and integration of reliable, secure mission-enabling systems. Provides automated solutions for Commanders requiring real-time, data-driven decisions.

4.4. Expeditionary Communications delivers cyber capabilities in austere and mobile environments. Expeditionary Communications includes all applicable statutes, but specifically datalinks, the building, operating, maintaining, securing, and sustaining of tactical and communications networks when needed to support warfighter requirements, systems employed in austere, mobile, and/or expeditionary environments, to provide command and control in support of Air and Space Force missions.

5. Skills and Career Progression. Adequate training is essential to timely progression of personnel from 3-level to 9-level and plays an important role in the Air Force's ability to accomplish its mission. Everyone involved in training must do their part to plan, manage, and conduct effective training programs. The guidance provided in this part of the CFETP and the 1D7XX/X Cyber Defense Operations Career Field Path table will ensure individuals receive viable training at appropriate points in their careers. Mandatory requirements for upgrade training to each skill level are covered in Section C.

1D7XX Career Path Pyramid



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

6.1. 81st TRSS/TSQ (Q-Flight). Develops AFJQSs/AFQTPs to support tasks relating to Cyber Defense Operations and Systems, functions, and duties. Completion of AFJQSs/AFQTPs is mandatory by duty position for personnel in upgrade or qualification training.

6.2. Learning Programs. Mandatory requirements for upgrade training to each skill level are covered in Section C.

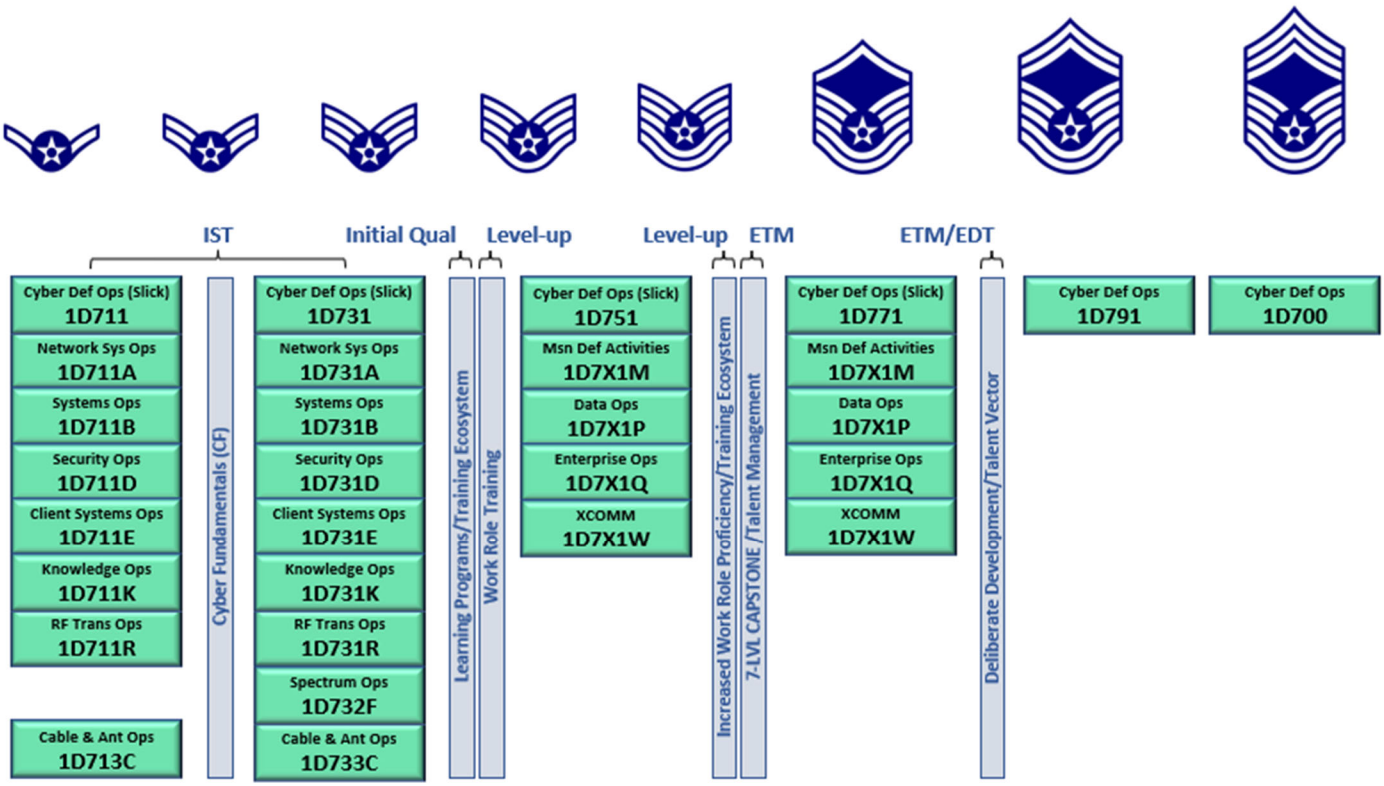
7. Community College of the Air Force (CCAF) Academic Programs. Enrollment in CCAF occurs upon completion of basic military training. CCAF provides the opportunity for all enlisted members to obtain an Associate in Applied Science degree. In order to be awarded the degree, it must be completed before the student separates from the Air Force, retires, or is commissioned as an officer. Degree programs and requirements applicable to the 1D7XX/X career field family can be found in the CCAF general catalog. In addition to its associate degree program, CCAF offers the following:

7.1. CCAF Instructor Certification (CIC) Program. The College offers the CCAF Instructor Certification to instructors teaching full time in a CCAF affiliated school. The program is a three-level program (CIC-I, CIC-II and CIC-III). Each level consists of increased or advanced requirements and achievements. The program provides CCAF instructors a structured professional development track. To obtain more information and program procedures, refer to the CCAF Campus Affiliations Policies, Procedures and Guidelines (PPG).

7.2. General Education Mobile (GEM) / Air University Associate-to-Baccalaureate Cooperative (AU-ABC). The GEM program connects CCAF students with online general education courses offered by regionally accredited colleges and universities. The AU-ABC program connects CCAF graduates with online 4-year degree programs. The AU-ABC program includes postsecondary schools with regional accreditation and national accreditation through the Distance Education and Training Council.

7.3. Air Force Credentialing Opportunities On-Line (COOL). The AF COOL program provides a one-stop location for Airmen to explore credentials recognized by the civilian community that can enhance current performance in their AF job. Credentialing has two purposes. First, it continues to professionalize the enlisted force by providing up-to-date industry-recognized credentials in an Airman's AF job. Second, it provides a way for Airmen to prepare for civilian life by ensuring that they are ready for work in the civilian sector. There are many aspects to credentialing including certifications and licenses, and a variety of agencies provide credentialing. Some are at the national level while others are state or industry driven. To obtain more information, refer to the Air Force Virtual Education Center (AFVEC) AF COOL website.

8. Career Field Path. The following summarizes career progression and personnel allocations across the career ladder. When an Airman is awarded a 5-lvl, the SEL is responsible for submitting an AF Form 2096 to update the Airman's AFS shred to match the billet they have been assigned and trained for. 1D7XX/X personnel maintain their individual AFS shreds through the rank of MSgt. Upon promotion to SMSgt, all 1D7XX/X AFSC shreds merge to become a 1D791. 1D791s compete for the rank of CMSgt to become a 1D700.



1D7XX/X CYBER DEFENSE OPERATIONS CAREER PATH	
Education and Training Requirements	***Rank***
Basic Military Training	
Apprentice Technical School (3-Skill Level)	Amn
Upgrade To Journeyman (5-Skill Level) **MANDATORY** - No minimum required time-in-training Maximum time-in training is 24 months for AD, ANG, AFRC, & retrainees. - Completion of 1D7XX/X Learning Programs. - (X) in the 1D7XX/X Learning Program task title indicates a requirement - Completion of 1D7XX/X CFETP requirements for 5-Skill Level, Identified by an X in the Core & Wartime Column and an identifier in the 5-Skill Level proficiency Code column - Completion of applicable core AFJQSs/AFQTPs as identified in Part II, Section C - Support Materials Supplement for specific duty position, equipment, and systems at assigned location. **OPTIONAL** - AETC Supplemental training courses as determined by MAJCOM.	A1C SrA
Upgrade To Craftsman (7-Skill Level) **MANDATORY** - Minimum rank of SSgt. - No minimum required time-in-training. Maximum time-in training is 24 months for AD, ANG, AFRC, & retrainees. - Completion of 1D7XX/X CFETP requirements for 7-Skill Level. Identified by an X in the Core & Wartime Column and an identifier in the 7-Skill Level proficiency Code column - Completion of 7-level Learning Program, if available. - (X) in the 1D7XX/X Learning Program task title indicates a requirement. - Completion of applicable core AFJQSs/AFQTPs as identified in Part II, Section C - Support Materials Supplement for specific duty position, equipment, and systems at assigned location. **OPTIONAL** AETC Supplemental training courses as determined by MAJCOM.	SSgt See https://mypers.af.mil/ statistics for average promotion sew- on and DAFI 36-2502 for enlisted Airman Promotion /Demotion Programs.

1D7XX/X CYBER DEFENSE OPERATIONS CAREER PATH	
Education and Training Requirements	***Rank***
Eligibility and Prerequisite Requirements for Enlisted Professional Military Education (EPME i.e. ALS, NCOA, SNCOA) can be found at myPers. Airmen will be scheduled for resident EPME based on rank and time-in-grade. Review the Resident EPME Eligibility Chart for additional guidance.	TSgt MSgt
Upgrade To Superintendent (9-Skill Level) **MANDATORY** - Minimum rank of SMSgt. - Completion of applicable core AFJQSs/AFQTPs as identified in Part II, Section C - Support Materials Supplement for specific duty position, equipment, and systems at assigned location.	SMSgt
Chief Enlisted Manager (CEM) - CMSgt Leadership Course (CLC)	CMSgt

Note 1: See Part II, Sections C and D for a list of AFJQSs/AFQTPs and AETC supplemental training.

Note 2: All core position tasks must be completed prior to upgrade. This includes all tasks outlined in CFETP 1D7XX/X.

Section C - Skill Level Training Requirements

9. Purpose. Skill level training requirements in this specialty are defined in terms of tasks and knowledge requirements. This section outlines the specialty qualification requirements for each skill level in broad, general terms and establishes the mandatory requirements for entry, award, and retention of each skill level. The specific task and knowledge training requirements are identified in the Specialty Training Standard at Part 2, Section A and B of this CFETP.

10. Specialty Qualification Requirements. This information supplements the AFECD. AFSC-specific specialty qualifications can be found in the AFECD.

10.1. Apprentice (3-Level) Training. The AFSC-specific Apprentice Course serves as the initial skills course and must be completed to be awarded a 1D7XX/X AFSC.

KNOWLEDGE	None required.
EDUCATION	Completion of high school is mandatory.
TRAINING	Completion of the career field-specific Apprentice course. See Part II, Section B for Course Objective List.
EXPERIENCE	None required.
OTHER	For award and retention of this AFSC, individual must maintain local network access IAW AFI 17-130, *Cybersecurity Program Management* and AFMAN 17-1301, *Computer Security (COMPUSEC).* Eligibility for a security clearance according DoD Manual 5200.02_AFMAN 16-1405, *Air Force Personnel Security Program*, is mandatory for awardand retention of this skill level.
IMPLEMENTATION	Attendance at the career field-specific Apprentice course is mandatory for award of the 3-skill level unless waived by the 1D7 AFCFM.

10.2. Journeyman (5-Level) Training.

KNOWLEDGE	Completion of the 1D7 Initial Skills Training Course and 1D75X 5-Level Learning Programs.
TRAINING	No mandatory AETC training courses are required for upgrade.
EXPERIENCE	Qualification in and possession of AFSC 1D7XX/X. Experience performing functions specific to your career field. Completion of all 1D7XX/X STS core tasks. Completion of applicable AFJQSs/AFQTPs. Completion of all local tasks assigned for the duty position.
OTHER	For award and retention of this AFSC, individual must maintain local network access IAW AFI 17-130, *Cybersecurity Program Management* and AFMAN 17-1301, *Computer Security (COMPUSEC).*
IMPLEMENTATION	Entry into formal journeyman upgrade training is accomplished once individuals are assigned to their first duty station. Qualification training is initiated any time individuals are assigned duties for which they are not qualified. Use LPs, CBTs and AFJQSs/AFQTPs concurrently to obtain the necessary qualification for refresher and cross-utilization training.

10.3. Craftsman (7-Level) Training.

KNOWLEDGE	All 1D75X knowledge qualifications apply to the 1D77X requirements. Completion of 1D7XX/X 7-level Learning Program, if available.
TRAINING	Completion of applicable AFJQSs/AFQTPs.
EXPERIENCE	Qualification in and possession of AFSC 1D75X. Experience performing or supervising one of the functions of 1D7XX/X. Completion of all STS core tasks. Completion of all local tasks assigned for the duty position.
OTHER	For award and retention of this AFSC, individual must maintain local network access IAW AFI 17-130, Cybersecurity Program Management and 17-1301, *Computer Security (COMPUSEC).*
IMPLEMENTATION	Entry into OJT is initiated when individuals obtain the necessary rank and skill level. Qualification training is initiated any time an individual is assigned duties for which they are not qualified. Use the Learning Program and AFJQSs/AFQTPs concurrently to obtain the necessary qualification for refresher and cross-utilization training.

10.4. Superintendent (9-Level) Training. Upgrade training consists of: (1) Qualification Training is required prior to upgrade to 9-level for SMSgts and CMSgts. Wear the badge as prescribed by AFI 36-2903, *Dress and Personal Appearance of Air Force Personnel* paras 9.1 and 9.1.3.

KNOWLEDGE	Mandatory: Techniques and Procedures of Systems Analysis and Design; Project Management, Communications-Computer Processing; System Operation and Maintenance; System and Equipment Capability, Capacity, and Logic; Personnel and Equipment Performance Measurement; Awards Programs and Manpower and Organization; Security, Administrative Contract, Training, Resource, Records, Publications, Deployment, Logistics, and Base/Unit Functional Management.
EXPERIENCE	Qualification in and possession of AFSC 1D77X is mandatory. Directing functions such as installing, maintaining, operating, repairing, or modifying the various cyberspace systems, software development, cyber security, or resource management as related to the feeder specialties.
OTHER	For award and retention of this AFSC, individual must maintain local network access IAW AFI 17-130, *Cybersecurity Program Management* and AFMAN 17-1301, *Computer Security (COMPUSEC).*
IMPLEMENTATION	Entry into OJT is initiated when individuals are selected for the rank of SMSgt. Qualification training is initiated any time individuals are assigned duties for which they are not qualified.

10.5. Training Sources.

10.5.1. Career field-specific and 1D7XX/X Learning Programs are available via Percipio.

A complete description and listing of LPs offered by AFCDA is available via Air University.

10.5.2. AFJQSs/AFQTPs are Air Force publications and are mandatory for use by personnel in upgrade or qualification training. They are developed by the 81st TRSS/TSQ (Q-Flight), Keesler AFB, MS and may be downloaded from the Q-Flight SharePoint site. Procedures for requesting development of AFJQSs/AFQTPs are contained in AFMAN 17-204, *Air Force On-the- Job Training Products for Cyber Defense Operations Enlisted Specialty Training*.

11. Occupational Badges. The Cyber Defense Operations badge has the same eligibility criteria as other occupational badges. Enlisted Cyber Defense Operations personnel may wear the basic badge after finishing technical school. Enlisted Cyber Defense Operations personnel earn the right to wear the senior badge after being awarded the 7-skill level. Master badges are awarded to Cyber Defense Operations Master Sergeants who have at least five years of experience in the specialty at the 7-skill level or higher. Chief Master Sergeants who have cross-flowed into the career field earn the basic badge when they are awarded the CEM code, moving up to the senior badge after a year of service and to the master level after five years.

Section D - Resource Constraints

12. Purpose. This section identifies known resource constraints that preclude optimal and desired training from being developed or conducted, including information such as cost and manpower. Narrative explanations of each resource constraint and an impact statement describing what effect each constraint has on training are included. Also included in this section are actions required, OPR and target completion dates. Resource constraints will be, at a minimum, reviewed and updated annually.

Apprentice (3-Level) Training. The 1D7XX/X STSs may contain two proficiency codes in the 3-level course column to indicate the desired level of instruction versus the actual level of instruction due to resource constraints. Example: 2b / 1a. A STS waiver may be issued for the STS elements not taught to the desired proficiency code.

Section E - Transition Training Guide

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

PART II

Section A - Specialty Training Standards

1. Implementation. AFSC-Specific STSs are located in the Attachments Section of this CFETP. See AFSC-specific STS for 3-Level course start date.

2. Purpose. As prescribed in DAFMAN 36-2689, this CFETP:

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

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 DAFMAN 36-2689.

2.3. Shows, in column 4, formal training and correspondence course requirements by listing the proficiency to be demonstrated on the job by the graduate as a result of training on the task and the career knowledge provided by the corresponding course. Learning Programs are available via Percipio.

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 AF Form 623, *Individual Training Record* folder, and used according to DAFMAN 36-2689.

2.6. Is a guide for development of promotion tests used in the Weighted Airman Promotion System. Specialty Knowledge Tests are developed at the AETC Airman Advancement Division, by senior Noncommissioned Officers with extensive practical experience in their career fields. Specialty Knowledge Tests are developed by subject matter experts who authenticate Weighted Airman Promotion System material and reference AF Specialty-specific occupational analysis data. Questions are based upon study references listed in the Enlisted Promotions References and Requirements Catalog. Individual responsibilities are in Chapter 4, paragraph 4.2.15 of DAFMAN 36- 2664, *Personnel Assessment Program*. Weighted Airman Promotion System is not applicable to the ANG or ARC.

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 CSIL at DSN 312-597-5250, 228-377-5250, or e-mail us at 81TRG.TGE.Workflow@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

LEAH G. LAUDERBACK, Lt Gen, USAF
DCS for Intelligence, Surveillance, Reconnaissance
and Cyber Effects Operations

Attachments:
1. Qualitative Requirements
2. Specialty Training Standard (STS) 1D7XX
3. Specialty Training Standard (STS) 1D7X1P
4. Specialty Training Standard (STS) 1D7X1Q
5. Specialty Training Standard (STS) 1D7X1M
6. Specialty Training Standard (STS) 1D7X1W
7. Specialty Training Standard (STS) 1D7XX/X Legacy

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	https://www.esd.whs.mil/dd/
Air Force Publications	https://www.e-publishing.af.mil/
Air Force Communications Security (COMSEC) Collaborative Environment (CE)	https://usaf.dps.mil/teams/13312/default.aspx
Air Force Information Assurance Collaborative Environment (IACE)	https://usaf.dps.mil/teams/IACE/default.aspx
DISA Circulars and Instructions	https://www.disa.mil/About/DISA-Issuances
Technical Orders (TO)	https://www.my.af.mil/etims/ETIMS/index.jsp
Percipio	https://usaf.percipio.com/

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: Track and manage training for TSgts and below and MSgt/SMSgt retrainees using an automated training system (e.g., myTraining).

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

Note 6: Third person certification is not required for Cyber Defense Operations 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 intervene 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 NCOs in the 1D7XX/X AFSCs are not required to have an Individual Training Plan (ITP) with the following exceptions: personnel in upgrade training status or performing equipment maintenance as part of primary duties. Unit Commanders can require Senior NCOs with UTC tasks to have an ITP.

Note 11: The 1D7XX/X STS consists of tasks that are applicable to all 1D7XX/X AFSCs. This STS will be used as core requirement for 1D75X/X along with a member's respective shred STS. The 1D7X1 STS consists of tasks which are shared by shreds. 1D7X2F and 1D7X3C will only adhere to the requirements outlined in the trainee's AFSC-specific STS.

Note 12: Certification of CBRN Task Qualification Training (TQT) requirements is outlined in DAFMAN 36-2689 and AFI 10-2501. Any core 5 and 7 level tasks are appropriate for evaluation under TQT; supervisors must tailor task selection based on the Airman's assigned UTC, MAJCOM-specific or locally directed requirements. Work centers will identify additional TQT tasks as required.

Note 13: Security+ tasks will be taught IAW CompTIA Security+ Certification CTS.

Note 14: Attachment 7 is retained to include 3-lvl core tasks from 1D7 shreds that existed prior to the new Mission-Capable force design. The column that denotes an XA, XB, XC, etc.. outlines the core task and shred this is a core 3-lvl task for.

Section B - Course Objective List

4. There is currently no advanced course. This area is reserved.

Section C - Support Materials

5. 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 81 TRSS/TSQ web page, and are available for download from the web site at https://usaf.dps.mil/teams/10445/default.aspx, https://lms-jets.cce.af.mil/moodle/, and https://www.youtube.com/channel/UCp7lrge1aHDA6wnEaXrdm5Q. Procedures for requesting product development are found in AFMAN 17-204.

6. Generic AFJQSs/AFQTPs applicable to AFSC 1D7XX/X family is available at
https://usaf.dps.mil/teams/10445/default.aspx?RootFolder=%2Fteams%2F10445%2FDocuments%2FCFETP%2F1D7XX%20%2D%20CYBER%20DEFENSE%20OPERATIONS&FolderCTID=0x010100A06BF221F643144E807354644DE7FCF3&View=%7B215A7876%2D5A74%2D4A5C%2DA4F0%2D1FCE911765A1%7D

Section D - Training Course Index

7. 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://usaf.dps.mil/teams/app10-

etca/SitePages/home.aspx or the Cyberspace Capabilities Center (CCC) SharePoint page at https://usaf.dps.mil/teams/ccc/SitePages/Home.aspx

8. Air Force In-Residence Courses. The following list of formal courses is not all-inclusive; however, it covers courses applicable to the 1D7XX/X family. The most current list can be found at the 81 TRSS/TSQ web page at https://usaf.dps.mil/teams/10445/default.aspx?RootFolder=%2Fteams%2F10445%2FDocuments%2FCFETP%2F1D7XX%20%2D%20CYBER%20DEFENSE%20OPERATIONS&FolderCTID=0x010100A06BF221F643144E807354644DE7FCF3&View=%7B215A7876%2D5A74%2D4A5C%2DA4F0%2D1FCE911765A1%7D or the Cyberspace Capabilities Center (CCC) SharePoint page at https://usaf.dps.mil/teams/ccc/SitePages/Home.aspx

9. Air University Courses.

For a current listing of Air University courses go to https://www.airuniversity.af.mil/Barnes/

Section E - MAJCOM Unique Requirements

10. MAJCOM unique requirements will be identified and listed on a secondary document located on Q-Flight's SharePoint page at https://usaf.dps.mil/teams/10445/default.aspx?RootFolder=%2Fteams%2F10445%2FDocuments%2FCFETP%2F1D7XX%20%2D%20CYBER%20DEFENSE%20OPERATIONS&FolderCTID=0x010100A06BF221F643144E807354644DE7FCF3&View=%7B215A7876%2D5A74%2D4A5C%2DA4F0%2D1FCE911765A1%7D

THIS BLOCK IS FOR IDENTIFICATION PURPOSES ONLY Personal Data - Privacy Act of 1974		
PRINTED NAME OF TRAINEE *(Last, First, Middle Initial)*	INITIALS *(Written)*	EDIPI
PRINTED NAME OF TRAINER AND CERTIFYING OFFICIAL AND WRITTEN INITIALS		
N/I	N/I	
N/I	N/I	
N/I	N/I	
N/I	N/I	
N/I	N/I	
N/I	N/I	

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

Explanations

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

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

(-) This mark is used alone in the Proficiency Codes Course columns to show no proficiency training is provided in the applicable course. Training is satisfied through OJT, CBTs, Learning Programs, or a combination.

(X) This mark is used alone in the Proficiency Codes Course columns to show training is required but not given due to limitations in resources or is a future requirement. Training is satisfied through OJT, CBTs, Learning Programs, or a combination.

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

(X) When this code is used in the Core & Wartime Tasks Column it indicates the CFM has mandated this task as a core requirement to the level identified in the Task Knowledge Levels Column. The training to satisfy this requirement is either provided through OJT, CBTs, Learning Programs, or a combination.

(*) When this code is used in the Core & Wartime Tasks Column it indicates the CFM has mandated this task as a wartime/deployment requirement.

(^) When this code is used in the Core & Wartime Tasks Column it indicates the CFM has mandated this task require(s) third person certification.

CFETP versus AFJQS task coding. AFJQSs/AFQTPs annotated in the CFETP with a skill level denotes the AFJQS is mandatory.

1. Implementation. This STS will be used for technical training provided by AETC for the 3-level course.

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	COURSE	COURSE	COURSE
1. CYBER DEFENSE OPERATIONS TR: 1D7XX Learning Program (Percipio); AFMAN 36-2100; AFPD 172; 1D7XX CFETP; AFECD; JPs 3-12, 3-13, 3-13.1, and 3-13.2										
1.1. Airmen Vectoring										
1.1.1. Participate in Airmen Vectoring Process							2b	-	-	-
1.2. Introduction to Cyber										
1.2.1. Cyber Operations Roles and Responsibilities	5/7/9						A	A	A	C
1.2.2. Concepts of FMA / OCO / DCO / DoDIN Ops	5/7/9						A	A	A	C
1.2.3. Qualifications	5/7						-	A	A	-
1.2.4. Progression within AFSC	5/7						-	A	B	-
1.2.5. Read CFETP 1D7XX, Part I	5/7						-	A	A	-
1.3. Cyber Policy, Doctrine, and Guidance							-	-	B	D
1.4. Weapons Systems										
1.4.1. Weapons System Designation							-	A	B	C
1.4.2. Weapons System Requirements							-	A	B	C
1.4.3. Air Force Cyber Weapons Systems							A	A	B	C
1.4.4. Roles of Cyber Weapons Systems							A	A	B	D
1.4.5. Weapons System Authorities							-	A	B	C
2. PUBLICATIONS AND DIRECTIVES TR: 1D7XX Learning Program (Percipio), AFI 33-360, TO 00-5-1, https://dtic.mil										
2.1. Publications	5/7						A	A	B	-
2.2. Technical Orders (TO)	5/7						A	A	A	-
2.3. Locate Applicable Publications	5/7						-	2b	2b	-
2.4. Use Publications / Technical Orders When Performing Work	5/7						2b	b	b	-
3. JOINT MISSION PLANNING TR: 1D7X1M Learning Program (Percipio)										
3.1. Joint mission planning process							A	B	-	-
3.2. ME3C-(PC)2 / SMEAC							A	A	-	-
3.3. Plan Brief Execute Debrief							A	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	COURSE	COURSE	COURSE
3.4. Perform Plan Brief Execute Debrief							2b	2b	-	-
3.4.1. Military Planning Process							A	A	B	-
4. CYBER AUTHORITY AND USER RESPONSIBILITIES TR: 1D7XX Learning Program (Percipio); AFDP 3-13 https://www.doctrine.af.mil/Doctrine-Annexes/Annex-3-13-Information-Ops/; JP 3-13; USC Titles 10, 18, 50; http://iase.disa.mil/eta/Pages/index.aspx										
4.1. Anti-Piracy							A	A	-	-
4.2. Ethics							A	A	B	D
4.3. US Codes							-	A	B	C
4.4. US Telecommunications Laws							-	-	A	B
4.5. International Laws Affecting Electronic Communications							-	-	A	B
4.6. LOAC Considerations When Planning / Conducting Cyber Operations							-	-	A	B
4.7. Rules of Engagement (ROE)	5/7/9						A	B	B	B
4.8. Cyber Tasking Order (CTO)	5/7/9						-	A	B	C
5. CYBER ENCLAVE TR: 1D7XX Learning Program (Percipio), AFPD 17-2, AFI 17-201, JP 3-12, http://www.afcyber.af.mil										
5.1. Structure							-	A	B	B
5.2. Missions							-	A	-	-
5.3. Offensive Cyberwarfare Operations							-	A	B	C
5.4. Defensive Cyberwarfare Operations							-	A	B	C
5.5. Exploitation							-	A	A	-
5.6. Effects on Adversary Decision Makers	5/7/9						-	B	B	C
5.7. Units										
5.7.1. Joint, DOD, and Combined Units	5/7						-	A	B	-
5.7.2. Air Force Units	5/7						-	A	B	-
5.7.3. Air Force Network Operations (AFNetOps)	5/7						-	B	B	-
5.7.4. Cyber Organizations(JCSE, WHCA, DISA, etc.)							A	A	B	-
6. ENTERPRISE SYSTEMS / PROGRAMS TR: 1D7XX Learning Program (Percipio); AFI 13-Series; Joint Pub 6-0; CJCSIs 3231.01C, 6211.02D										

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	COURSE	COURSE	COURSE
6.1. Define Non-Secure Networks	5						A	A	-	-
6.2. Define Secure Networks	5						A	A	-	-
6.3. Nuclear Command, Control, and Communications Systems	5						-	A	-	-
6.4. Space Systems	5						-	A	-	-
6.5. Airborne Networks	5/7						-	A	A	-
6.6. Battlefield Networks	5/7						-	A	A	-
7. SAFETY / RISK MANAGEMENT (RM) TR: 1D7XX Learning Program (Percipio); AFIs 32-1065, 90-802, 91-202; AFMAN 91-203; AFPAM 90-803; AFPD 91-2; MIL-STD 188-124B										
7.1. Safety	5						-	B	-	-
7.2. RM	5/7						-	A	B	-
7.3. Work Center Safety Program Management	5/7						-	A	A	-
7.4. Characteristics of Personal and Equipment Protection	5						-	A	-	-
7.5. Practice Safety Precautions							2b	-	-	-
8. CYBER SECURITY TR: 1D7XX Learning Program (Percipio); AFIs 10-701, 17-130, 16-1404; AFPD 10-7; AFMAN 17-1301										
8.1. Risk, Threats, and Vulnerabilities	5/7/9						A	A	B	C
8.2. Network Security	5/7						B	A	B	-
8.3. Firewalls										
8.3.1. Concepts	5						A	A	-	-
8.3.2. Configure							-	-	-	-
8.3.3. Troubleshoot							-	-	-	-
8.4. Security Zones							-	A	-	-
8.5. Incident Response	5						A	A	-	-
8.6. Cyber Hygiene										
8.6.1. Acceptable Use / Behavior for Information Technology	5						A	A	-	-
8.7. Security Programs										
8.7.1. Fundamentals of IT Documentation							B	B	-	-
8.7.2. Information Protection (IP) Operations	5						-	A	-	-
8.7.3. Operations Security (OPSEC)	7						A	-	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	COURSE	COURSE	COURSE
8.7.4. Information Security (INFOSEC)							A	-	-	-
8.7.5. Information Access Programs							A	-	-	-
8.7.6. Controlled Unclassified Information (CUI)							A	-	-	-
8.7.7. Information Assurance (IA)							A	-	-	-
8.7.8. Computer Security (COMPUSEC)							A	-	-	-
8.7.9. TEMPEST Program	5						A	A	-	-
8.7.10. TEMPEST Suppression Techniques							-	B	-	-
8.7.11. Negligent Discharge of Classified Information (NDCI)	5						A	B	-	-
8.7.12. Communications Security (COMSEC)	5						A	A	-	-
8.7.13. Confidentiality, Integrity, and Availability (CIA)	5						A	B	-	-
8.7.14. Classified Material Control							A	-	-	-
8.7.15. Authentication, Authorization, and Accounting (AAA)	5						A	B	-	-
8.8. Physical Security							A	-	-	-
8.9. Security Technical Implementation Guides (STIGs)										
8.9.1. STIG Fundamentals							A	-	-	-
8.9.2. STIG Principles							A	-	-	-
8.9.3. Use STIG Viewer							2b	-	-	-
8.9.4. Apply STIGs							2b	-	-	-
9. NETWORK FUNDAMENTALS TR: 1D7XX Learning Program (Percipio)										
9.1. IP Addressing Concepts	5						A	B	-	-
9.2. OSI / TCP / IP Models	5/7						B	B	B	
9.3. Network Devices	5/7						A	A	A	-
9.4. Communications Mediums	5/7						A	A	A	-
9.5. LAN Architecture	5/7						A	A	A	-
9.6. Ports, Protocols, and Services (PPS)	5/7						B	B	B	-
9.7. Apply IP Address							2b	-	-	-
9.8. Network Types	5/7						A	B	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	COURSE	COURSE	COURSE
9.9. Networks Layers	5						A	A	-	-
9.10. Subnetting							A	-	-	-
9.11. Enterprise Logical Security										
9.11.1. Application							B	C	-	-
9.11.2. Configure							2b	b	-	-
9.12. Network Topologies										
9.12.1. Topologies Fundamentals	5/7						A	B	B	-
9.12.2. Develop Logical Diagram							2b	-	-	-
9.12.3. Develop Physical Diagram							2b	-	-	-
9.12.4. Develop Data Flow Diagram							2b	-	-	-
9.13. Network Monitoring	5						A	B	-	-
9.14. Wireless Networking (WLAN)	5/7						B	B	B	-
9.15. Backup and Restore Device Documentation	5						A	A	-	-
9.16. Troubleshooting Methodology	5						B	B	-	-
9.17. Cable Management										
9.17.1. Cable Types and Handling	5						B	B	-	-
9.17.2. Test Cable							2b	-	-	-
9.18. Specialized Tools	5						A	A	-	-
10. SWITCHING AND ROUTING TR: 1D7XX Learning Program (Percipio)										
10.1. Switching										
10.1.1. LAN Technologies	5						B	B	-	-
10.1.2. Configure Switches							2b	-	-	-
10.2. Virtual Local Area Network (VLAN)										
10.2.1. VLAN Fundamentals	5						B	B	-	-
10.2.2. Configure VLANs							2b	-	-	-
10.3. Configure Logical Security for Network Equipment							2b	-	-	-
10.4. Routing										
10.4.1. Routing Fundamentals	5/7						B	B	B	-
10.4.2. Configure Routers							2b	-	-	-

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	COURSE	COURSE	COURSE
10.4.3. Implement Logical Security							2b	-	-	-
10.5. Troubleshoot Network Devices							2b	-	-	-
11. APPLIANCES (SERVERS) TR: 1D7XX Learning Program (Percipio)										
11.1. Server Types	5						A	A	-	-
11.2. Virtualization	5						B	B	-	-
11.3. Active Directory										
11.3.1. Concepts	5						B	B	-	-
11.3.2. Configure							2b	-	-	-
11.3.3. Troubleshooting							2b	-	-	-
11.4. Domain Name System (DNS)										
11.4.1. Concepts	5						B	B	-	-
11.4.2. Configure							2b	-	-	-
11.4.3. Troubleshooting							2b	-	-	-
11.5. Dynamic Host Configuration Protocol (DHCP)										
11.5.1. Concepts	5						B	B	-	-
11.5.2. Configure							2b	-	-	-
11.5.3. Troubleshooting							2b	-	-	-
12. SERVICES AND PROCESSES TR: 1D7XX Learning Program (Percipio)										
12.1. Services										
12.1.1. Services Concepts	5						B	B	-	-
12.1.2. Start / Stop Services							1b	-	-	-
12.2. Processes										
12.2.1. Processes Concepts	5						B	B	-	-
12.2.2. Start / Stop Processes							1b	-	-	-
12.3. Cloud Computing										
12.4. Definition							A	-	-	-
12.4.1. Characteristics							A	B	-	-
12.4.2. Service Model Types							A	B	-	-
12.4.3. Deployment Models Types							A	B	-	-
12.4.4. Benefits							A	B	-	-
12.4.5. Implementation Considerations							-	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	COURSE	COURSE	COURSE
13. CLIENT SYSTEMS TR: 1D7XX Learning Program (Percipio)										
13.1. End User Devices / Components	5/7						B	B	B	-
13.2. Client Software										
13.2.1. Operating System (OS)	5						A	B	-	-
13.2.2. Mobile Device Operating System	5						A	A	-	-
13.2.3. Software Management Policies	5						A	A	-	-
13.2.4. Install	5						2b	A	-	-
13.2.5. Configure							2b	-	-	-
13.2.6. Troubleshoot							2b	-	-	-
13.3. Security										
13.3.1. Infectious and Malicious Software	5/7						A	B	B	-
13.3.2. Apply Logical Security							2b	-	-	-
13.4. Scripting										
13.4.1. Conditional Primitives	5						B	B	-	-
13.4.2. Iterative Primitives	5						B	B	-	-
13.4.3. Data Manipulation	5						B	B	-	-
13.5. Perform Basic Scripting	5						2b	b	-	-
13.6. Transport Security										
13.6.1. Transport Layer Security	5						-	B	-	-
13.6.2. Encoding	5						-	B	-	-
13.6.3. Tunneling							A	B	-	-
13.7. Input Validation										
13.7.1. Data Validation	5						2b	b		
13.7.2. Sanitization	5						2b	b		
13.7.3. SQL Injection	5						-	B		
13.7.4. Code Injection	5						-	B		
13.7.5. Cross Site Scripting	5						-	B		
13.8. Common Protocols (e.g. Handshake, State, OSI Layer, Header Standard Port #)										
13.8.1. SSH	5						A	B	-	-
13.8.2. SSL / TLS	5						A	B	-	-
13.8.3. Secure FTP Versions	5						A	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	COURSE	COURSE	COURSE
13.8.4. HTTP(S)	5						A	B	-	-
13.8.5. SNMP	5						A	B	-	-
13.9. Command Line Network Utilities										
13.9.1. Ping	5						A	B	-	-
13.9.2. Tracer / Traceroute	5						A	B	-	-
13.9.3. Ipconfig / Ifconfig	5						A	B	-	-
13.9.4. Netstat	5						A	B	-	-
14. DATA ANALYST CORE COMPETENCIES TR: 1D7X1K Learning Program (Percipio), AFMAN 33-396										
14.1. Operationalized Knowledge Management										
14.1.1. Purpose	5						A	B	-	-
14.2. Agile Learning										
14.2.1. Best Practice Identification / Sharing	5						A	B	-	-
14.2.2. Change Management	5						A	B	-	-
14.2.3. Knowledge Capture	5/7						A	B	B	-
14.2.4. Lessons Learned	5						A	B	-	-
15. EXPEDITIONARY COMMUNICATIONS TR: 1D7XX Learning Program (Percipio); AFIs 10-401, 10-403; AFMAN 171302-O; https://jkodirect.jten.mil/Atlas2/page/login/Login.jsf; https://aefonline.afpc.randolph.af.mil/default.aspx; AMC myLearning Gateway (AF Fundamentals of Expeditionary Mobility Operations); Deployable Comms CONOPS (Uploaded)										
15.1. Joint Task Force (JTF) Organizational Structure							-	A	B	C
15.2. Concepts of Aerospace Expeditionary Force (AEF) Employment	5/7						-	A	A	-
15.3. UTC Management	7						-	-	B	-
15.4. Readiness Status Reporting	7/9						-	-	A	B
15.5. Mission Essential Tasks (METS)	7/9						-	-	A	C
15.6. Air Force Force Generation (AFFORGEN)	5/7/9						-	A	B	C
15.7. Agile Combat Employment (ACE)	5/7/9						-	A	B	C
15.8. Military Planning Process							-	-	B	C
15.9. Force Module Communications Support Concept	7						-	-	A	-
16. WORK CENTER MANAGEMENT TR: 1D7XX Learning Program (Percipio); AFIs 10-201, 21-103, 146352; DODI 1400.25V610_AFI36-807; TO 00-33A-1001; AFJQS XXXXX-212S										

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	COURSE	COURSE	COURSE
16.1. Management Policies	5/7						-	A	A	-
16.2. Training										
16.2.1. Base / Unit Roles and Responsibilities	5/7						-	A	B	-
16.2.2. Supervisor / Trainer Roles and Responsibilities	5/7						-	A	B	-
16.2.3. Task Certifier Roles and Responsibilities	5/7						-	A	B	-
16.2.4. Trainee Responsibilities	5						-	A	-	-
16.2.5. Training Resources										
16.2.5.1. Common Cyber Training Sources	5/7						-	A	B	-
16.2.5.2. 1D7XX and AFS-Specific Learning Programs	5/7						-	A	B	-
16.3. Inspection and Evaluation Programs										
16.3.1. Air Force and Cyber Inspections	5/7/9						-	A	B	B
16.3.2. Self Assessment Program	5/7/9						-	A	B	B
16.4. Automated Information Systems (AIS)										
16.4.1. Job Data / Configuration Management Documentation (e.g.IMDS, Remedy, CIPS, IAO Express)	5/7						-	A	B	-
16.4.2. Training Record Management (e.g. TBA, AFTR, Patriot Excalibur)	7						-	-	B	-
16.5. Equipment and Records Management										
16.5.1. Asset / Property Management (e.g. DPAS, CACRL)							-	-	-	-
17. UNIT LEVEL MANAGEMENT										
17.1. Training										
17.1.1. Unit Training Planning							-	-	B	C
17.1.2. Formal Training							-	A	B	C
17.1.3. Additional Training Sources							-	A	B	B
17.2. SEL Duties										
17.2.1. Roles and Responsibilities							-	-	A	B
17.2.2. Awards and Recognition							-	-	A	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	COURSE	COURSE	COURSE
18. FUNCTIONAL MANAGEMENT TR: 1D7XX Learning Program (Percipio); AFECD; AFI 36-2651; AFPDs 36-28, 38-101; AFMAN 33-396; AFQTP 1D7XX-225E; 1D7XX CFETP										
18.1. Career Field Functional Management	5/7/9						-	A	B	C
18.2. MAJCOM Functional Management	5/7/9						-	A	B	C
18.3. Base Functional Management	5/7/9						-	A	B	C
18.4. Force Development / Management	5/7/9						-	A	B	C
19. RESOURCE MANAGEMENT TR: 1D7XX Learning Program (Percipio); AFPDs 10-6, 65-6; AFIs 10-601, 65601 V(1) and V(2)										
19.1. Financial Management	5/7/9						-	A	B	C
19.2. Funded Requirements	5/7/9						-	A	B	C
19.3. Unfunded Requirements	5/7/9						-	A	B	C
19.4. Resolve Capstone Scenario Involving Resource Management	9						-	-	-	3c
20. MANPOWER AND ORGANIZATION TR: 1D7XX Learning Program (Percipio), AFPD 38-1, AFIs 38-101										
20.1. Manpower Requirements							-	-	B	C
20.2. Air Force Manpower Standard (AFMS) Application							-	-	A	B
20.3. Manpower Studies							-	-	A	B
20.4. Manpower Products	7/9						-	-	B	D
20.5. Allocating Personnel	7/9						-	-	B	D
20.6. Total Force Management	7/9						-	-	B	C
20.7. Resolve Capstone Scenario Involving Manpower and Organizational Changes	9						-	-	-	3c
21. PROJECTS AND REQUIREMENTS FUNCTION TR: 1D7XX Learning Program (Percipio)										
21.1. Principles of Project Management	5/7/9						-	A	B	C
21.2. Resolve Capstone Scenario Involving Project Management	9						-	-	-	3c
22. DODD 8140 SUPPORT TR: AFMAN 17-1303, https://public.cyber.mil/cw/cwmp/dod-approved-8570-baseline-certifications, https://cwip.cce.af.mil/cyss/certifiedworkforce/										
22.1. Purpose of DoDD 8140							-	-	-	-
22.2. Understand AF Preferred Certifications							-	-	-	-

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	COURSE	COURSE	COURSE
23. HUMAN PERFORMANCE										
23.1. Stress, Nutrition, and Fitness							B	B	B	C
23.2. Conduct Effective Feedback							2b	B	C	C
23.3. Demonstrate Critical Thinking Principles							2b	B	C	C
24. SECONDARY TRAINING DOCUMENTS										
24.1. Air Force Job Qualification Standards (JQS) and Qualification Training Packages (QTP) TR: https://usaf.dps.mil/teams/10445/default.aspx, https://www.youtube.com/@qualificationtrainingfligh1134/, https://lms-jets.cce.af.mil/moodle/course/index.php?categoryid=5							-	-	-	-
24.2. Formal Training Courses TR: 1D7XX CFETP Section D, Training Course Index; https://usaf.dps.mil/teams/10445/default.aspx							-	-	-	-

1. Implementation. This STS will be used for technical training provided by AETC for the 3-level course.

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	COURSE	COURSE	COURSE
1. DATA OPERATIONS TR: 1D7X1P Learning Program (Percipio), AFMAN 33-396, AFH 36-2618, AFECD										
1.1. Duties of the AFSC	5/7						A	B	B	-
2. DATA OPERATIONS CORE COMPETENCIES TR: 1D7X1P Learning Program (Percipio), AFMAN 33-396										
2.1. Operationalized Data Operations										
2.1.1. Elicit User Requirements										
2.1.1.1. Evaluate User Requirements	5						B	B	-	-
2.1.2. Solutions Design, Development, Testing, and Deployment	5/7						A	B	B	-
2.1.3. User Documentation	5						A	B	-	-
2.2. Agile Learning										
2.2.1. Change Management	5/7						A	A	B	-
2.2.2. Critical Thinking	5/7						B	B	B	-
2.2.3. Knowledge Capture	5/7						A	A	B	-
2.2.4. Lessons Learned	5						A	B	-	-
2.3. Enhance Performance										
2.3.1. Analytics							-	B	-	-
2.3.2. Expertise Tracking / Marketing							-	B	-	-
2.3.3. Innovation Management							-	B	-	-
2.3.4. Operational Assessments							-	b	b	-
2.3.5. Knowledge Engineering							-	B	-	-
2.3.6. Metrics and Measurement							-	B	-	-
2.3.7. Project Management							-	A	-	-
2.3.8. Roles / Responsibility Capture (RACI Matrix)							-	b	b	-
2.3.9. Task Tracking Methodologies							-	B	-	-
2.3.10. Work Methodologies (Agile, Kanban, Capture)							-	B	B	-
2.4. Shared Understanding										
2.4.1. Brainstorming Methods	5/7						A	B	B	-
2.4.2. Collaboration Tools and Environments	5/7						B	B	B	-
2.4.3. Communication Plans							-	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	COURSE	COURSE	COURSE
2.4.4. Communication Skills	5/7						A	B	B	-
2.4.5. Content Management							-	B	B	-
2.4.6. Dashboards							-	B	-	-
2.4.7. Enterprise Knowledge Dissemination	5						A	B	-	-
2.4.8. Visualization of Information							-	B	B	-
3. DATA LITERACY TR: 1D7X1P Learning Program (Percipio)										
3.1. Theory and Analysis	5						A	B	-	-
3.2. Collect and Manage	5						A	B	-	-
3.3. Reporting and Presentation	5						A	B	-	-
4. ENTERPRISE INFORMATION SERVICES (EIS) TR: 1D7X1P Learning Program (Percipio); AFMAN 33-396; https://www.milsuite.mil/; https://www.usability.gov/about-us/index.html; AF e-Learning: SharePoint 2013 ISBN #9781118510711, SharePoint 2010 ISBN #9781118105054; AFJQS1D7XX-225S										
4.1. Overview										
4.1.1. Information Concepts	5						B	B	-	-
4.1.2. Types of Services	5						B	B	-	-
4.1.3. Standards	5						B	B	-	-
4.2. Content Management Systems (CMS)										
4.2.1. Policy	5/7						A	A	B	-
4.2.2. Roles and Responsibilities	5						A	B	-	-
4.2.3. Site Structure	5						A	B	-	-
4.2.4. Identify Storage Parameters							-	B	-	-
4.2.5. Sites / Pages										
4.2.5.1. Types	5						B	B	-	-
4.2.5.2. Purpose	5						B	B	-	-
4.2.5.3. Create Sites	5						2b	b	-	-
4.2.5.4. Delete Sites	5						2b	b	-	-
4.2.5.5. Reset Site	5						2b	b	-	-
4.2.5.6. Manage Site Layout	5						2b	b	-	-
4.2.5.7. Create / Use Dashboards	5						2b	b	-	-
4.2.6. Site Actions										
4.2.6.1. View Web Analytics	5						2b	b	-	-
4.2.6.2. Activate Site Features	5						2b	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	COURSE	COURSE	COURSE
4.2.6.3. Activate Site Collection Features	5						2b	b	-	-
4.2.6.4. Site Collection Audit	5						2b	b	-	-
4.2.6.5. Create Customized Navigation	5						2b	b	-	-
4.2.7. Galleries										
4.2.7.1. Establish Site Columns	5						2b	b	-	-
4.2.7.2. Add Site Content Type	5						2b	b	-	-
4.2.7.3. Manage Site Settings	5						2b	b	-	-
4.2.7.4. Organize	5						2b	b	-	-
4.2.8. Permissions										
4.2.8.1. Create Hierarchy	5						2b	b	-	-
4.2.8.2. Create / Manage Users	5						2b	b	-	-
4.2.8.3. Create / Manage Groups	5						2b	b	-	-
4.2.9. Content (files, graphics, Excel files, links, graphics, calendars, etc.)										
4.2.9.1. Create Custom Content Types	5						2b	b	-	-
4.2.9.2. Add	5						2b	b	-	-
4.2.9.3. Move	5						2b	b	-	-
4.2.9.4. Delete	5						2b	b	-	-
4.2.10. Lists										
4.2.10.1. Manage Templates	5						2b	b	-	-
4.2.10.2. Create a List	5						2b	b	-	-
4.2.10.3. Modify Columns	5						2b	b	-	-
4.2.10.4. Export	5						2b	b	-	-
4.2.10.5. Modify Form View	5						2b	b	-	-
4.2.11. Library										
4.2.11.1. Manage Templates	5						2b	b	-	-
4.2.11.2. Create a Document Library	5						2b	b	-	-
4.2.11.3. Force Check In / Check Out a Document	5						2b	b	-	-
4.2.11.4. Manage Version Control	5						2b	b	-	-
4.2.11.5. Set Alerts	5						2b	b	-	-
4.2.12. Views										

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	COURSE	COURSE	COURSE
4.2.12.1. Manage	5						2b	b	-	-
4.2.12.2. Create a Standard	5						2b	b	-	-
4.2.12.3. Create a Data Sheet	5						2b	b	-	-
4.2.12.4. Create / Manage Filters	5						2b	b	-	-
4.2.12.5. Use Conditional Statements	5						2b	b	-	-
4.2.13. Web Parts / App Parts										
4.2.13.1. Purposes	5						B	B	-	-
4.2.13.2. Managing Web / App Parts	5						2b	b	-	-
4.2.14. Item Recovery										
4.2.14.1. Recover From Recycle Bin	5						2b	b	-	-
4.2.14.2. Recover From Site Collection Recycle Bin	5						B	B	-	-
5. SOFTWARE DEVELOPMENT FUNDAMENTALS TR: 1D7X1P Learning Program (Percipio)										
5.1. Software Engineering										
5.1.1. Goals and Principles	5						A	B	-	-
5.1.2. Use Software Development / Engineering Tools	5						2b	b	-	-
5.1.3. Compiling	5						B	b	-	-
5.2. Problem Solving										
5.2.1. Define Problem	5						3b	c	-	-
5.2.2. Create Problem Solution Statements	5						3b	c	-	-
5.2.3. Develop Problem Solution	5						3b	c	-	-
6. SOFTWARE ENGINEERING TR: 1D7X1P Learning Program (Percipio)										
6.1. Technical Design Considerations										
6.1.1. Software Quality Metrics	5						A	B	-	-
6.1.2. Extreme Programming	5						B	B	-	-
6.1.3. Lifecycle Methodologies	5						A	B	-	-
6.1.4. Test Driven Development	5						2b	b	-	-
6.1.5. Iterative Development	5						A	B	-	-
6.1.6. Continuous Integration / Continuous Deployment (CI / CD)	5						A	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	COURSE	COURSE	COURSE
6.2. Create / Update Software Documentation										
6.2.1. Software System Documentation	5						A	B	-	-
6.3. Object Oriented and Functional Software Engineering										
6.3.1. Concepts	5						A	B	-	-
6.3.2. Design	5						A	B	-	-
6.3.3. Programming							2b	B	-	-
6.4. Cloud Providers										
6.4.1. Government Cloud Providers							-	B	-	-
6.4.2. Commercial Cloud Providers							-	B	-	-
6.5. Serialization										
6.5.1. Reasoning / Purpose	5						A	B	-	-
6.5.2. Types										
6.5.2.1. JSON	5						A	B	-	-
6.5.2.2. XML	5						A	B	-	-
6.6. Persistent Storage Functions										
6.7. Develop User Stories	5						2b	b	-	-
6.8. Feasibility Studies							-	B	-	-
7. SOFTWARE CONFIGURATION MANAGEMENT TR: 1D7X1P Learning Program (Percipio)										
7.1. Overview	5						A	B	-	-
7.2. Source Control										
7.2.1. Purpose	5						A	B	-	-
7.2.2. Repositories	5						B	B	-	-
7.2.3. Lock Modify Unlock Model	5						B	B	-	-
7.2.4. Copy Modify Merge Model	5						B	B	-	-
7.2.4.1. Issue Generation	5						B	B		
7.2.4.2. Pull Requests	5						B	B		
7.2.5. Utilize Source Control Tools	5						2b	c	-	-
7.2.6. Versioning										
7.2.6.1. Version Number Scheme							A	B	-	-
7.2.6.2. Release Baselines							-	B	-	-
7.2.6.3. Concurrent Release							-	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	COURSE	COURSE	COURSE
7.3. Software Support Libraries										
7.3.1. Development of Library Modules							-	B	-	-
7.3.2. Use							2b	b	-	-
7.3.3. Maintain							-	B	-	-
8. SOFTWARE SECURITY TR: 1D7X1P Learning Program (Percipio)										
8.1. System Security										
8.1.1. General Overflow Attacks	5						B	B	-	-
8.1.2. Format String Attack	5						B	B	-	-
8.1.3. Fuzzing							-	B	-	-
8.1.4. Safe Functions	5						-	B	-	-
8.1.5. Memory Leaks	5						B	B	-	-
8.1.6. Root Kits							-	B	-	-
8.1.7. Privilege Escalation / Lateral							-	B	-	-
8.1.8. Check Return Values							-	B	-	-
8.1.9. Shellcode							-	B	-	-
8.2. Transport Security										
8.2.1. Session Hijacking							-	B	-	-
8.2.2. Integrity / Checksum Check							-	B	-	-
8.2.3. Cross Site Request Forgery							-	B	-	-
8.3. Encryption										
8.3.1. Block							-	A	-	-
8.3.2. Stream							-	A	-	-
8.3.3. Securely Stored Tokens / Keys / Certificates							-	A	-	-
8.3.4. End to End Encryption							-	A	-	-
8.3.5. RSA							-	A	-	-
8.3.6. Public Key Infrastructure (PKI)							-	A	-	-
8.3.7. Certificates										
8.3.7.1. Certificate Trust Chain							-	A	-	-
8.3.7.2. Certificate Revocation List							-	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	COURSE	COURSE	COURSE
8.3.7.3. Certificate Generation										
8.3.7.3.1. OpenSSL							-	A	-	-
8.3.7.4. Authentication Levels							-	A	-	-
8.4. Malware Reverse Engineering										
8.4.1. Strings (Tools)							-	A	-	-
8.4.2. Virus Total (Tool)							-	A	-	-
8.4.3. Advanced Static Analysis							-	A	-	-
8.4.4. Advanced Dynamic Analysis							-	A	-	-
8.4.5. Wireshark (Tool)							-	A	-	-
8.4.6. Imports / Exports							-	A	-	-
8.4.7. Isolate in Virtual Machine							-	A	-	-
8.5. Common Vulnerabilities and Exposures (CVE)							-	A	-	-
8.6. Information Assurance Vulnerability Alert (IAVA)							-	A	-	-
8.7. Auditing							-	B	-	-
9. SOFTWARE TESTING TR: 1D7X1P Learning Program (Percipio)										
9.1. Documentation										
9.1.1. Test Plans							A	-	-	-
9.1.2. Test Cases										
9.1.2.1. Format							2b	b	-	-
9.1.2.2. Positive Testing							2b	b	-	-
9.1.2.3. Negative Testing							2b	b	-	-
9.1.3. Bug Reporting	5						A	B	-	-
9.2. Testing Types										
9.2.1. Black / White Box Testing							A	-	-	-
9.2.2. Functional Testing										
9.2.2.1. Unit Testing	5						A	B	-	-
9.2.2.2. Integration Testing	5						A	B	-	-
9.2.2.3. System / Regression Testing	5						A	B	-	-
9.2.2.4. Acceptance Testing	5						A	B	-	-
9.2.3. Performance Testing	5						A	B	-	-
9.2.4. End to End Testing	5						A	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	COURSE	COURSE	COURSE
9.2.5. Security Scanning	5						A	B	-	-
9.2.6. Nonfunctional Testing Automation										
9.2.7. GUI Testing	5						A	B	-	-
9.2.8. Web Services / API Testing	5						A	B	-	-
9.3. Continuous Testing	5						A	B	-	-
10. SOFTWARE MAINTENANCE TR: 1D7X1P Learning Program (Percipio)										
10.1. Corrective Bug Management										
10.1.1. Collection	5						A	B	-	-
10.1.2. Prioritization							-	B	-	-
10.2. Error Correction										
10.2.1. Data Entry							-	B	-	-
10.2.2. Correct Logic							2b	b	-	-
10.3. Adaptive										
10.3.1. Migration							-	B	-	-
10.3.2. Redesign							-	B	B	-
10.4. Perfective Periodic Validation										
10.4.1. Federal Requirements (ATO, ATC, etc.)							-	B	-	-
10.4.2. Functional Testing							2b	b	-	-
10.4.3. Security Testing							2b	b	-	-
10.5. Perfective Efficiency Analysis										
10.5.1. Hardware Limitations							-	B	-	-
10.5.2. OS / Host System Limitations							-	B	-	-
10.5.3. Complexity Analysis (Big-O Notation)							-	b	-	-
11. ARCHITECTURE TR: 1D7X1P Learning Program (Percipio)										
11.1. Memory										
11.1.1. Cache Levels							-	-	-	-
11.1.2. Memory Allocation							-	A	-	-
11.1.3. Stack							-	A	-	-
11.1.4. Heap							-	A	-	-
11.1.5. Data Types	5						A	B	-	-
11.2. Character Encoding	5						A	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	COURSE	COURSE	COURSE
11.3. Compilers / Flags							-	B	-	-
12. NETWORKING TR: 1D7X1P Learning Program (Percipio)										
12.1. Network Fundamentals										
12.1.1. Networking RFCs							-	B	-	-
12.1.2. Network Byte Order							-	B	-	-
12.2. Sockets										
12.2.1. BSD Sockets							-	B	-	-
12.2.2. WinSock							-	B	-	-
12.2.3. Pipes							-	B	-	-
12.2.4. FIFOs							-	B	-	-
12.2.5. Websockets							-	B	-	-
12.3. Proxy / Redirection										
12.3.1. Web Proxies							-	A	-	-
12.3.2. Forward Proxy							-	A	-	-
12.3.3. Reverse Proxy							-	A	-	-
12.3.4. Anonymous Proxies							-	A	-	-
12.3.5. Tunneling							-	A	-	-
13. USER EXPERIENCE DESIGN (UXD) TR: 1D7X1P Learning Program (Percipio)										
13.1. User Centered Design							A	B	-	-
13.2. Information Architecture							A	B	-	-
13.3. Interaction Design							A	B	-	-
13.4. Visual Design							A	B	-	-
13.5. Accessibility							A	B	-	-
13.6. Usability							A	B	-	-
14. POWER PLATFORM TR: 1D7X1P Learning Program (Percipio)										
14.1. Overview							A	-	-	-
14.2. Power Apps							B	B	-	-
14.3. Power BI							B	B	-	-
14.4. Power Automate										
14.4.1. Power Automate Fundamentals							B	B	-	-
14.4.2. Create Workflow							2b	b	-	-
14.5. Power Virtual Agents							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	COURSE	COURSE	COURSE
15. WEB DEVELOPMENT TR: 1D7X1P Learning Program (Percipio); http://www.w3.org/standards/webdesign/; https://www.w3.org/WAI/intro/accessibility.php; https://www.usability.gov/; https://www.w3schools.com/tags/; https://www.w3schools.com/html/; https://www.w3schools.com/css/; https://www.w3schools.com/cssref/; https://www.w3schools.com/js/; AF e-Learning: JavaScript Essentials Library ID: sl_jsce_a01_it_enus, HTML & CSS ISBN #9780071496292; Web Design for Dummies ISBN #9781118004906										
15.1. Hypertext Markup Language Code (HTML)										
15.1.1. About							B	B	-	-
15.1.2. Best Practices							B	B	-	-
15.1.3. HTML Structure							2b	b	-	-
15.1.4. Create Elements, Attributes, Headers, and Paragraphs							2b	b	-	-
15.1.5. Use Styles							2b	b	-	-
15.1.6. Use Formatting Elements							2b	b	-	-
15.1.7. Add Links							2b	b	-	-
15.1.8. Use Images							2b	b	-	-
15.1.9. Add Tables							2b	b	-	-
15.1.10. Create Lists							2b	b	-	-
15.1.11. Create Hyperlinks							2b	b	-	-
15.1.12. Add Email Links							2b	b	-	-
15.1.13. Add Comments							2b	b	-	-
15.1.14. Resources							B	B	-	-
15.2. Design Concepts										
15.2.1. Sequential Design							-	B	-	-
15.2.2. Threading							-	b	-	-
15.2.3. Design Patterns (e.g. MVC)	5						A	B	-	-
15.2.4. JavaScript Fundamentals							B			
15.2.5. JavaScript / HTTP Interaction							1b	b	-	-
15.2.6. Intro to JavaScript Frameworks							A	B	-	-
15.2.7. Document Object Model (DOM)							B	B	-	-
15.2.8. Representational State Transfer (REST)							-	B	-	-
15.3. Cascading Style Sheets										
15.3.1. About							B	B	-	-
15.3.2. Syntax							B	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	COURSE	COURSE	COURSE
15.3.3. Selectors							B	B	-	-
15.3.4. Three Ways to Insert Cascading Style Sheet							B	B	-	-
15.3.5. Work with Colors							2b	-	-	-
15.3.6. Work with images							2b	-	-	-
15.3.7. Box Model							B	B	-	-
15.3.8. Use Height and Width Modifications							2b	B	-	-
15.3.9. Use Auto Value							2b	-	-	-
15.3.10. Use Text Modification							2b	-	-	-
15.3.11. Use Icons and Stylesheets							2b	-	-	-
15.3.12. Add Commenting							2b	-	-	-
15.3.13. Resources							B	B	-	-
16. DATABASE TR: 1D7X1P Learning Program (Percipio)										
16.1. Design										
16.1.1. Logical							A	B	-	-
16.1.2. Normalization							A	B	-	-
16.1.3. Denormalization							A	B	-	-
16.1.4. Physical							A	B	-	-
16.1.5. Data Models										
16.1.5.1. Relational							A	B	-	-
16.1.5.2. Key Value							A	B	-	-
16.1.5.3. Document							A	B	-	-
16.1.5.4. Graph							A	B	-	-
16.1.5.5. Column Oriented							A	B	-	-
16.1.6. Transaction Processing										
16.1.6.1. CAP Theorem							-	B	B	-
16.1.6.2. Atomicity, Consistency, Isolation, Durability (ACID)							-	B	B	-
16.1.6.3. Basically Available, Soft State, Eventual Consistency (BASE)							-	B	B	-
16.1.7. Query Performance Tuning							-	B	B	-
16.1.8. Backups							A	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	COURSE	COURSE	COURSE
16.1.9. Restore and Recovery							A	B	-	-
16.2. Objects										
16.2.1. Table							A	B	-	-
16.2.2. View							A	B	-	-
16.2.3. Stored Procedure							A	B	-	-
16.2.4. Trigger							A	B	-	-
16.2.5. Index							A	B	-	-
16.2.6. Query Language Fundamentals							2b	B	-	-
17. CONTAINERIZATION TR: 1D7X1P Learning Program (Percipio)										
17.1. Containerization Technologies							A	-	-	-
17.1.1. Create Container							1b	-	-	-
17.1.2. Container Customization							B	B	-	-
17.1.3. Run Container							2b	-	-	-
17.1.4. Deploy Container							2b	-	-	-
17.1.5. Pull Containers from Repository							2b	-	-	-
17.1.6. Container Management / Clustering							A	B	-	-

1. Implementation. This STS will be used for technical training provided by AETC for the 3-level course.

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	COURSE	COURSE	COURSE
1. ENTERPRISE OPERATIONS CAREER FIELD TR: 1D7X1Q Learning Program (Percipio), AFI 36-2101, 1D7XX CFETP, AFECD										
1.1. Duties of the AFS	5/7						A	B	B	-
2. MAINTENANCE PRACTICES TR: 1D7X1Q Learning Program (Percipio), TO 33K-1-100, and Applicable Test Equipment TOs										
2.1. Test Equipment Theory										
2.1.1. Multimeter	5						A	A	-	-
2.1.2. Time Domain Reflectometry							B	-	-	-
2.1.3. Optical Time Domain Reflectometry	5						B	B	-	-
2.1.4. Bit Error Rate Testing							B	-	-	-
2.1.5. Spectrum Analyzer							-	-	-	-
2.1.6. Local Area Network (LAN) Test Set							A	-	-	-
2.1.7. Network / Protocol Analyzer (Sniffer)							B	-	-	-
2.1.8. Breakout Box							A	A	-	-
2.1.9. Fiber Optic Test Set (Light Source)							A	-	-	-
2.2. Perform Maintenance Using Test Equipment										
2.2.1. Multimeter	5						-	b	-	-
2.2.2. Fiber Optic Test Set (Light Source)							-	-	-	-
2.3. Standard Maintenance Concepts										
2.3.1. Inventory / Accountability Fundamentals							A	-	-	-
2.3.2. Maintenance Documentation	5						A	A	-	-
2.3.3. Installation Standards	5						A	A	-	-
2.3.4. Inspections (PMI)	5/7						A	A	B	-
2.4. Troubleshooting										
2.4.1. Troubleshoot Network Equipment (e.g. IP Data, Voice, Video)							2b	-	-	-
2.4.2. Authorized Service Interruptions (ASIs)							A	B	-	-
2.5. Grounding										
2.5.1. Fundamentals	5						B	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	COURSE	COURSE	COURSE
2.5.2. Verify Proper Grounding (i.e. Equipment / Rack)	5						-	b	-	-
2.5.3. Bonding							A	A	-	-
2.5.4. Shielding							A	A	-	-
2.5.5. Lightning Protection							A	A	-	-
2.6. Cable										
2.6.1. Cable Installation Standards							B	B	-	-
2.6.2. Ethernet Cable Termination							B	B	-	-
2.6.3. Fiber Cable Termination							B	B	-	-
2.7. Electrostatic Discharge (ESD)										
2.7.1. Fundamentals	5						A	A	-	-
2.7.2. Concepts	5						-	A	-	-
2.7.3. Handling, Packaging, and Storing	5						-	A	-	-
3. IP NETWORKING TR: 1D7X1Q Learning Program (Percipio), AFI 36-2101, 1D7XX CFETP, AFECD										
3.1. Enterprise Networking										
3.1.1. Network Virtualization							B	-	-	-
3.1.2. Software Defined Networking							B	-	-	-
3.2. Layer 2 (Switching)										
3.2.1. Switching Application							B	B	-	-
3.2.2. Switching Standards							B	-	-	-
3.2.3. Link Aggregation							A	B	-	-
3.3. Layer 3 (Routing)										
3.3.1. Protocol Application							B	C	-	-
3.3.2. Protocols / Standards							B	-	-	-
3.4. Spanning Tree (STP)										
3.4.1. Fundamentals							A	B	-	-
3.4.2. Application							B	-	-	-
3.4.3. Configure							2b	-	-	-
3.4.4. IEEE 802 Standards							B	C	-	-
3.5. Wireless Networking (WLAN)										
3.5.1. Enterprise Wireless Network Application							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	COURSE	COURSE	COURSE
3.5.2. Enterprise Wireless Protocols / Standards							B	-	-	-
3.5.3. Wireless Access Points Application							B	C	-	-
3.5.4. Configure Extended Service Set Configurations							2b	b	-	-
3.6. Quality of Service (QoS)										
3.6.1. Fundamentals							A	B	-	-
3.6.2. DSCP Fundamentals							A	B	-	-
3.6.3. Configure							2b	-	-	-
3.6.4. Redundancy Fundamentals							A	B	-	-
3.7. IP Network Monitoring										
3.7.1. Network Management Software							B	-	-	-
3.7.2. SNMP							B	C	-	-
3.7.3. Network Traffic Analysis (sFlow, Netflow, jFlow)							B	C	-	-
3.7.4. Implement IP Network Monitoring							2b	-	-	-
3.7.5. Mobile Device Management							A	B	-	-
4. VOICE COMMUNICATIONS TR: 1D7X1Q Learning Program (Percipio), Applicable Commercial Manuals										
4.1. Telephony										
4.1.1. Telephony Fundamentals	5						A	B	-	-
4.1.2. Telephony Capabilities (PSTN, POTS, VOIP, TEAMS)							A	B	-	-
4.2. Call Routing										
4.2.1. Fundamentals							A	-	-	-
4.3. Telephony Switching										
4.3.1. Concepts							A	B	-	-
4.3.2. 911 / E-911							A	-	-	-
5. ENTERPRISE ADMINISTRATIVE FUNCTIONS TR: 1D7X1Q Learning Program (Percipio)										
5.1. Fundamentals of IT										
5.1.1. Fundamentals of IT Documentation							B	B	-	-
5.1.2. Service Level Agreements (SLAs)							A	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	COURSE	COURSE	COURSE
5.1.3. Project Support Agreement (PSA)							-	A	-	-
5.2. Communications Network Trend Analysis										
5.2.1. Identify							-	B	-	-
5.2.2. Analyze							-	B	-	-
5.3. Communications Security (COMSEC)										
5.3.1. COMSEC Inventory Procedures							b	-	-	-
5.3.2. Perform Key Transfer Using Common Fill Device							2b	-	-	-
6. ENCRYPTION / DECRYPTION TR: Applicable Commerial Manuals										
6.1. Crypto Devices										
6.1.1. Fundamentals							A	A	B	-
6.1.2. Configure / Use IP Crypto Equipment							2b	-	-	-
6.2. Crypto Keys										
6.2.1. Symmetric and Asymmetric Keys							A	-	-	-
7. CRITICAL COMMUNICATIONS FACILITIES POWER SYSTEMS TR: 1D7X1Q Learning Program (Percipio), Applicable Commercial Manuals										
7.1. Power Systems										
7.1.1. Uninterrupted Power Supplies (UPS)	5						A	B	-	-
7.1.2. Facility Battery Backups	5						A	B	-	-
7.1.3. Generators	5						A	B	-	-
7.2. Long Haul Communications Fundamentals	5						A	B	-	-
7.3. AOR Power Requirements							-	B	-	-
8. INFORMATION PROTECTION OPERATIONS TR: 1D7X1Q Learning Program (Percipio)										
8.1. Security										
8.1.1. Information Protection Principles							A	A	-	-
8.1.2. Rules of Engagement							A	-	-	-
8.1.3. Assessment and Authorization							A	-	-	-
8.1.4. Event Response							A	-	-	-
8.1.5. Security Patch Implementation							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	COURSE	COURSE	COURSE
8.1.6. Malicious Logic Protection							A	-	-	-
8.2. Defense in Depth										
8.2.1. Concept	5						A	B	-	-
8.2.2. Steps							A	-	-	-
8.3. Boundary Protection										
8.3.1. Principles							A	B	-	-
9. INFORMATION TECHNOLOGY SYSTEMS FUNDAMENTALS TR: 1D7X1Q Learning Program (Percipio)										
9.1. Programming Languages	5						A	B	-	-
9.2. Graphical User Interfaces (GUI)	5						A	B	-	-
9.3. Cross Domain Data Solutions	5						A	A	-	-
9.4. Memory Structure	5						A	B	-	-
9.5. Interrupt Requests (IRQ)	5						A	B	-	-
9.6. Drivers	5						A	B	-	-
9.7. Basic Input / Output System (BIOS)	5						A	B	-	-
9.8. Memory	5						A	B	-	-
9.9. Complementary Metal Oxide Semiconductor (CMOS)	5						A	B	-	-
10. SERVERS TR: 1D7X1Q Learning Program (Percipio)										
10.1. Hardware										
10.1.1. Storage Types	5						B	B	-	-
10.1.2. System Storage Configuration	5						A	B	-	-
10.1.3. I / O Technologies							A	B	-	-
10.1.4. Blade / Backplane Technologies	5						A	B	-	-
10.2. Virtualization Overview										
10.2.1. Concepts	5						B	B	-	-
10.2.2. Server Virtualization	5						B	B	-	-
10.2.3. Virtualization Environment	5						B	B	-	-
10.2.4. Client Virtualization	5						B	B	-	-
10.2.5. Implement Virtualization							2b	-	-	-
10.2.6. Operating Systems										

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	COURSE	COURSE	COURSE
10.2.6.1. Types and Characteristics	5						B	B	-	-
10.2.6.2. PMO Systems	5						B	B	-	-
10.2.6.3. Configure Common Server Roles	5						2b	b	-	-
10.2.6.4. Perform basic Shell configurations	5						2b	b	-	-
10.2.6.5. Configure Basic Cmd Line Programs	5						2b	b	-	-
10.2.6.6. Configure Basic Account Management functions	5						2b	b	-	-
10.2.6.7. Perform Basic Hardening procedures	5						2b	b	-	-
10.2.6.8. Perform Basic Process Management functions	5						2b	b	-	-
10.2.6.9. Linux	5						B	B	-	-
10.2.7. Applications										
10.2.7.1. Remote Access							A	B	-	-
10.2.8. Database										
10.2.8.1. Flat File							A	B	-	-
10.2.8.2. Relational							A	B	-	-
10.2.8.3. NoSQL							A	B	-	-
10.2.8.4. Schema							A	B	-	-
10.2.8.5. Compile Basic SQL Query and Reports							2b	-	-	-
10.2.9. Web Fundamentals										
10.2.9.1. Language Types							B	B	-	-
10.2.9.2. Web Services							A	B	-	-
10.2.9.3. Web Security							A	B	-	-
10.3. Disaster / Contingency / Operational / Crisis										
10.3.1. Backup / Restore Process							A	B	-	-
10.3.2. Offsite Storage							A	B	-	-
10.3.3. Continuity of Operations (COOP)							A	B	-	-
10.3.4. Priority Restoration Plan							A	B	-	-
10.3.5. Alternate Power							A	B	-	-
10.3.6. Startup and Shutdown Procedures	5						2b	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	COURSE	COURSE	COURSE
11. NETWORKED SYSTEMS TR: 1D7X1Q Learning Program (Percipio)										
11.1. Network Authentication										
11.1.1. Components of Public Key Infrastructure (PKI)							A	B	-	-
11.1.2. Biometrics	5						A	B	-	-
11.2. Systems Management	5						A	B	-	-
11.3. Event Response										
11.3.1. Incident / Event Reporting	5						A	B	-	-
11.3.2. Perform Incident Response	5						2b	b	-	-
11.4. Network Operations (NetOps) Monitoring										
11.4.1. Monitor System Resources	5						2b	b	-	-
11.4.2. Identify Event Logging Tools							A	B	-	-
12. ENTERPRISE BOUNDARY CONCEPTS TR: 1D7X1Q Learning Program (Percipio)										
12.1. Types and Characteristics	5						A	B	-	-
12.2. Boundary Interaction Tools							A	B	-	-
13. VULNERABILITY MANAGEMENT TR: 1D7X1Q Learning Program (Percipio)										
13.1. Air Force Standard Vulnerability Assessment (VA)										
13.1.1. Functions	5						A	B	-	-
13.1.2. Base Roles							A	B	-	-
13.1.3. NOS Roles							A	B	-	-
13.1.4. Describe DISA requirements							A	B	-	-
13.1.5. Describe Assessment and Authorizations (A&A) Requirements							A	B	-	-
13.2. Air Force Standard Vulnerability Assessment (VA) Tools										
13.2.1. Functions and Capabilities							B	B	-	-
13.2.2. Review a Vulnerability Scan	5						2b	b	-	-
13.3. Patch Management										
13.3.1. Purpose							A	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	COURSE	COURSE	COURSE
13.3.2. Client Install and Uninstall							2b	-	-	-
13.3.3. Install Security Patches							2b	-	-	-
13.3.4. Utilize Dashboard for Reporting							2b	-	-	-
14. INTRUSION CONTROLS TR: 1D7X1Q Learning Program (Percipio)										
14.1. Types and Characteristics	5						A	B	-	-
14.2. Intrusion Detection Methods	5						B	B	-	-
14.3. Intrusion Detection Tools	5						B	B	-	-
14.4. Respond to an Incident							2b	-	-	-
14.5. End Point Protection										
14.5.1. Functions	5						A	B	-	-
14.5.2. Configure End Point Client							2b	-	-	-
14.6. Network Based Intrusion Detection System Functions	5						A	B	-	-
14.7. Troubleshooting										
14.8. Hardware	5						-	b	-	-
14.9. Troubleshoot basic OS and Applications issues	5						2b	b	-	-
14.10. Troubleshoot basic OS and Startup Problems	5						2b	b	-	-
14.11. Troubleshoot Network issues	5						2b	b	-	-
15. CYBER COLLABORATION, PUBLICATIONS, AND DIRECTIVES TR: 1D7X1Q Learning Program (Percipio), AFI 33-360										
15.1. Cyber Taskings (MPTOs, CTOs, etc.)	5						B	B	-	-
15.2. Collaborative Environments	5						A	B	-	-
16. IDENTITY CREDENTIALING AND ACCESS MANAGEMENT (ICAM) TR: 1D7X1Q Learning Program (Percipio), AFMAN 17-1304										
16.1. Roles and Responsibilities							A	B	-	-
16.2. Essential Components and Factors of ICAM Program	5						A	A	-	-
17. COMPUTER SECURITY (COMPUSEC) TR: 1D7X1Q Learning Program (Percipio), AFI 17-130, AFMAN 171301, MPTO 00-33B-5006										
17.1. Training and Resources	5						A	A	-	-
17.2. End Point Security	5						A	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	COURSE	COURSE	COURSE
18. RISK MANAGEMENT FRAMEWORK (RMF) TR: 1D7X1Q Learning Program (Percipio); RMF Knowledge Service; AFI 17-101; DoD 8510.01; FIPS 199, 200; SPs 800-53, 800-37, 800-53A, 800-60, 800-64; CNSSI 1253										
18.1. Program Overview	5						A	A	-	-
18.2. Air Force IT Category (AFI driven) / DoD IT Types (DoD driven)	5						A	A	-	-
18.3. Security Objectives	5						A	B	-	-
18.4. Roles and Responsibilities	5						A	B	-	-
18.5. System Development Lifecycle	5						A	A	-	-
19. TEMPEST PROGRAM MANAGEMENT TR: 1D7X1Q Learning Program (Percipio); AFMANs 17-1305 Vol 1 (Unclass) & Vol 2 (Classified) (in development), 33-214 (Classified) (IACE: http://intelshare.intelink.sgov.gov/sites/af_cybersecurity/SitePages/Home.aspx); Emission Security handbook; DISA Wireless STIG; MPTOs 00-33B-2861, 00-33B-2862, 00-33B-2863; AFSSIs 7700, 7702, 7703; TEMPEST Wiki: https://cs2.eis.af.mil/sites/10060/Wiki/TEMPEST.aspx									
19.1. Roles and Responsibilities	5						A	A	-	-
19.2. TEMPEST Information Messages	5						-	A	-	-
20. COMMUNICATIONS SECURITY (COMSEC) MANAGEMENT TR: 1D7X1Q Learning Program (Percipio); AFI 17-130; AFMAN 1-71302-O; TO 00-33-B-5001; AFSSIs 3000-series; DOC 042-12; CNSSIs 4003, 4004, 4005; DoDI 5210.82; CJCSIs 3260.01, 3260.02										
20.1. Purpose	5						A	A	-	-
20.2. COMSEC Role Requirements / Responsibilities										
20.2.1. KMI Operating Account Manager (KOAM)							A	A	A	-
20.2.2. COMSEC Clerks	5						A	A	-	-
20.2.3. Role Exclusion							-	A	-	-
20.2.4. Procedures and Process Management										
20.2.4.1. COMSEC Material Request	5						-	A	-	-
20.2.4.2. COMSEC Material Issuance	5						-	A	-	-
20.2.4.3. Record Maintenance and Disposition	5						-	A	-	-
20.2.5. COMSEC Training Program										
20.2.6. Additional Protection Measures (Photography, Personal Electronics, Public Display)	5						-	B	-	-
20.2.7. Accounting Legend Codes (ALC)	5						-	B	-	-
20.3. Cryptographic Access Program (CAP)										
20.3.1. Purpose	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	COURSE	COURSE	COURSE
20.4. Physical Security Principles for Handling COMSEC Material										
20.4.1. Authorized Access	5						-	B	-	-
20.4.2. Physical Security Handling Requirements	5						-	B	-	-
20.4.3. COMSEC Forms	5						A	B	-	-
20.4.4. COMSEC Access List	5						A	B	-	-
20.4.5. Emergency Action Plans (EAPs)							A	B	-	-
20.5. Destruction of COMSEC Material, Aids, and Equipment										
20.5.1. Disposition	5						A	A	-	-
20.5.2. Destruction	5						A	B	-	-
20.6. Control of Top Secret (TS) Keying Material										
20.6.1. Two Person Integrity (TPI) Handling Procedures	5						-	B	-	-
20.6.2. TPI Material Storage Requirements	5						-	B	-	-
20.6.3. Tactical Situations Storage Requirements	5						-	A	-	-
20.6.4. Transportation Requirements for TPI	5						-	A	-	-
20.7. COMSEC Incidents										
20.7.1. Introduction							A	-	-	-
20.7.2. Incident Types / Concepts	5						-	A	-	-
20.7.3. Incident Reporting	5						-	A	-	-
20.7.4. Disposal of Material Involved in a COMSEC Incident	5						-	A	-	-
20.8. COMSEC Audits	5						-	B	-	-
20.9. Secure Voice Program	5						A	B	-	-
21. OPERATIONAL PROCEDURES TR: 1D7X1Q Learning Program (Percipio); AFI 32-1065; American Public Works Association Policy and ANSI; MIL-STD 2000A; TOs 00-25-234; 31-1-141-1, 31-10-7; 31-10-11; 31-10-13, 31-10-24, and 31W3-10-20										
21.1. Standard Maintenance Practices										
21.1.1. End User Support	5						A	B	-	-
21.1.2. Wire Color Coding Standards	5						A	B	-	-
21.1.3. Construct Copper Ethernet Cable							-	b	-	-
21.2. Specialized Tools TR: Applicable Technical Manuals										

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	COURSE	COURSE	COURSE
21.2.1. Crimp Tool							-	A	-	-
21.2.2. Use Crimp Tool							-	b	-	-
22. SOFTWARE TR: 1D7X1Q Learning Program (Percipio), MAJCOM / Local Procedures, Applicable Technical Publications, AFI 17-130, TO 00-33A-1202, AFNET Procedures, AFJQS 1D7XX- 200DR										
22.1. Account Management										
22.1.1. Account Management Systems	5						B	B	-	-
22.1.2. Manage Computer Accounts							2b	-	-	-
22.1.3. Account Types							A	-	-	-
22.2. Access Management										
22.2.1. Add to Domain	5						2b	b	-	-
22.2.2. Manage Security Groups							2b	-	-	-
22.2.3. Manage Limited Access Accounts							2b	-	-	-
22.2.4. Group Policy										
22.2.4.1. Principles	5						B	B	-	-
22.2.4.2. Query Group Policies							-	b	-	-
22.2.4.3. Apply Group Policy							2b	-	-	-
22.3. Applications										
22.3.1. Cyber Sustainment										
22.3.1.1. Install and Configure General Client Applications							2b	-	-	-
22.3.1.2. Software Updates	5						B	B	-	-
22.3.2. Cyber Hygiene										
22.3.2.1. Install and Configure Anti-virus Software and Virus Definitions	5						2b	b	-	-
22.3.2.2. Harden Device	5						2b	b	-	-
22.3.3. Specialized Software										
22.3.3.1. Install Specialized Client Applications							2b	-	-	-
22.3.3.2. Configure Specialized Client Applications							2b	-	-	-
22.3.3.3. Software Management Policies	5						A	B	-	-
22.4. System Recovery Troubleshooting										

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	COURSE	COURSE	COURSE
22.4.1. Use Control Panel Functions							2b	-	-	-
22.4.2. Use Computer Management Tools							2b	-	-	-
23. LOCAL AND NETWORKED SOLUTIONS TR: 1D7X1Q Learning Program (Percipio); MAJCOM / Local Procedures; Applicable Technical Publications; AF e-Learning: Networking Fundamentals: Configuring Wired and Wireless Networks and Firewalls, CompTIA A+ 220-1001: Configuring a Wired / Wireless Network, CompTIA A+ 220-1001: Networking, CompTIA A+ 220-1001: Network Types										
23.1. Network Connected Devices										
23.1.1. Add Device to Network	5						2b	b	-	-
23.1.2. Configure Multifunction Devices							2b	-	-	-
23.1.3. Map Client System to Network Device	5						2b	b	-	-
23.2. Methods of Interfacing RF Devices with IP Networks							A	A	-	-
24. STANDARD PRACTICES TR: 1D7X1Q Learning Program (Percipio); AFI 32-1065; American Public Works Association Policy and ANSI; TOs 00-25-234, 31-10-7, 31-10-11, 31- 10-13, 31-10-24, 31-141-1, 31W3 10-20; MIL-STD 2000A										
24.1. Radio Theory							A	B	-	-
24.2. Radio Etiquette							A	-	-	-
25. LAND MOBILE RADIO (LMR) TRANSMISSION SYSTEMS TR: 1D7X1Q Learning Program (Percipio), Applicable TOs, Commercial Manuals										
25.1. Conventional LMR Systems	5						-	A	-	-
25.2. Trunked LMR Systems	5						-	A	-	-
25.3. Enterprise LMR Systems	5						-	A	-	-
25.4. LMR Systems Encryption	5						-	A	-	-
25.5. Program LMRs							-	-	-	-
26. INSTALLATION NOTIFICATION AND WARNING SYSTEMS (GIANT VOICE) TR: AFI 10-2501, Commercial Manuals										
26.1. Principles, Capabilities, and Limitations							-	-	-	-
27. SATELLITE COMMUNICATIONS (SATCOM) TR: 1D7X1Q Learning Program (Percipio), CJCSI 6250.01, Applicable DISA Circulars, USSTRATCOM Wideband Standards and Operating Procedures										
27.1. Satellite System Segments Principles, Capabilities, and Limitations							A	B	-	-
27.2. Line of Sight Microwave Radio Systems Principles, Capabilities, and Limitations							A	B	-	-
28. CABLE SPLICING TR: 1D7X1Q Learning Program (Percipio); TOs 31W3-101-21, 31-10 Series; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable% 20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										

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	COURSE	COURSE	COURSE
28.1. Modular Splicing System							A	A	-	-
28.2. Plastic-Sheath Plastic-Insulated Cable							A	A	-	-
29. FIBER OPTICS TR: 1D7X1Q Learning Program (Percipio), TO 31-10-34, TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna% 20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
29.1. Theory of Fiber Optic Lightwave Communication	5						A	B	-	-
30. NETWORK DISTRIBUTION SYSTEMS TR: 1D7X1Q Learning Program (Percipio); Commercial Manuals; ANSI/TIA-568 series, 569, 570, 606, 607; TIA-TSB 67, 72; AF e-Learning; TO 00-33D-3003; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
30.1. Principles of LAN / WAN Distribution Systems	5						A	B	-	-
30.2. Principles of Intra-Building Wiring Distribution System	5						A	B	-	-
31. ANTENNA SYSTEMS TR: 1D7X1Q Learning Program (Percipio); TOs 31-1-141 Series, 31-10-14, 31R2-2GRC-1232, 31-10-3, 31R5-4-142-2; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
31.1. Antenna Fundamentals	5						A	B	-	-
31.2. Antenna Types and Characteristics	5						A	B	-	-
32. CONFINED SPACES BASICS TR: 1D7X1Q Learning Program (Percipio); AFI 91-203; TOs 31W3-10-21, 31-10-6, 31-10-13, 31-10-12, 31-10-3; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
32.1. Confined Spaced Fundamentals	5						A	B	-	-
32.2. Confined Spaces Safety	5						A	B	-	-
32.3. Confined Spaces Entry Documentation							A	B	-	-

1. Implementation. This STS will be used for technical training provided by AETC for the 3-level course.

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	COURSE	COURSE	COURSE
1. MISSION DEFENSE ACTIVITIES (MDA) TR: 1D7X1M Learning Program (Percipio)										
1.1. Duties of the AFS							A	-	B	-
2. PUBLICATIONS AND DIRECTIVES TR: 1D7X1M Learning Program (Percipio)										
2.1. Title Authorities							A	B	-	-
2.2. Title Authorities Application							A	B	-	-
2.3. USCYBERCOM Structure							A	B	-	-
2.4. AFCYBER Structure							A	B	-	-
2.5. Cyber Protection Teams							A	B	-	-
2.6. Cyber National Mission Force							A	B	-	-
2.7. Preapproved Actions							A	B	-	-
3. CYBER ENCLAVE TR: 1D7X1M Learning Program (Percipio)										
3.1. Functional Mission Analysis Cyber (FMA-C)							B	B	-	-
3.2. Structure							A	B	-	-
3.3. Missions							A	B	-	-
3.4. Offensive Cyberspace Operations							A	B	-	-
3.5. Defensive Cyberspace Operations							A	B	-	-
3.6. Exploitation							A	B	-	-
3.7. Effects on Adversary Decision Makers							A	B	-	-
4. ENTERPRISE SYSTEMS / PROGRAMS TR: 1D7X1M Learning Program (Percipio)										
4.1. Define Non-Secure Networks							A	B	-	-
4.2. Define Secure Networks							A	B	-	-
4.3. Nuclear Command, Control, and Communications Systems							A	B	-	-
4.4. Space Systems							A	B	-	-
4.5. Airborne Networks							A	B	-	-
4.6. Battlefield Networks							A	B	-	-
5. CYBER SECURITY TR: 1D7X1M Learning Program (Percipio)										
5.1. Risks,Threats, and Vulnerabilities							A	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	COURSE	COURSE	COURSE
5.2. Network Security							A	B	-	-
5.3. Firewalls										
5.3.1. Concepts							-	B	-	-
5.3.2. Configure							2b	-	-	-
5.3.3. Logging							A	B	-	-
5.3.4. Rule Tracing							A	B	-	-
5.3.5. Boundary Interaction Tools							B	B	-	-
6. NETWORK FUNDAMENTALS TR: 1D7X1M Learning Program (Percipio)										
6.1. Packet Capture							B	B	-	-
6.2. Principles of Packet Analysis							A	B	-	-
6.3. Perform Packet Analysis							2b	-	-	-
7. SWITCHING AND ROUTING TR: 1D7X1M Learning Program (Percipio)										
7.1. ACL							B	B	-	-
7.2. Configure ACL							2b	-	-	-
8. APPLIANCE (SERVER) DEFENSE TR: 1D7X1M Learning Program (Percipio)										
8.1. Services Concepts							A	B	-	-
8.2. Processess Concepts							A	B	-	-
8.3. DLL Concepts							A	B	-	-
8.4. Registry Hive Concepts							A	B	-	-
8.5. Monitor System Resources							A	B	-	-
8.6. Identify Event Logging Tools							A	B	-	-
8.7. Virtualization							A	B	-	-
9. CLIENT SYSTEMS TR: 1D7X1M Learning Program (Percipio)										
9.1. Infectious and Malicious Software							B	B	-	-
9.2. Registry Hive Concepts							A	B	-	-
9.3. Identify Event Logging Tools							A	B	-	-
10. ICS AND SCADA TR: 1D7X1M Learning Program (Percipio)										
10.1. ICS Concepts							B	B	-	-
10.2. SCADA Concepts							B	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	COURSE	COURSE	COURSE
10.3. ICS / SCADA Protocols							A	B	-	-
10.4. ICS / SCADA Vulnerabilities							A	B	-	-
10.5. ICS / SCADA Attacks							A	B	-	-
10.6. COINE - CE Monitoring System							A	B	-	-
11. INTERNET PROTOCOL (IP) NETWORKING TR: 1D7X1M Learning Program (Percipio)										
11.1. OSI Reference Model							B	B	-	-
11.2. Fundamentals of Protocols							B	B	-	-
11.3. TCP / UDP Comparison							A	B	-	-
11.4. Wireless Standards							A	B	-	-
11.5. Ports							B	B	-	-
11.6. Sockets										
11.6.1. Client Sockets							A	B	-	-
11.6.2. Server Sockets							A	B	-	-
11.7. Proxy / Redirection										
11.7.1. Web Proxies							A	B	-	-
11.7.2. Forward Proxy							A	B	-	-
11.7.3. Reverse Proxy							A	B	-	-
11.7.4. Anonymous Proxies							A	B	-	-
11.7.5. Tunneling							A	B	-	-
11.8. Protocols							B	B	-	-
11.9. Services							B	B	-	-
11.10. Secure Protocols										
11.10.1. SSH							A	B	-	-
11.10.2. SSL / TLS							A	B	-	-
11.10.3. Secure FTP Versions							A	B	-	-
11.10.4. HTTP / HTTPS							A	B	-	-
11.10.5. PKI							B	B	-	-
11.10.6. Virtual Private Network (VPN)										
11.10.6.1. Concepts							A	B	-	-
11.10.6.2. Install and Configure Air Force Approved VPN							A	B	-	-
11.10.6.3. Perform basic Network Troubleshooting							A	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	COURSE	COURSE	COURSE
11.10.6.4. Secure a VPN							A	B	-	-
11.10.6.5. End-to-End Encryption							A	B	-	-
11.10.6.6. Benefits							A	B	-	-
11.10.6.7. Disadvantages							A	B	-	-
11.10.6.8. End point Access							A	B	-	-
11.10.6.9. Architecture							A	B	-	-
12. INFORMATION PROTECTION OPERATIONS TR: 1D7X1M Learning Program (Percipio)										
12.1. Information Protections Principles							A	B	-	-
12.2. Rules of Engagement							B	B	-	-
12.3. Assessment and Authorization							A	B	-	-
12.4. Security Patch Implementation							B	B	-	-
12.5. Malicious Logic Protection							A	B	-	-
12.6. Deploy Security Patches							2b	2b	-	-
12.7. Intel Driven Patching							B	B	-	-
13. CONCEPTS AND IMPACTS OF STIGS WITHIN THE MDA ARENA TR: 1D7X1M Learning Program (Percipio)										
13.1. Switches							B	B	-	-
13.2. Routers							B	B	-	-
13.3. VOIP							B	B	-	-
13.4. Servers							B	B	-	-
13.5. Clients							B	B	-	-
14. VULNERABILITY MANAGEMENT TR: 1D7X1M Learning Program (Percipio)										
14.1. Functions							A	A	-	-
14.2. Base Roles							A	A	-	-
14.3. NOS Roles							B	B	-	-
14.4. Describe Assessment and Authorizations Requirements							B	B	-	-
14.5. Functions and Capabilities of ACAS							A	B	-	-
14.6. Review a Vulnerability Scan							A	B	-	-
14.7. Identify Most Vulnerable Systems							2b	-	-	-

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	COURSE	COURSE	COURSE
14.8. Vulnerability Remediation							B	B	-	-
14.9. STIG Assessments							B	B	-	-
14.10. Endpoint Security										
14.10.1. Monitoring							B	B	-	-
14.10.2. Analysis							B	B	-	-
14.10.3. Remediation							B	B	-	-
14.10.4. Reporting							B	B	-	-
14.11. Standard Desktop Configuration (SDC)										
14.11.1. SDC Build Limitations							A	B	-	-
15. INTRUSION CONTROLS TR: 1D7X1M Learning Program (Percipio)										
15.1. Types and Characteristics							-	B	-	-
15.2. Intrusion Detection Methods							A	B	-	-
15.3. Intrusion Detection Tools							A	B	-	-
16. SOFTWARE TR: 1D7X1M Learning Program (Percipio)										
16.1. Linux										
16.1.1. Basic Commands / Navigation							A	B	-	-
16.1.2. Basic File Structure							A	B	-	-
16.1.3. Linux Access Control Models							A	B	-	-
16.2. Windows Operating Systems										
16.2.1. Basic Commands / Navigation							A	B	-	-
16.2.2. Role Based Access Controls							A	B	-	-
16.3. Virtual Desktop Interface (VDI)										
16.3.1. Principles of VDI Infrastructure							A	B	-	-
17. SOFTWARE DEVELOPMENT TR: 1D7X1M Learning Program (Percipio)										
17.1. Fundamentals							B	B	-	-
17.2. Powershell							B	B	-	-
17.3. Shells							A	B	-	-
17.4. Scripting							B	B	-	-
17.5. Build a Script Using Powershell							2b	-	-	-

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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	COURSE	COURSE	COURSE
18. SOFTWARE DEVELOPMENT PROCESS TR: 1D7X1M Learning Program (Percipio)										
18.1. Development Repositories							A	B	-	-
18.2. Repository Best Practices							A	B	-	-
18.3. Software Development Methodologies							A	B	-	-
18.4. Stages of Software Development							A	B	-	-
18.5. Automation							B	B	-	-
18.6. Automate Patch Deployment							2b	-	-	-
19. SOFTWARE SECURITY TR: 1D7X1M Learning Program (Percipio)										
19.1. Secure Coding Techniques							A	B	-	-
20. SOFTWARE TESTING TR: 1D7X1M Learning Program (Percipio)										
20.1. Application Fuzzing							A	A	-	-
20.2. Regresion Testing							A	A	-	-
21. SOFTWARE MAINTENANCE TR: 1D7X1M Learning Program (Percipio)										
21.1. Software Diversity							A	B	-	-
22. DATABASE TR: 1D7X1M Learning Program (Percipio)										
22.1. Principles of Database Utilization							A	B	-	-
22.2. Data Validation							A	B	-	-
22.3. SQL Injection							A	B	-	-
22.4. Code Injection							A	B	-	-
22.5. Cross Site Scripting							A	B	-	-
23. ARCHITECTURE / NETWORKING TR: 1D7X1M Learning Program (Percipio)										
23.1. Networking RFCs							A	B	-	-
23.2. Network Byte Order							A	B	-	-
24. NETWORKING AND NETWORK MONITORING TR: 1D7X1M Learning Program (Percipio)										
24.1. Network Management Software							A	B	-	-
24.2. SNMP v3							A	B	-	-
25. MITRE ATT&CK FRAMEWORK TR: 1D7X1M Learning Program (Percipio)										

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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	COURSE	COURSE	COURSE
25.1. Principles of the ATT&CK Framework							B	B	-	-
25.2. Navigating the ATT&CK Framework							B	B	-	-
25.3. Understanding Analytics							B	B	-	-
26. DIAMOND MODEL OF INTRUSION ANALYSIS TR: 1D7X1M Learning Program (Percipio)										
26.1. Principles of the Diamond Model							A	B	-	-
27. CYBER KILL CHAIN TR: 1D7X1M Learning Program (Percipio)										
27.1. 7 Phases of a Cyber Attack							A	B	-	-
28. BASELINE OF SYSTEMS METHODOLOGIES TR: 1D7X1M Learning Program (Percipio)										
28.1. Tools to Baseline Systems (WMIC / Powershell)							A	B	-	-
28.2. Data Types Captured From a System							B	B	-	-
28.3. Perform a System Baseline							2b	-	-	-
29. CYBER INTELLIGENCE TR: 1D7X1M Learning Program (Percipio)										
29.1. Intelligence Sources							A	B	-	-
29.2. Indicators of Compromise							A	B	-	-
29.3. How to Leverage IOCs							B	B	-	-
29.4. Pyramid of Pain							A	B	-	-
29.5. Scan a System for IOCs from Intel Product							2b		-	-
30. SECURITY EVENT INFORMATION MANAGER (SEIM) TR: 1D7X1M Learning Program (Percipio)										
30.1. Foundations of a SEIM							A	B	-	-
30.2. Sensors							A	B	-	-
30.3. Log Sources							A	B	-	-
30.4. Alerts							A	B	-	-
30.5. Storage Considerations (Log Rollover Rate)							A	B	-	-
31. INCIDENT RESPONSE TR: 1D7X1M Learning Program (Percipio)										
31.1. Incident Reponse Methodologies							A	B	-	-
31.2. SOPs							A	B	-	-

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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	COURSE	COURSE	COURSE
31.3. Categorizing Events							A	B	-	-
31.4. Roles and Procedures							A	B	-	-
31.5. Reporting Chain							A	B	-	-
31.6. Responding to an Incident							A	B	-	-
31.7. Perform Incident Reponse							2b	-	-	-
31.8. Reporting During / After an Incident							A	B	-	-
31.9. Perform Incident Reporting							2b	-	-	-

1. Implementation. This STS will be used for technical training provided by AETC for the 3-level course.

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	COURSE	COURSE	COURSE
1. EXPEDITIONARY COMMUNICATIONS TR: 1D7X1W Learning Program (Percipio)										
1.1. Duties of AFS							A	B	B	-
2. SAFETY / RISK MANAGEMENT (RM) TR: 1D7X1W Learning Program (Percipio); AFIs 32-1065, 90-802, 91-202; AFMAN 91-203; AFPAM 90-803; AFPD 91-2; MIL-STD 188-124B										
2.1. Climbing and Working Aloft							-	-	-	-
2.2. Radio Frequency Radiation							A	B	C	-
2.3. DoD Electromagnetic Environmental Effects (E3) Program							-	A	B	-
2.4. Lightning Protection and Grounding							A	-	-	-
3. BASIC ELECTRONICS TR: 1D7X1W Learning Program (Percipio)										
3.1. Metric Notation							A	A	A	-
3.2. Decibel Math (Logarithmic Power Calculation)							A	B	B	-
3.3. Conduct Logarithmic Power Calculation							2b	-	-	-
3.4. Prefixes							A	A	-	-
3.5. Fundamentals of Electricity							B	B	C	-
3.6. Component and Device Theory							A	B	B	-
3.7. Wave Generating Circuits							A	A	-	-
3.8. Digital Circuits							A	A	-	-
4. CABLE FUNDAMENTALS TR: 1D7X1W Learning Program (Percipio)										
4.1. Wire Color Coding Standards							A	A	B	-
4.2. Fiber Optic Cable							B	B	-	-
4.3. Twisted Pair							A	A	-	-
4.4. Coaxial Cable							B	B	-	-
4.5. Shielding							A	B	-	-
4.6. Labeling							A	B	B	-
4.7. Build Ethernet Cable							2b	-	-	-
4.8. Build Coax Cable							2b	-	-	-
4.9. Coax Testing							A	B	-	-
4.10. Perform Cable Testing							2b	-	-	-

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	COURSE	COURSE	COURSE
5. LONG HAUL COMMUNICATIONS CONCEPTS TR: 1D7X1W Learning Program (Percipio)										
5.1. Global Circuit and Transport Concepts										
5.1.1. Terrestrial Transport Methods										
5.1.1.1. Enterprise Networks							B	B	C	-
5.1.1.2. DISA Circuits							A	A	B	-
5.1.1.3. Commercial ISPs							A	A	B	-
5.1.2. Wireless Long Haul Fundamentals										
5.1.2.1. LOS							A	A	B	-
5.1.2.2. SATCOM							A	A	B	-
5.1.2.3. Troposcatter							A	A	B	-
6. ENCRYPTION / DECRYPTION TR: 1D7X1W Learning Program (Percipio)										
6.1. Crypto Keys										
6.1.1. Pre Placed Key (PPK)							A	A	B	-
6.1.2. Firefly Vector Set							A	A	B	-
6.2. Key Roles										
6.2.1. Traffic Encryption Keys (TEK)							A	A	B	-
6.2.2. Key Encryption Keys (KEK)							A	A	B	-
6.2.3. TrKEK							A	A	B	-
7. RF TRANSMISSION FUNDAMENTALS TR: 1D7X1W Learning Program (Percipio), AFI 36-2101, 1D7XX CFETP, AFECD										
7.1. Radio Theory										
7.1.1. Transmitters							A	A	-	-
7.1.2. Receivers							A	A	-	-
7.1.3. Transceivers							A	A	-	-
7.1.4. RF Transmission Mediums							A	B	C	-
7.2. Modulation Techniques										
7.2.1. Understand Modulation							B	B	C	-
7.2.2. Amplitude Modulation							B	B	-	-
7.2.3. Frequency Modulation							B	B	-	-
7.2.4. Digital Modulation							A	B	C	-
7.3. RF Spectrum										
7.3.1. Frequency Bands and Characteristics							A	B	C	-

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	COURSE	COURSE	COURSE
7.3.2. Joint Spectrum Interference Resolution (JSIR) Program							-	A	B	-
7.3.3. Air Force Spectrum Interference Resolution (AFSIR) Program							-	A	B	-
7.4. Electromagnetic Wave Propagation Theory										
7.4.1. Radio Wave Propagation Principles							B	B	C	-
7.4.2. Refraction							A	B	-	-
7.4.3. Reflection							A	B	-	-
7.4.4. Diffraction							A	B	-	-
7.4.5. Skywave Fundamentals							A	B	C	-
7.5. Signal Loss										
7.5.1. Path Loss							A	B	-	-
7.5.2. Atmospheric Attenuation							A	B	-	-
7.5.3. Multipathing							A	B	-	-
7.5.4. Free Space Loss							A	B	C	-
7.5.5. Anomalous Propagation							A	B	C	-
7.5.6. Solar Emissions and Effects							A	B	-	-
8. TEST EQUIPMENT TR: 1D7X1W Learning Program (Percipio)										
8.1. Multimeter							2b	B	-	-
8.2. Built-in Test Equipment							A	A	-	-
8.3. Communication Systems Analyzer							2b	A	-	-
8.4. Dummy Load							A	A	-	-
8.5. VSWR Tester							A	A	-	-
8.6. Compass / Inclinometer							2b	A	-	-
9. ANTENNA FUNDAMENTALS TR: 1D7X1W Learning Program (Percipio)										
9.1. Antenna RF Propagation Theory										
9.1.1. Fundamentals of Antenna Propagation							B	B	C	-
9.1.2. Antenna Gain							A	B	B	-
9.1.3. Polarization							A	B	C	-
9.1.4. Mutual Interference							A	B	B	-
9.1.5. Impedance Matching							A	B	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	COURSE	COURSE	COURSE
9.1.6. Deployable Antenna Types							A	A	B	-
9.1.7. Beamwidth							A	A	B	-
9.1.8. Calculate Electrical and Physical Length							2b	A	-	-
9.1.9. Relationship of Antenna Height and Takeoff Angle							B	B	-	-
9.2. Antenna Types and Applications										
9.2.1. Omnidirectional and Directional Antennas							A	B	-	-
9.2.2. Common Antenna Types							A	B	-	-
9.2.3. Airborne Antenna Applications							-	A	B	-
9.2.4. Basic Antenna Tests							A	A	-	-
9.2.5. Conduct Antenna Tests							2b	-	-	-
9.2.6. Field Expedient Antenna Concepts							B	B	B	-
9.2.7. Construct Field Expedient Antennas							2b	-	-	-
10. TACTICAL RADIO / SATCOM APPLICATIONS TR: 1D7X1W Learning Program (Percipio), AFTTP(I) 3-2.27, Applicable Commercial Manuals										
10.1. General Principles										
10.1.1. Purpose							A	B	B	-
10.1.2. Overview of Tactical Radios							A	-	-	-
10.1.3. Radio Etiquette							B	-	-	-
10.1.4. Practice Radio Etiquette							2b	-	-	-
10.1.5. Signal Discipline Basics							A	B	C	-
10.2. HF Transceiver Equipment										
10.2.1. Capabilities and Limitations							A	B	C	-
10.2.2. Controls and Indicators							A	-	-	-
10.2.3. Operate the Transceiver							2b	-	-	-
10.2.4. Perform Preventive Maintenance Inspections							2b	-	-	-
10.2.5. Troubleshoot							2b	-	-	-
10.3. Tactical VHF / UHF Transceiver										
10.3.1. Capabilities and Limitations							A	B	C	-
10.3.2. Controls and Indicators							A	-	-	-

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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	COURSE	COURSE	COURSE
10.3.3. Operate the Transceiver							2b	-	-	-
10.3.4. Perform Preventive Maintenance Inspections							2b	-	-	-
10.3.5. Troubleshoot							2b	-	-	-
10.4. UHF and Multiband TACSAT										
10.4.1. Capabilities and Limitations							A	B	C	-
10.4.2. Controls and Indicators							A	-	-	-
10.4.3. Operate the Transceiver							2b	-	-	-
10.4.4. Perform Preventative Maintenance Inspections							2b	-	-	-
10.4.5. Troubleshoot							2b	-	-	-
10.5. Battlefield Networks										
10.5.1. Jam Resistant Communications										
10.5.1.1. Frequency Hopping							A	B	C	-
10.5.1.2. Spread Spectrum							A	A	B	-
10.5.1.3. JTIDS / MIDS							-	A	B	-
10.5.1.4. Tactical Data Links							A	A	B	-
10.5.1.5. SADL							A	A	B	-
10.5.2. Advanced Waveforms										
10.5.2.1. Integrated Waveform							A	B	B	-
10.5.2.2. ALE and 3G HF							A	B	B	-
10.5.2.3. MUOS							A	B	B	-
10.5.2.4. ANW2							A	B	-	-
10.5.2.5. HPW							A	B	-	-
10.5.2.6. Program Radio Using an Advanced Waveform							2b	-	-	-
11. SATCOM FUNDAMENTALS TR: 1D7X1W Learning Program (Percipio)										
11.1. Satellite System Segments Principles, Capabilities, and Limitations										
11.1.1. Space Segment							A	A	-	-
11.1.2. Command and Control Segment							A	A	-	-
11.1.3. Terminal (Ground) Segment							A	A	-	-
11.2. Satellite Bands, Purpose, Capabilities, and Limitations										
11.2.1. IEEE and ITU Radio Frequency Band Standards							A	A	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	COURSE	COURSE	COURSE
11.2.2. L, C, X, Ku, K, and Ka Band applications and considerations							A	B	C	-
11.3. Satellite Access Principles										
11.3.1. FDMA							B	B	B	-
11.3.2. TMDA							B	B	B	-
11.3.3. CDMA							A	B	B	-
11.4. Current Satellite Constellations										
11.4.1. SATCOM Terminal Characteristics										
11.4.1.1. Introduction to UHF, SHF, EHF Terminals							A	B	-	-
11.4.1.2. Multiband Satellite Terminals							A	B	B	-
11.4.2. Phase Modulation										
11.4.2.1. Understand Phase Modulation							B	B	C	-
11.4.2.2. Types of Modulation							B	B	B	-
11.4.2.3. Modulation Considerations							A	B	C	-
11.4.2.4. Forward Error Correction (FEC)							A	B	B	-
11.4.3. Transmit Systems										
11.4.3.1. Modems							A	B	-	-
11.4.3.2. Transmitters							A	B	-	-
11.4.3.3. Upconverters										
11.4.3.3.1. Upconverter							A	B	-	-
11.4.3.3.2. Block Upconverter							A	B	-	-
11.4.3.4. Power Amplifier							A	B	-	-
11.4.4. Receive Systems										
11.4.4.1. Receiver							A	B	-	-
11.4.4.2. Low Noise Amplifier							A	B	-	-
11.4.4.3. Low Noise Block							A	B	-	-
11.4.4.4. Downconverters										
11.4.4.4.1. Downconverter							A	B	-	-
11.4.4.4.2. Block Downconverter TR: subtask of 11.4.4.4							A	B	-	-
11.4.4.5. Demodulator							A	B	-	-

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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	COURSE	COURSE	COURSE
11.4.5. Antenna Systems										
11.4.5.1. Antenna Systems	5						A	B	-	-
11.4.5.2. Waveguides	5						A	B	-	-
11.4.5.3. Feed Horns / Feed Assemblies	5						A	B	-	-
11.4.5.4. Acquisition and Tracking Principles	5						A	B	-	-
11.4.5.5. Calculate Satellite Look Angles							2b	-	-	-
11.4.5.6. Acquire and Track Satellites							2b	-	-	-
11.4.6. Global Positioning System Receivers										
11.4.6.1. Principles, Capabilities, and Limitations							A	B	C	-
11.4.6.2. Controls and Indicators							A	-	-	-
11.4.6.3. Operate a GPS Receiver							2b	-	-	-
11.4.7. Multiband Satellite Terminal Operations										
11.4.7.1. Perform Power Up / Down Procedures							2b	-	-	-
11.4.7.2. Configure Baseband							2b	-	-	-
11.4.7.3. Perform Baseband Equipment Ops Check							2b	-	-	-
11.4.7.4. Configure Transmit and Receive Equipment							2b	-	-	-
11.4.7.5. Configure the Antenna System							2b	-	-	-
11.4.7.6. Configure the Control, Monitor, and Alarm System							2b	-	-	-
11.4.7.7. Timing and Synchronization							A	B	C	-
11.5. SATCOM Link Operations										
11.5.1. Access Procedures										
11.5.1.1. Satellite Database							A	A	B	-
11.5.1.2. Satellite Access Request (SAR)							A	A	B	-
11.5.1.3. Gateway Access Request (GAR)							A	A	B	-
11.5.1.4. Submit SAR / GAR							-	-	-	-
11.5.2. Communication Link Establishment and Maintenance										

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	COURSE	COURSE	COURSE
11.5.2.1. Principles							A	B	B	-
11.5.2.2. Establish a Communications Link							2b	-	-	-
11.5.2.3. Counter Counter Measure Principles							A	B	C	-
11.5.2.4. Maintain Master Station Logs							A	A	B	-
11.5.2.5. Develop After Action Reports							A	A	B	-
11.5.3. Reporting Requirements										
11.5.3.1. SATCOM Link Reporting							-	A	B	-
11.5.3.2. HAZCON Reports							-	A	B	-
11.5.4. TDMA Satellite Terminal Operations										
11.5.4.1. Understand TDMA Architecture							A	B	B	-
11.5.4.2. Understand Option Files							A	B	C	-
11.5.4.3. Load Options File							2b	-	-	-
11.5.4.4. Complete Communications Link with a TDMA Terminal							2b	-	-	-
12. ELECTRICAL POWER SYSTEMS TR: 1D7X1W Learning Program (Percipio)										
12.1. Uninterruptable Power Supplies							A	A	B	-
12.2. Batteries							A	A	B	-
12.3. Inverters							A	A	B	-
12.4. Filters							A	A	B	-
12.5. Generators							A	A	B	-
12.6. Considerations for Field Application							A	B	C	-
13. RF DEVICES TO IP NETWORKING AND IP RADIOS TR: 1D7X1W Learning Program (Percipio)										
13.1. Methods of Interfacing RF Devices with IP Networks							A	B	B	-
13.2. Interface Selected RF Equipment with an IP Network							2b	-	-	-
13.3. Radio Over IP (ROIP) Principles							A	B	B	-
13.4. Mesh Radio Networks										

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	COURSE	COURSE	COURSE
13.4.1. Mobile At-hoc Network (MANET) principles							B	B	C	-
13.4.2. Establish MANET Communications Links							2b	-	-	-
14. CELLULAR IP NETWORKS AND EQUIPMENT (GSM, LTE, CDMA) TR: 1D7X1W Learning Program (Percipio)										
14.1. Cellular Principles										
14.1.1. Common Terminologies							A	A	B	-
14.1.2. Applications							A	B	C	-
14.1.3. Considerations							A	B	C	-
14.1.4. LTE Bubbles							-	A	B	-
14.2. Mobile Devices and Management										
14.2.1. Mobile Device Management							A	B	C	-
14.2.2. User Management							-	A	B	-
14.2.3. Mobile VPNs							A	B	B	-
14.2.4. Connect through VPN							2b	-	-	-
14.2.5. Application Installation							2b	-	-	-
14.2.6. Application Management							-	A	B	-
14.2.7. Mobile COP (Common Operating Picture) Applications, Devices and Servers							B	B	C	-
14.2.8. Demonstrate Use of Tactical Mobile Applications							2b	-	-	-
15. INTERNET PROTOCOL (IP) NETWORKING (TACTICAL) TR: 1D7X1W Learning Program (Percipio)										
15.1. Subnetting Principles							B	B	C	-
15.2. Apply Subnetting Principles							2b	-	-	-
15.3. WLAN Principles and Protocols							B	B	B	-
15.4. Configure WLAN (Wireless IEEE 802.11)							2b	-	-	-
16. SWITCHING AND ROUTING (TACTICAL) TR: 1D7X1W Learning Program (Percipio)										
16.1. Multicast							A	B	B	-
16.2. Extending IP Traffic Over Various Transports							B	B	B	-
16.3. Demonstrate Wireless / Wired IP Traffic Extension							2b	-	-	-

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	COURSE	COURSE	COURSE
17. NETWORK AUTHENTICATION FUNDAMENTALS TR: 1D7X1W Learning Program (Percipio)										
17.1. 802.1X							-	B	B	-
17.2. Implement 802.1X							-	-	-	-
17.3. Port Security							-	B	-	-
17.4. PKI							-	B	B	-
18. APPLIANCES (SERVERS) TR: 1D7X1W Learning Program (Percipio)										
18.1. Virtualization							-	B	B	-
18.2. Virtualized Server Admin							-	B	C	-
18.3. Demonstrate Virtualized Server Admin							-	-	-	-
18.4. Understand VOIP Call Manager Principles							-	B	B	-
19. CLIENT SYSTEMS TR: 1D7X1W Learning Program (Percipio)										
19.1. Manage User Accounts							-	B	C	-
19.2. Manage User Devices							-	B	C	-
19.3. Execute User Account Management							-	-	-	-
19.4. Execute Client Systems Management							-	-	-	-
19.5. Add VOIP Phone to CallManager							-	-	-	-
19.6. Hardware							-	A	B	-
19.7. Software							-	A	B	-
20. CYBER ENCLAVE TR: 1D7X1W Learning Program (Percipio); AFPD 172; AFIs 17-201, 13-Series; JP 3-12; http://www.afcyber.af.mil; Joint Pub 6-0; CJCSIs 3231.01C, 6211.02D										
20.1. Enterprise Systems Integration										
20.1.1. Integrate Various Tactical Networks and Systems over Transport							2b	-	-	-
21. CYBER SECURITY TR: 1D7X1W Learning Program (Percipio); AFIs 10-701, 17-130, 16-1404; AFPD 10-7; AFMAN 17-1301										
21.1. Vulnerability Management										
21.1.1. Describe Command Cyber Readiness (CCRI) DISA Requirements							-	B	B	-
21.2. Expeditionary Security Concepts										
21.2.1. Emissions Control / Signature Reduction							A	B	C	-

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	COURSE	COURSE	COURSE
21.2.2. Data Protection							A	B	C	-
21.2.3. Process and Respond to CCIRs							-	A	B	-
22. ELECTROMAGNETIC SPECTRUM OPERATIONS										
22.1. Localized Interference Resolution							A	B	C	-
22.2. ELECTRONIC WARFARE (EW)										
22.2.1. Electronic Attack (EA)							A	B	C	
22.2.2. Electronic Protection (EP)							A	B	C	
22.2.3. Electronic Warfare Support (ES)							A	B	C	
22.3. Spectrum Sensing							-	A	B	-
22.4. Unit / AOR Comm Plans (ANNEX K) PACE							A	B	C	-
23. JOINT CONCEPTS TR: 1D7X1W Learning Program (Percipio); AFI 13-Series; Joint Pub 6-0; CJCSIs 3231.01C, 6211.02D										
23.1. Joint Operation Foundations										
23.1.1. Joint Operations and Battlestaff							A	B	C	-
23.1.2. Joint Publications							A	A	B	-
23.1.3. Military Planning Process							A	B	B	-
23.1.4. OPORDs, FRAGORDs, DEPORDs, and CONOPs							A	B	C	-
23.1.5. JOPES							-	A	B	-
24. EXPEDITIONARY CONCEPTS TR: 1D7X1W Learning Program (Percipio); AFIs 10-401, 10-403; AFMAN 171302-O; https://jkodirect.jten.mil/Atlas2/page/login/Login.jsf; https://aefonline.afpc.randolph.af.mil/default.aspx; AMC myLearning Gateway (AF Fundamentals of Expeditionary Mobility Operations) & Deployable Comms CONOPS (Uploaded)										
24.1. General Expeditionary Concepts							A	B	C	-
24.1.1. Deployment Process Overview							-	-	-	-
24.1.2. UTC Concepts							A	B	B	-
24.1.3. Deployment Planning and Execution							A	B	B	-
24.1.4. Site Survey / Site Selection Process							A	B	C	-
24.1.5. Force Protection							A	B	B	-
24.1.6. Understand TOC / AOC / JOC Cyber Considerations							A	B	C	-
24.1.7. Bandwidth Management							A	B	C	-

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	COURSE	COURSE	COURSE
24. EXPEDITIONARY CONCEPTS TR: 1D7X1W Learning Program (Percipio); AFIs 10-401, 10-403; AFMAN 171302-O; https://jkodirect.jten.mil/Atlas2/page/login/Login.jsf; https://aefonline.afpc.randolph.af.mil/default.aspx; AMC myLearning Gateway (AF Fundamentals of Expeditionary Mobility Operations) & Deployable Comms CONOPS (Uploaded)										
24.1. General Expeditionary Concepts							A	B	C	-
24.1.1. Deployment Process Overview							-	-	-	-
24.1.2. UTC Concepts							A	B	B	-
24.1.3. Deployment Planning and Execution							A	B	B	-
24.1.4. Site Survey / Site Selection Process							A	B	C	-
24.1.5. Force Protection							A	B	B	-
24.1.6. Understand TOC / AOC / JOC Cyber Considerations							A	B	C	-
24.1.7. Bandwidth Management							A	B	C	-

1. Implementation. This STS will be used for technical training provided by AETC for the 3-level course.

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	COURSE	COURSE	COURSE
1. NETWORK SYSTEMS OPERATIONS CAREER FIELD TR: 1D7X1A Learning Program (AF e-Learning); AFI 36-2101; CFETP; AFECD										
1.1. Duties of the AFSC							A	-	-	-
2. MAINTENANCE PRACTICES TR: 1D7X1A Learning Program (AF e-Learning); TO 33K-1-100 and Applicable Test Equipment Technical Orders										
2.1. Test Equipment Theory										
2.1.1. Multimeter							A	-	-	-
2.1.2. Time Domain Reflectometry							-	-	-	-
2.1.3. Optical Time Domain Reflectometry							B	-	-	-
2.1.4. Bit Error Rate Testing							-	-	-	-
2.1.5. Spectrum Analyzer							-	-	-	-
2.1.6. Local Area Network (LAN) Test Set							-	-	-	-
2.1.7. Network/Protocol Analyzer (Sniffer)							-	-	-	-
2.1.8. Breakout Box							-	-	-	-
2.1.9. Fiber Optic Test Set (Light Source)							-	-	-	-
2.2. Perform Maintenance using Test Equipment										
2.2.1. Multimeter							-	-	-	-
2.2.2. Time Domain Reflectometer (TDR)							-	-	-	-
2.2.3. Optical Time Domain Reflectometer (OTDR)							-	-	-	-
2.2.4. Bit Error Rate Test Set (BERT)							-	-	-	-
2.2.5. Spectrum Analyzer							-	-	-	-
2.2.6. Local Area Network (LAN) Test Set							-	-	-	-
2.2.7. Network/Protocol Analyzer (Sniffer)							-	-	-	-
2.2.8. Breakout Box							-	-	-	-
2.2.9. Fiber Optic Test Set (Light Source)							-	-	-	-
2.3. Standard Maintenance Concepts										
2.3.1. Inventory/Accountability Fundamentals							-	-	-	-
2.3.2. Maintenance Documentation							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	COURSE	COURSE	COURSE
2.3.3. Installation Standards							A	-	-	-
2.3.4. Inspections (PMI)							A	-	-	-
2.4. Troubleshooting										
2.4.1. Troubleshoot Network Equipment (IP Data, Voice, Video,							-	-	-	-
2.4.2. Explain Land Line Concepts							-	-	-	-
2.4.3. Authorized Service Interruptions (ASIs)							-	-	-	-
2.5. Grounding										
2.5.1. Fundamentals							B	-	-	-
2.5.2. Verify Proper Grounding (i.e.Equipment/Rack)							-	-	-	-
2.5.3. Bonding							-	-	-	-
2.5.4. Shielding							-	-	-	-
2.5.5. Lightning Protection							-	-	-	-
2.6. Cable Installation/Management										
2.6.1. Fundamentals							A	-	-	-
2.6.2. Circuit/Cable ID and Marking							A	-	-	-
2.6.3. Color Coding Standards							A	-	-	-
2.6.4. Physical Medium Standards							-	-	-	-
2.6.5. Patch Panels and Termination Points							-	-	-	-
2.6.6. Device Physical Interconnection							-	-	-	-
2.6.7. Demonstrate Proper Cable Management Practices							-	-	-	-
2.7. Cable Termination										
2.7.1. Fundamentals							-	-	-	-
2.7.2. Terminate Copper Ethernet Cable							-	-	-	-
2.7.3. Fiber Termination							-	-	-	-
2.8. Electrostatic Discharge (ESD)										
2.8.1. Fundamentals							A	-	-	-
2.8.2. Concepts							-	-	-	-
2.8.3. Handling, Packaging, and Storing							-	-	-	-

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	COURSE	COURSE	COURSE
3. IP NETWORKING TR: 1D7X1A Learning Program (AF e-Learning)										
3.1. Internetworking Basics										
3.1.1. Fundamentals							-	-	-	-
3.1.2. OSI Reference Model							-	-	-	-
3.1.3. Topologies							-	-	-	-
3.2. IPv4/IPv6 Addressing										
3.2.1. Fundamentals							-	-	-	-
3.2.2. Develop/Apply IP Addressing Schema							-	-	-	-
3.2.3. Fundamentals of Protocols							-	-	-	-
3.2.4. Network Protocols							-	-	-	-
3.3. Enterprise Networking										
3.3.1. Network Virtualization							-	-	-	-
3.3.2. Software Defined Networking							-	-	-	-
3.4. Layer 2 (Switching)										
3.4.1. Switching Application							-	-	-	-
3.4.2. Switching Standards							-	-	-	-
3.4.3. Configure Network Devices							-	-	-	-
3.4.4. Link Aggregation							-	-	-	-
3.5. Layer 3 (Routing)										
3.5.1. Fundamentals							-	-	-	-
3.5.2. Protocol Application							-	-	-	-
3.5.3. Protocols/Standards							-	-	-	-
3.5.4. Configure Network Devices							-	-	-	-
3.5.5. Configure Protocols							-	-	-	-
3.5.6. VPN Concentrators							-	-	-	-
3.6. VLANs										
3.6.1. Fundamentals							-	-	-	-
3.6.2. Application							-	-	-	-
3.6.3. Administer							-	-	-	-
3.7. Spanning Tree (STP)										
3.7.1. Fundamentals							-	-	-	-

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	COURSE	COURSE	COURSE
3.7.2. Application							-	-	-	-
3.7.3. Configure							-	-	-	-
3.7.4. IEEE 802 Standards							-	-	-	-
3.8. Wireless Networking (WLAN)										
3.8.1. Enterprise Wireless Network Application							-	-	-	-
3.8.2. Enterprise Wireless Protocols/Standards							-	-	-	-
3.8.3. Wireless Access Points Application							-	-	-	-
3.8.4. Configure Wireless Access Points							-	-	-	-
3.9. Quality of Service (QoS)										
3.9.1. Fundamentals							-	-	-	-
3.9.2. DSCP Fundamentals							-	-	-	-
3.9.3. Configure							-	-	-	-
3.9.4. Redundancy Fundamentals							-	-	-	-
3.10. IP Network Monitoring										
3.10.1. Network Management Software							-	-	-	-
3.10.2. SNMP							-	-	-	-
3.10.3. Network Traffic Analysis (sFlow, Netflow, jFlow)							-	-	-	-
3.10.4. Implement IP Network Monitoring							-	-	-	-
3.10.5. Mobile Device Management							-	-	-	-
3.11. Enterprise Logical Security										
3.11.1. Application							-	-	-	-
3.11.2. Configure							-	-	-	-
4. VOICE COMMUNICATIONS TR: 1D7X1A Learning Program (AF e-Learning); Applicable Commercial Manuals										
4.1. Telephony										
4.1.1. Telephony Fundamentals							A	-	-	-
4.1.2. Voice Over Internet Protocol (VoIP)/ Voice Over Secure Internet Protocol (VoSIP) Fundamentals							-	-	-	-

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	COURSE	COURSE	COURSE
4.1.3. Plain Old Telephone System (POTS)							-	-	-	-
4.1.4. Digital									-	-
4.1.5. Integrated Services Digital Network (ISDN)							-	-	-	-
4.1.6. SIP/H.323							-	-	-	-
4.1.7. Voice/Video Compression Standards							-	-	-	-
4.1.8. Configure VoIP Phone							-	-	-	-
4.2. Call Routing										
4.2.1. Fundamentals							-	-	-	-
4.2.2. Configure							-	-	-	-
4.2.3. Customer Groups							-	-	-	-
4.2.4. Multilevel Precedence and Preemption (MLPP)							-	-	-	-
4.2.5. Class of Service							-	-	-	-
4.2.6. Defense Switched Network (DSN)							-	-	-	-
4.2.7. Translations							-	-	-	-
4.2.8. Configure Telephony Features							-	-	-	-
4.2.9. Direct Inward Dialing (DID)							-	-	-	-
4.2.10. Caller ID							-	-	-	-
4.2.11. Video Teleconferencing (VTC)							-	-	-	-
4.3. Telephony Switching										
4.3.1. Concepts							-	-	-	-
4.3.2. Switch Security							-	-	-	-
4.3.3. 911/E-911							-	-	-	-
5. ENTERPRISE ADMINISTRATIVE FUNCTIONS TR: 1D7X1A Learning Program (AF e-Learning)										
5.1. Fundamentals of IT										
5.1.1. Fundamentals of IT Documentation							-	-	-	-
5.1.2. Service Level Agreements (SLAs)							-	-	-	-
5.1.3. Project Support Agreement (PSA)							-	-	-	-
5.2. Communications Network Trend Analysis										

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	COURSE	COURSE	COURSE
5.2.1. Identify							-	-	-	-
5.2.2. Analyze							-	-	-	-
5.3. Communications Security (COMSEC)										
5.3.1. Principles							A	-	-	-
5.3.2. Red/Black							A	-	-	-
5.3.3. Perform COMSEC Inventory							-	-	-	-
5.3.4. Perform Over the Air Rekey (OTAR)							-	-	-	-
5.3.5. Perform Key Transfer Using Common Fill Device							-	-	-	-
5.3.6. TEMPEST							-	-	-	-
6. ENCRYPTION/DECRYPTION TR: 1D7X1A Learning Program (AF e-Learning)										
6.1. Crypto Devices										
6.1.1. Fundamentals							-	-	-	-
6.1.2. Configure/Use Serial Crypto Equipment							-	-	-	-
6.1.3. Configure/Use IP Crypto Equipment							-	-	-	-
6.2. Crypto Keys										
6.2.1. Pre Placed Key (PPK)							-	-	-	-
6.2.2. Firefly Vector Set (FFVS)							-	-	-	-
7. CRITICAL COMMUNICATIONS FACILITIES POWER SYSTEMS TR: 1D7X1A Learning Program (AF e-Learning); Applicable Commercial Manuals										
7.1. Power Systems										
7.1.1. Uninterrupted Power Supplies (UPS)							A	-	-	-
7.1.2. Facility Battery Backups							A	-	-	-
7.1.3. Generators							A	-	-	-
8. LONG HAUL COMMUNICATIONS TR: 1D7X1A Learning Program (AF e-Learning)										
8.1. Long Haul Modulation										
8.1.1. Modulation							-	-	-	-
8.2. Multiplexing										
8.2.1. Fundamentals							-	-	-	-
8.2.2. Timing							-	-	-	-
8.2.3. Signaling							-	-	-	-

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	COURSE	COURSE	COURSE
8.3. Circuit Patching										
8.3.1. Concepts							-	-	-	-
8.3.2. Perform Patching							-	-	-	-
8.4. Contingency Plans										
8.4.1. Contingency Planning & Implementation							-	-	-	-
8.4.2. Develop							-	-	-	-
8.4.3. Communication Requirements Process							-	-	-	-
8.4.4. Gateway Access Request/Gateway Access Authorization (GAR/GAA)							-	-	-	-
8.5. Circuit Actions										
8.5.1. Responsibilities							-	-	-	-
8.5.2. Node Site Coordinator							-	-	-	-
8.5.3. Completion Reports							-	-	-	-
8.5.4. Circuit History Folders							A	-	-	-
8.6. Circuit										
8.6.1. Procurement/ Change Process							-	-	-	-
8.6.2. Telecommunications Service Requests (TSRs)							-	-	-	-
8.6.3. Telecommunications Service Order (TSOs)							-	-	-	-
8.6.4. Telecommunications Service Priority (TSPs)							-	-	-	-
8.6.5. Command Communication Service Designator (CCSDs)							-	-	-	-
8.7. Maintenance Tracking Software										
8.7.1. Fundamentals							-	-	-	-
8.7.2. Use Tracking Software							-	-	-	-
9. INFORMATION PROTECTION OPERATIONS TR: 1D7X1A Learning Program (AF e-Learning)										
9.1. Security										
9.1.1. Information Protection Principles							-	-	-	-
9.1.2. Rules of Engagement							-	-	-	-
9.1.3. Assessment and Authorization							-	-	-	-
9.1.4. Event Response							-	-	-	-

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	COURSE	COURSE	COURSE
9.1.5. Security Patch Implementation							-	-	-	-
9.1.6. Malicious Logic Protection							-	-	-	-
9.2. Defense in Depth										
9.2.1. Concept							A	-	-	-
9.2.2. Steps							-	-	-	-
9.3. Boundary Protection										
9.3.1. Principles							-	-	-	-
9.3.2. Firewalls							-	-	-	-
9.3.3. Intrusion Detection							-	-	-	-
9.3.4. Misuse Detection							-	-	-	-
9.3.5. Internal Control							-	-	-	-
9.3.6. Access Prevention							-	-	-	-
9.3.7. Authentication							-	-	-	-
9.3.8. Encryption							-	-	-	-
9.3.9. Network Vulnerabilities/Mitigation							-	-	-	-
9.3.10. Voice Protection System (VPS)							-	-	-	-
10. EXPEDITIONARY COMMUNICATIONS CONCEPTS TR: 1D7X1A Learning Program (AF e-Learning); MAJCOM/Local Procedures; Applicable Commercial Manuals										
10.1. Expeditionary Communications Connections										
10.1.1. Establish IP Network							-	-	-	-
10.1.2. Establish Voice Network							-	-	-	-
11. SYSTEMS OPERATIONS CAREER FIELD TR: 1D7X1B Learning Program (AF e-Learning); AFH 33-337; AFIs 10-401, 33-100, 33-101, 33-115, 33-150; 36-2101; CFETP; AFECD										
11.1. Duties of AFSC							A	-	-	-
12. AFCYBER WEAPONS SYSTEMS TR: 1D7X1B Learning Program (AF e-Learning)										
12.1. Overview							A	-	-	-
12.2. Capabilities							A	-	-	-
13. INFORMATION TECHNOLOGY SYSTEMS FUNDAMENTALS TR: 1D7X1B Learning Program (AF e-Learning)										
13.1. Programming Languages							A	-	-	-
13.2. Graphical User Interfaces (GUI)							A	-	-	-
13.3. Cross Domain Data Solutions							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	COURSE	COURSE	COURSE
13.4. Memory Structure							A	-	-	-
13.5. Interrupt Requests (IRQ)							A	-	-	-
13.6. Drivers							A	-	-	-
13.7. Basic Input/Output System (BIOS)							A	-	-	-
13.8. Memory							A	-	-	-
13.9. Complementary Metal Oxide Semiconductor (CMOS)							A	-	-	-
14. SERVERS TR: 1D7X1B Learning Program (AF e-Learning)										
14.1. Hardware										
14.1.1. Storage Types							B	-	-	-
14.1.2. Configure System Storage							A	-	-	-
14.1.3. I/O Technologies							-	-	-	-
14.1.4. Blade/Backplane Technologies							A	-	-	-
14.2. Virtualization Overview										
14.2.1. Concepts							B	-	-	-
14.2.2. Server Virtualization							B	-	-	-
14.2.3. Virtualization Environment							B	-	-	-
14.2.4. Client Virtualization							B	-	-	-
14.2.5. Implement Virtualization							-	-	-	-
14.3. Cloud Computing										
14.3.1. Definition							-	-	-	-
14.3.2. Characteristics							-	-	-	-
14.3.3. Service Model Types							-	-	-	-
14.3.4. Deployment Models Types							-	-	-	-
14.3.5. Benefits							-	-	-	-
14.3.6. Implementation Considerations							-	-	-	-
14.4. Software										
14.4.1. Enterprise Services							-	-	-	-
14.4.2. Ports, Protocols & Services (PPS)							-	-	-	-
14.4.3. Operating Systems										

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	COURSE	COURSE	COURSE
14.4.3.1. Types and Characteristics							B	-	-	-
14.4.3.2. PMO Systems							B	-	-	-
14.4.3.3. Common Server Roles							2b	-	-	-
14.4.3.4. Shell							2b	-	-	-
14.4.3.5. Scripting							2b	-	-	-
14.4.3.6. Basic Cmd Line Programs							2b	-	-	-
14.4.3.7. Account Management							2b	-	-	-
14.4.3.8. Hardening							2b	-	-	-
14.4.3.9. Process Management							2b	-	-	-
14.4.4. Applications										
14.4.4.1. USAF Functional & Mission Systems							-	-	-	-
14.4.4.2. Support Systems							-	-	-	-
14.4.4.3. Collaborative Tools							-	-	-	-
14.4.4.4. Server Management Systems							-	-	-	-
14.4.4.5. Server Information Protection							-	-	-	-
14.4.4.6. Remote Access							-	-	-	-
14.4.5. Database										
14.4.5.1. Flat File							-	-	-	-
14.4.5.2. Relational							-	-	-	-
14.4.5.3. NOSQL							-	-	-	-
14.4.5.4. Schema							-	-	-	-
14.4.5.5. SQL Query and Reports							-	-	-	-
14.4.6. Web Fundamentals										
14.4.6.1. Language Types							-	-	-	-
14.4.6.2. Web Services							-	-	-	-
14.4.6.3. Web Security										
14.4.6.3.1. Session Management							-	-	-	-
14.4.6.3.2. Secure Socket Layer (SSL)							-	-	-	-
14.4.6.3.3. Transport Layer Security (TLS)							-	-	-	-

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	COURSE	COURSE	COURSE
14.5. Disaster/Contingency/ Operational/Crisis										
14.5.1. Backup/Restore Process							-	-	-	-
14.5.2. Offsite Storage							-	-	-	-
14.5.3. Continuity of Operations (COOP)							-	-	-	-
14.5.4. Priority Restoration Plan							-	-	-	-
14.5.5. Alternate Power							-	-	-	-
14.5.6. Startup and Shutdown Procedures							2b	-	-	-
14.6. Service and Trouble Management System TR: AFJQS1D7XX-230T, AFJQSXXXXX-212S							-	-	-	-
15. NETWORKED SYSTEMS TR: 1D7X1B Learning Program (AF e-Learning)										
15.1. Overview							-	-	-	-
15.2. Definition							-	-	-	-
15.3. Network Authentication										
15.3.1. Components of Public Key Infrastructure (PKI)							-	-	-	-
15.3.2. Biometrics							A	-	-	-
15.3.3. Username/Password							A	-	-	-
15.4. Network Addressing							A	-	-	-
15.5. Systems Management							A	-	-	-
15.6. Event Response										
15.6.1. Incident/Event Reporting							A	-	-	-
15.6.2. Perform Incident Response							2b	-	-	-
15.7. Network Operations (NetOps) Monitoring										
15.7.1. Monitor System Resources							2b	-	-	-
15.7.2. Identify Event Logging Tools							-	-	-	-
16. EXPEDITIONARY COMMUNICATIONS TR: 1D7X1B Learning Program (AF e-Learning)										
16.1. Deployable Communications Systems Support (e.g.TDC)										
16.1.1. Mission							-	-	-	-
16.1.2. Employment Concepts							-	-	-	-

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	COURSE	COURSE	COURSE
16.1.3. Capabilities							-	-	-	-
16.1.4. Interfacing Considerations							-	-	-	-
16.2. TDC Deployment										
16.2.1. Pre Deployment							-	-	-	-
16.2.2. Deployment							-	-	-	-
16.2.3. Establish Services							-	-	-	-
16.2.4. Extended Services							-	-	-	-
16.2.5. Re Deployment							-	-	-	-
16.2.6. Reconstitute							-	-	-	-
17. BOUNDARY INTERACTION TR: 1D7X1B Learning Program (AF e-Learning)										
17.1. Types and Characteristics							B	-	-	-
17.2. Boundary Interaction Tools							-	-	-	-
18. VULNERABILITY MANAGEMENT TR: 1D7X1B Learning Program (AF e-Learning)										
18.1. Air Force Standard Vulnerability Assessment (VA)										
18.1.1. Functions							A	-	-	-
18.1.2. Base Roles							-	-	-	-
18.1.3. NOS Roles							-	-	-	-
18.1.4. Describe Command Cyber Readiness (CCRI) DISA requirements							-	-	-	-
18.1.5. Describe Assessment & Authorizations (A&A) Requirements							-	-	-	-
18.2. Air Force Standard Vulnerability Assessment (VA) Tools										
18.2.1. Functions and Capabilities							-	-	-	-
18.2.2. Review a Vulnerability Scan							2b	-	-	-
18.2.3. STIG Compliance Requirements										
18.2.3.1. STIG Viewer							-	-	-	-
18.2.3.2. Employing a STIG							-	-	-	-
18.2.3.3. STIG Compliance Scanning Tool							-	-	-	-
18.2.4. Best Practice for VA Tools							-	-	-	-
18.3. Patch Management										

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	COURSE	COURSE	COURSE
18.3.1. Purpose							-	-	-	-
18.3.2. Client Install and Uninstall							-	-	-	-
18.3.3. Install Security Patches							-	-	-	-
18.3.4. Utilize Dashboard for Reporting							-	-	-	-
19. INTRUSION CONTROLS TR: 1D7X1B Learning Program (AF e-Learning)										
19.1. Types and Characteristics							A	-	-	-
19.2. Intrusion Detection Methods							B	-	-	-
19.3. Intrusion Detection Tools							B	-	-	-
19.4. Respond to an Incident							-	-	-	-
19.5. End Point Protection										
19.5.1. Functions							A	-	-	-
19.5.2. Manage							-	-	-	-
19.6. Network Based Intrusion Detection System Functions							A	-	-	-
20. TROUBLESHOOTING TR: 1D7X1B Learning Program (AF e-Learning)										
20.1. Hardware							-	-	-	-
20.2. OS and Applications							2b	-	-	-
20.3. OS and Startup Problems							2b	-	-	-
20.4. Network							2b	-	-	-
21. SECURITY OPERATIONS CAREER FIELD TR: 1D7X1D Learning Program (AF e-Learning); AFIs 17-130, 33-150, 36-2101; AFGM2018 1702; 1D7XX CFETP; AFECD										
21.1. Duties of the AFSC							A	-	-	-
22. CYBER COLLABORATION, PUBLICATIONS, DIRECTIVES TR: 1D7X1D Learning Program (AF e-Learning); AFI 33-360										
22.1. Publications							A	-	-	-
22.2. Guidance Currency							A	-	-	-
22.3. Cyber Taskings							A	-	-	-
22.4. Collaborative Environments							A	-	-	-
23. IDENTITY CREDENTIALING & ACCESS MANAGEMENT (ICAM) TR: 1D7X1D Learning Program (AF e-Learning); AFMAN 17-1304 (in development)										
23.1. Roles and Responsibilities							-	-	-	-
23.2. Essential Components and Factors of ICAM Program							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	COURSE	COURSE	COURSE
24. COMPUTER SECURITY (COMPUSEC) TR: 1D7X1D Learning Program (AF e-Learning); AFI 17-130, AFMAN 171301, MPTO 00-33B-5006										
24.1. Training and Resources							A	-	-	-
24.2. End Point Security							A	-	-	-
24.3. COMPUSEC Assessments							A	-	-	-
25. RISK MANAGEMENT FRAMEWORK (RMF) TR: 1D7X1D Learning Program (AF e-Learning); RMF Knowledge Service; AFI 17-101; DoD 8510.01; FIPS 199, 200; NSPs SP 800-53, 800-37, 800-53A, 800-60, 800-64; CNSSI 1253										
25.1. Program Overview							A	-	-	-
25.2. Air Force IT Category (AFI driven)/DoD IT Types (DoD driven)							A	-	-	-
25.3. Security Objectives							A	-	-	-
25.4. Roles and Responsibilities							A	-	-	-
25.5. System Development Lifecycle							A	-	-	-
25.6. RMF Methodology										
25.6.1. RMF Step, PREPARE System							A	-	-	-
25.6.2. RMF Step, CATEGORIZE System							A	-	-	-
25.6.3. RMF Step, SELECT Security Controls							A	-	-	-
25.6.4. RMF Step, IMPLEMENT Security Controls							A	-	-	-
25.6.5. RMF Step, ASSESS Security Controls							A	-	-	-
25.6.6. RMF Step, AUTHORIZE System							A	-	-	-
25.6.7. RMF Step, MONITOR Security Controls							A	-	-	-
26. CONSENT TO MONITORING FOR OFFICIAL IT RESOURCES TR: 1D7X1D Learning Program (AF e-Learning); AFI 10-701										
26.1. Overview							A	-	-	-
26.2. Notice and Consent							A	-	-	-
27. REMANENCE SECURITY TR: 1D7X1D Learning Program (AF e-Learning); AFI 17-301, NSA Media Destruction Guidance: MPTO 00-33B-5006										
27.1. Introduction							A	-	-	-
27.2. Risk Assessment							-	-	-	-
27.3. Risk Management							-	-	-	-
27.4. Sanitization										

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	COURSE	COURSE	COURSE
27.4.1. Unclassified Devices							A	-	-	-
27.4.2. Classified Devices							A	-	-	-
27.5. Media Reuse							A	-	-	-
27.6. Disposal							A	-	-	-
27.7. Mixed Media Devices							A	-	-	-
27.8. Degauser Calibration and Testing							-	-	-	-
28. TEMPEST PROGRAM MANAGEMENT TR: 1D7X1D Learning Program (AF e-Learning); AFI 17-130; AFMANs 17-1305 Vol 1 (Unclass) & Vol 2 (Classified) (in development), 33-214 (Classified) (IACE: http://intelshare.intelink.sgov.gov/sites/af_cybersecurity/SitePages/Home.aspx); Emission Security handbook; DISA Wireless STIG; MPTOs 00-33B-2861, 00-33B-2862, 00-33B-2863; AFSSIs 7700, 7702, 7703; TEMPEST Wiki: https://cs2.eis.af.mil/sites/10060/Wiki/TEMPEST.aspx										
28.1. Overview							A	-	-	-
28.2. Roles and Responsibilities							A	-	-	-
28.3. TEMPEST Information Messages							A	-	-	-
29. TOOLS TR: 1D7X1D Learning Program (AF e-Learning)										
29.1. Assessment and Authorization Tools							A	-	-	-
29.2. Vulnerability Management Tools							A	-	-	-
30. COMMUNICATIONS SECURITY (COMSEC) MANAGEMENT TR: 1D7X1D Learning Program (AF e-Learning); AFI 17-130, AFMAN 1-71302-O, TO 00-33-B-5001, AF COMSEC ACCOUNTING PROCEDURES, AFSSIs 3000-series; DOC 042-12; CNSSIs 4003, 4004, 4005; DoDI 5210.82; CJCSIs 3260.01, 3260.02										
30.1. Overview										
30.1.1. Purpose							A	-	-	-
30.1.2. Management Terms							A	-	-	-
30.1.3. COMSEC Architecture within the COMSEC Chain of Command							-	-	-	-
30.1.4. COMSEC Material Distribution							A	-	-	-
30.1.5. Automated COMSEC Programs							A	-	-	-
30.2. COMSEC Role Requirements/Responsibilities										
30.2.1. KMI Operating Account Manager (KOAM)							-	-	-	-
30.2.2. COMSEC Accountants/COMSEC Clerks							A	-	-	-
30.2.3. Role Exclusion							-	-	-	-
30.2.4. Account Personnel Changeover							-	-	-	-

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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	COURSE	COURSE	COURSE
30.3. Administration and Management of COMSEC Material										
30.3.1. Information Dissemination Process							-	-	-	-
30.3.2. Procedures and Process Management										
30.3.2.1. COMSEC Material Request							-	-	-	-
30.3.2.2. COMSEC Material Issuance							-	-	-	-
30.3.2.3. Record Maintenance and Disposition							-	-	-	-
30.3.2.4. Request KMI Technical Service Center (TSC) Support							-	-	-	-
30.3.2.5. COMSEC Equipment Request							-	-	-	-
30.3.2.6. COMSEC Material Replacement (Request, etc…)							-	-	-	-
30.3.2.7. Disposition Instructions for Increase/Surplus Material							-	-	-	-
30.3.3. COMSEC Training Program										
30.3.3.1. COMSEC Training Program Management							-	-	-	-
30.3.3.2. AF Form 4168, COMSEC Users Training							-	-	-	-
30.3.4. Additional Protection Measures (Photography, Personal Electronics, Public Display)							A	-	-	-
30.3.5. Accounting Legend Codes (ALC)							A	-	-	-
30.3.6. Account Management										
30.3.6.1. Account Information Letter							-	-	-	-
30.3.6.2. Notification of Existence of COMSEC Account Letter							-	-	-	-
30.3.7. In-Place Date							-	-	-	-
30.4. Cryptographic Access Program (CAP)										
30.4.1. Purpose							A	-	-	-
30.4.2. Program Management							-	-	-	-
30.5. Physical Security Principles for Handling COMSEC Material										
30.5.1. Authorized Access							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	COURSE	COURSE	COURSE
30.5.2. Preventative Maintenance Inspections (PMIs)							-	-	-	-
30.5.3. Protective Technologies Overview							-	-	-	-
30.5.4. Physical Security Handling Requirements							-	-	-	-
30.5.5. COMSEC Forms							A	-	-	-
30.5.6. COMSEC Access List							A	-	-	-
30.5.7. COMSEC Publication Amendments							-	-	-	-
30.6. Destruction of COMSEC Material, Aids and Equipment										
30.6.1. Disposition							A	-	-	-
30.6.2. Destruction							B	-	-	-
30.7. Controlled Cryptographic Items (CCIs)										
30.7.1. Safeguard and Accountability							-	-	-	-
30.7.2. Transportation / Shipping							-	-	-	-
30.8. Control of Top Secret (TS) Keying Material										
30.8.1. COMSEC No Lone Zone Exceptions							A	-	-	-
30.8.2. Two Person Integrity (TPI) Handling Procedures							A	-	-	-
30.8.3. TPI Material Storage Requirements							A	-	-	-
30.8.4. Tactical Situations Storage Requirements							-	-	-	-
30.8.5. Transportation Requirements for TPI							A	-	-	-
30.9. COMSEC Nuclear Surety										
30.10. COMSEC Keying Material Transportation Requirements							-	-	-	-
30.11. Emergency Action Plans (EAPs)							-	-	-	-
30.12. COMSEC Incidents										
30.12.1. Introduction							-	-	-	-
30.12.2. Incident Types/ Concepts							-	-	-	-
30.12.3. Incident Reporting							-	-	-	-
30.12.4. Disposal of Material Involved in a COMSEC Incident							-	-	-	-

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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	COURSE	COURSE	COURSE
30.12.5. Report Submission Process							-	-	-	-
30.13. COMSEC Audits							A	-	-	-
30.14. Secure Voice Program							A	-	-	-
31. CYBER SYSTEMS FAMILIARIZATION TR: 1D7X1D Learning Program (AF e-Learning); Skill Capability Pathfinder										
31.1. Virtualization Fundamentals										
31.1.1. Concepts							A	-	-	-
31.1.2. Server Virtualization							A	-	-	-
31.1.3. Virtualization Environment							A	-	-	-
31.1.4. Client Virtualization							A	-	-	-
31.2. Cloud Computing Fundamentals										
31.2.1. Definition							-	-	-	-
31.2.2. Characteristics							-	-	-	-
31.2.3. Service Model Types							-	-	-	-
31.2.4. Deployment Models Types							-	-	-	-
31.2.5. Benefits							-	-	-	-
31.3. Operating Systems Fundamentals										
31.3.1. Types of Characteristics							A	-	-	-
31.3.2. Scripting							A	-	-	-
31.4. Database Fundamentals										
31.4.1. Flat File							-	-	-	-
31.4.2. Relational							-	-	-	-
31.4.3. NOSQL (Non-relational)							-	-	-	-
31.4.4. Schema							-	-	-	-
31.5. Web Fundamentals										
31.5.1. Language Types							-	-	-	-
31.5.2. Web Services							-	-	-	-
31.6. Web Security Fundamentals										
31.6.1. Session Management							-	-	-	-
31.6.2. Secure Socket Layer							-	-	-	-
31.7. Network/System Fundamentals										
31.7.1. Overview							-	-	-	-
31.7.2. Definition							-	-	-	-

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	COURSE	COURSE	COURSE
31.7.3. Patch Management Purpose							-	-	-	-
31.7.4. Ports, Protocols & Services							-	-	-	-
31.8. Network Authentication Fundamentals										
31.8.1. Components of Public Key Infrastructure (PKI)							-	-	-	-
31.8.2. Biometrics							A	-	-	-
31.8.3. Username/Password							A	-	-	-
31.8.4. Systems Management							-	-	-	-
31.9. Event Response Fundamentals										
31.9.1. Incident/Event Reporting							A	-	-	-
31.10. Network Operations (NetOps) Monitoring Fundamentals										
31.10.1. Identify Event Logging Tools							-	-	-	-
31.11. Vulnerabilities Management Fundamentals										
31.11.1. Functions							A	-	-	-
31.11.2. Base Roles							-	-	-	-
31.11.3. NOS Roles							-	-	-	-
31.11.4. Describe Assessment and Authorizations (A&A) Requirements							-	-	-	-
31.12. Intrusion Controls Fundamentals										
31.12.1. Types and Characteristics							A	-	-	-
31.12.2. Intrusion Detection Methods							A	-	-	-
31.12.3. Intrusion Detection Tools							A	-	-	-
31.12.4. Boundary Interaction Tools							-	-	-	-
31.13. End Point Protection Fundamentals										
31.13.1. Functions							A	-	-	-
31.13.2. Network Based Intrusion Detection System Functions							A	-	-	-
32. CLIENT SYSTEMS OPERATIONS CAREER FIELD TR: 1D7X1E Learning Program (AF e-Learning); CFETP; AFECD										
32.1. Explain duties of AFSC							A	-	-	-
33. SAFETY/RISK MANAGEMENT (RM) TR: 1D7X1E Learning Program (AF e-Learning); AFI 90-802; AFPAM 90-803										

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	COURSE	COURSE	COURSE
33.1. Air Force Safety, Fire, and Health Standards for AFSC							A	-	-	-
33.2. Hazards of the AFSC							A	-	-	-
34. OPERATIONAL PROCEDURES TR: 1D7X1E Learning Program (AF e-Learning); AFI 32-1065, American Public Works Association Policy and American National St; MIL STD 2000A; TOs 00-25-234-WA-1; 31-1-141-1-WA-1; 31-10-7-WA-1; 31-10-11-WA-1; 31-10-13; 31-10-24-WA-1; and 31W3-10-20										
34.1. Standard Maintenance Practices										
34.1.1. Use Publications when Performing Work							2b	-	-	-
34.1.2. End User Support							2b	-	-	-
34.1.3. TEMPEST							-	-	-	-
34.1.4. Wire Color-Coding Standards							A	-	-	-
34.1.5. Construct Copper Ethernet Cable							-	-	-	-
34.1.6. Fiber Optics Concepts							-	-	-	-
34.1.7. Storage Media Sanitization							A	-	-	-
34.1.8. Fundamentals of IT Documentation							B	-	-	-
34.1.9. Fundamentals of Maintenance Documentation							-	-	-	-
34.2. Specialized Tools TR: Applicable Technical Publications										
34.2.1. Crimp Tool							-	-	-	-
34.2.2. Tone Generator							-	-	-	-
34.2.3. Inductive Amplifier							-	-	-	-
34.2.4. LAN Tester							-	-	-	-
34.2.5. Light Source							-	-	-	-
34.2.6. Use Crimp Tool							-	-	-	-
34.2.7. Use Networking Tools (i.e., LAN Tester, Cable Tester)							-	-	-	-
35. SOFTWARE TR: 1D7X1E Learning Program (AF e-Learning); MAJCOM/Local Procedures; Applicable Technical Publications										
35.1. Windows Operating System (OS)										
35.1.1. Purpose							A	-	-	-
35.1.2. Pre-Installation Requirements							A	-	-	-
35.1.3. Operating System Image Management							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	COURSE	COURSE	COURSE
35.1.4. Install Approved Workstation Standard Image							2b	-	-	-
35.1.5. Virtual Desktop Interface (VDI)							-	-	-	-
35.2. Account Management TR: AFI 17-130; TO 00-33A-1202; AFNET Procedures; AFJQS 1D7XX- 200DR										
35.2.1. Account Management Systems							B	-	-	-
35.2.2. Manage Computer Accounts							-	-	-	-
35.2.3. Account Types							-	-	-	-
35.3. Access Management										
35.3.1. Add to Domain							2b	-	-	-
35.3.2. Manage Security Groups							-	-	-	-
35.3.3. Manage Limited Access Accounts							-	-	-	-
35.3.4. Group Policy										
35.3.4.1. Principles							B	-	-	-
35.3.4.2. Query Group Policies							-	-	-	-
35.3.4.3. Apply Group Policy							-	-	-	-
35.4. Applications										
35.4.1. Cyber Sustainment										
35.4.1.1. Install and Configure General Client Applications							2b	-	-	-
35.4.1.2. Software Updates							B	-	-	-
35.4.2. Cyber Hygiene										
35.4.2.1. Cyber Vulnerability Management							2b	-	-	-
35.4.2.2. Install and Configure Anti-virus Software and Virus Definitions							2b	-	-	-
35.4.2.3. Harden Device							2b	-	-	-
35.4.3. Specialized Software										
35.4.3.1. Install and Configure Specialized Client Applications							B	-	-	-
35.4.3.2. Software Management Policies							A	-	-	-
35.5. Mobile Devices										

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	COURSE	COURSE	COURSE
35.5.1. Cross-Platform Software Solutions							B	-	-	-
35.5.2. Mobile Device Management							B	-	-	-
35.6. Troubleshooting Software										
35.6.1. System Recovery										
35.6.1.1. Backup Methods							B	-	-	-
35.6.1.2. Recovery Methods							B	-	-	-
35.6.1.3. Perform User Data Backup							-	-	-	-
35.6.2. Use Remote Tools							2b	-	-	-
35.6.3. Powershell and Scripting							-	-	-	-
35.6.4. Use Control Panel Functions							2b	-	-	-
35.6.5. Use Computer Management Tools							2b	-	-	-
36. HARDWARE TR: 1D7X1E Learning Program (AF e-Learning); MAJCOM/Local Procedures; AF e-Learning CBT: A+ 220-1001: Installing Hardware and Display Components; Commercial Manuals; Applicable Technical Publications										
36.1. Client Systems										
36.1.1. Theory of Operation							B	-	-	-
36.1.2. Major Components							B	-	-	-
36.1.3. Peripheral Devices							-	-	-	-
36.2. Electrostatic Discharge (ESD)										
36.2.1. Fundamentals							A	-	-	-
36.2.2. Concepts							-	-	-	-
36.2.3. Handling, Packaging, and Storing							-	-	-	-
36.3. Install Hardware in a Client System							2b	-	-	-
36.4. Troubleshooting Hardware							-	-	-	-
37. LOCAL & NETWORKED SOLUTIONS TR: 1D7X1E Learning Program (AF e-Learning); MAJCOM/Local Procedures; Applicable Technical Publications; AF e-Learning CBTs: Networking Fundamentals: Configuring Wired and Wireless Networks and Firewalls; CompTIA A+ 220-1001: Configuring a Wired/Wireless Network; CompTIA A+ 220-1001: Networking; CompTIA A+ 220-1001: Network Types										
37.1. Network Theory							B	-	-	-
37.2. Wireless Connectivity							B	-	-	-
37.3. Configure Wireless Access							-	-	-	-

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	COURSE	COURSE	COURSE
37.4. Network Connected Devices										
37.4.1. Add Device to Network							2b	-	-	-
37.4.2. Configure Multifunction Devices							-	-	-	-
37.4.3. Map Client System to Network Device							2b	-	-	-
37.5. Virtual Private Network (VPN)										
37.5.1. Concepts							-	-	-	-
37.5.2. Install and Configure Air Force Approved VPN							2b	-	-	-
37.6. Troubleshooting Network							2b	-	-	-
38. KNOWLEDGE OPERATIONS CAREER FIELD TR: 1D7X1K Learning Program (AF e-Learning); AFMAN 33-396; AFH 36-2618; AFECD										
38.1. Duties of the AFSC							B	-	-	-
38.2. Knowledge Management Center (KMC)										
38.2.1. Overview							B	-	-	-
38.2.2. Responsibilities							B	-	-	-
38.2.3. Leadership							B	-	-	-
38.2.4. Continuity							B	-	-	-
38.2.5. KMWG support (MAJCOM and AF levels)							-	-	-	-
38.3. Roles and Responsibilities										
38.3.1. Sustained Roles							B	-	-	-
38.3.2. Mobile Roles							B	-	-	-
39. KNOWLEDGE MANAGEMENT CORE COMPETENCIES TR: 1D7X1K Learning Program (AF e-Learning); AFMAN 33-396										
39.1. Operationalized Knowledge Management										
39.1.1. Purpose							-	-	-	-
39.1.2. People, Processes, and Tools							-	-	-	-
39.1.3. Elicit User Requirements							-	-	-	-
39.1.4. Solutions Design, Build, Test, and Deploy							-	-	-	-
39.2. Agile Learning										
39.2.1. Best Practice Identification / Sharing							-	-	-	-
39.2.2. Change Management							-	-	-	-
39.2.3. Critical Thinking							-	-	-	-

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	COURSE	COURSE	COURSE
39.2.4. Knowledge Capture							-	-	-	-
39.2.5. Lessons Learned							-	-	-	-
39.3. Decision Cycle										
39.3.1. 7-min Drills							-	-	-	-
39.3.2. Battle Rhythm Mapping / Management							-	-	-	-
39.3.3. Decision Support Systems							-	-	-	-
39.3.4. Knowledge / Concept Mapping							-	-	-	-
39.3.5. Meeting Management							-	-	-	-
39.4. Enhance Performance										
39.4.1. Analytics							-	-	-	-
39.4.2. Expertise Tracking / Marketing							-	-	-	-
39.4.3. Innovation Management							-	-	-	-
39.4.4. KM Assessments							-	-	-	-
39.4.5. Knowledge Engineering							-	-	-	-
39.4.6. Metrics and Measurement							-	-	-	-
39.4.7. Project Management							-	-	-	-
39.4.8. Roles / Responsibility Capture (RACI)							-	-	-	-
39.4.9. Task Tracking Methodologies							-	-	-	-
39.4.10. Work Methodology (agile, Kanban, capture)							-	-	-	-
39.5. KM Program Management										
39.5.1. Establishment of KM Battle Rhythm events							-	-	-	-
39.5.2. KM Doctrine							-	-	-	-
39.5.3. KM Fundamentals							-	-	-	-
39.5.4. KM Governance							-	-	-	-
39.5.5. KM Plan / Strategy							-	-	-	-
39.5.6. KM Roles							-	-	-	-
39.5.7. KM Training							-	-	-	-
39.5.8. Knowledge Worker Concept							-	-	-	-

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
39.5.9. Leadership Endorsement / Support							-	-	-	-
39.6. Shared Understanding										
39.6.1. Brainstorming Methods							-	-	-	-
39.6.2. Collaboration Tools & Environments							B	-	-	-
39.6.3. Communication Plans							-	-	-	-
39.6.4. Communication Skills							-	-	-	-
39.6.5. Communities of Practice (virtual/physical)							-	-	-	-
39.6.6. Content Management							-	-	-	-
39.6.7. Dashboards							-	-	-	-
39.6.8. Knowledge Dissemination							-	-	-	-
39.6.9. Portal Content Design							-	-	-	-
39.6.10. Social Business Platforms							-	-	-	-
39.6.11. Visualization of Information							-	-	-	-
40. ENTERPRISE INFORMATION SERVICES (EIS) TR: 1D7X1K Learning Program (AF e-Learning); AFMAN 33-396; https://www.milsuite.mil/; https://www.usability.gov/about-us/index.html AF e- Learning SharePoint 2013 ISBN #9781118510711; SharePoint 2010 ISBN #9781118105054; AFJQS1D7XX-225S SharePoint										
40.1. Overview										
40.1.1. Information Concepts							B	-	-	-
40.1.2. Types of Services							B	-	-	-
40.1.3. Standards							B	-	-	-
40.2. SharePoint										
40.2.1. Policy							-	-	-	-
40.2.2. Roles and Responsibilities							B	-	-	-
40.2.3. Site Structure							B	-	-	-
40.2.4. Identify Storage Parameters							B	-	-	-
40.2.5. Sites / Pages										
40.2.5.1. Elicit User Requirements							2b	-	-	-
40.2.5.2. Evaluate User Requirements							B	-	-	-
40.2.5.3. Types							B	-	-	-
40.2.5.4. Purpose							B	-	-	-

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
40.2.5.5. Create Sites							2b	-	-	-
40.2.5.6. Delete Sites							2b	-	-	-
40.2.5.7. Reset Site							2b	-	-	-
40.2.5.8. Manage Site Layout							2b	-	-	-
40.2.5.9. Create / Use Dashboards							2b	-	-	-
40.2.6. Site Actions										
40.2.6.1. Web Analytics							2b	-	-	-
40.2.6.2. Activate Site Features							2b	-	-	-
40.2.6.3. Activate Site Collection Features							2b	-	-	-
40.2.6.4. Site Collection Audit							2b	-	-	-
40.2.6.5. Create Customized Navigation							2b	-	-	-
40.2.7. Galleries										
40.2.7.1. Establish Site Columns							-	-	-	-
40.2.7.2. Add Site Content Type							2b	-	-	-
40.2.7.3. Manage Site Settings							2b	-	-	-
40.2.7.4. Organize							2b	-	-	-
40.2.8. Permissions										
40.2.8.1. Create Hierarchy							2b	-	-	-
40.2.8.2. Create / Manage Users							2b	-	-	-
40.2.8.3. Create / Manage Groups							2b	-	-	-
40.2.9. Content (Files, graphics, excel files, links, graphics, calendars, etc.)										
40.2.9.1. Create Custom Content Types							-	-	-	-
40.2.9.2. Add							2b	-	-	-
40.2.9.3. Move							2b	-	-	-
40.2.9.4. Delete							2b	-	-	-
40.2.10. Lists										
40.2.10.1. Create / Manage Templates							2b	-	-	-
40.2.10.2. Create a List							2b	-	-	-
40.2.10.3. Modify Columns							2b	-	-	-
40.2.10.4. Export							-	-	-	-

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	COURSE	COURSE	COURSE
40.2.10.5. Modify Form View							2b	-	-	-
40.2.11. Library										
40.2.11.1. Create / Manage Templates							2b	-	-	-
40.2.11.2. Create a Document Library							2b	-	-	-
40.2.11.3. Force Check In / Check Out a Document							2b	-	-	-
40.2.11.4. Manage Version Control							2b	-	-	-
40.2.11.5. Set Alerts							2b	-	-	-
40.2.12. Views										
40.2.12.1. Manage							-	-	-	-
40.2.12.2. Create a Standard							2b	-	-	-
40.2.12.3. Create a Data Sheet							2b	-	-	-
40.2.12.4. Create / Manage Filters							2b	-	-	-
40.2.12.5. Use Conditional Statements							-	-	-	-
40.2.13. Workflow										
40.2.13.1. Purpose							B	-	-	-
40.2.13.2. Create / Use Workflows							2b	-	-	-
40.2.13.3. Manual / Automatic Activation							2b	-	-	-
40.2.13.4. Out of the Box Workflows							-	-	-	-
40.2.13.5. Associate Workflows to Lists							-	-	-	-
40.2.13.6. Associate Workflows to Libraries							-	-	-	-
40.2.14. Web Parts/App Parts										
40.2.14.1. Uses							B	-	-	-
40.2.14.2. Managing Web/App Parts							-	-	-	-
40.2.15. Item Recovery										
40.2.15.1. Recover From Recycle Bin							2b	-	-	-
40.2.15.2. Recover From Site Collection Recycle Bin							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	COURSE	COURSE	COURSE
40.2.16. Translate Excel / Access Features							-	-	-	-
40.2.17. SharePoint Designer										
40.2.17.1. Customizing and Implementing Content Types										
40.2.17.1.1. Customize Content Types							-	-	-	-
40.2.17.1.2. Implement Custom Content Types							-	-	-	-
40.2.17.2. Integrating Data Sources Using SharePoint Designer										
40.2.17.2.1. Access Data Sources							-	-	-	-
40.2.17.2.2. Modify a Data Source in Data View							-	-	-	-
40.2.17.3. Creating Workflows with the Workflow Platform										
40.2.17.3.1. Implement the Workflow Platform							-	-	-	-
40.2.17.3.2. Design a Workflow							-	-	-	-
40.2.17.4. Creating Workflows with SharePoint Designer and Visio										
40.2.17.4.1. Design Workflows with Visio							-	-	-	-
40.2.17.4.2. Transfer a Visio Workflow Design to SharePoint Designer							-	-	-	-
40.2.17.4.3. Publish a Visio Workflow Design Using SharePoint Designer							-	-	-	-
40.2.17.5. Packaging and Deploying Workflows										
40.2.17.5.1. Package Workflows							-	-	-	-
40.2.17.5.2. Deploy Workflow Packages							-	-	-	-
40.2.17.5.3. Create Impersonation Steps							-	-	-	-
40.2.17.5.4. Create Action Statements							-	-	-	-
41. WEB DEVELOPMENT TR: 1D7X1K Learning Program (AF e-Learning); http://www.w3.org/standards/webdesign/; https://www.w3.org/WAI/intro/accessibility.php; https://www.usability.gov/; AF e-learning Web Design for Dummies ISBN #9781118004906; https://www.w3schools.com/tags/default.asp; https://www.w3schools.com/html/default.asp; AF e-Learning HTML & CSS ISBN #9780071496292; https://www.w3schools.com/css/default.asp; https://www.w3schools.com/cssref/default.asp; https://www.w3schools.com/css/css_intro.asp; https://www.w3schools.com/js/; AF e-Learning JavaScript Essentials Library ID: sl_jsce_a01_it_enus										
41.1. Hypertext Markup Language Code (HTML)										
41.1.1. About							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	COURSE	COURSE	COURSE
41.1.2. Best Practices							B	-	-	-
41.1.3. HTML Structure							2b	-	-	-
41.1.4. Create Elements, Attributes, Headlines and Paragraphs							2b	-	-	-
41.1.5. Use Styles							2b	-	-	-
41.1.6. Use Formatting Elements							2b	-	-	-
41.1.7. Add Links							2b	-	-	-
41.1.8. Use Images							2b	-	-	-
41.1.9. Add Tables							2b	-	-	-
41.1.10. Create Lists							2b	-	-	-
41.1.11. Create Hyperlinks							2b	-	-	-
41.1.12. Create Marquee							2b	-	-	-
41.1.13. Add Email Links							2b	-	-	-
41.1.14. Add Comments							2b	-	-	-
41.1.15. Resources							B	-	-	-
41.1.16. JavaScript							-	-	-	-
41.2. Cascading Style Sheets										
41.2.1. About							-	-	-	-
41.2.2. Syntax							-	-	-	-
41.2.3. Selectors							-	-	-	-
41.2.4. 3 ways to insert Cascading Style Sheet							-	-	-	-
41.2.5. Work with Colors							-	-	-	-
41.2.6. Work with images							-	-	-	-
41.2.7. Box Model							-	-	-	-
41.2.8. Use Height and Width Modifications							-	-	-	-
41.2.9. Use Auto Value							-	-	-	-
41.2.10. Use Text Modification							-	-	-	-
41.2.11. Use Icons & Stylesheets							-	-	-	-
41.2.12. Add Commenting							-	-	-	-
41.2.13. Resources							-	-	-	-
42. CLIENT SYSTEMS FAMILIARIZATION TR: 1D7X1K Learning Program (AF e-Learning); AFI 17-130; TO 00-33A-1202; AFNET Procedures; AFJQS1D7XX-200DR; Skill Capability Pathfinder										
42.1. Account Management Fundamentals										

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	COURSE	COURSE	COURSE
42.1.1. Account Management Systems							B	-	-	-
42.1.2. Manage Computer Accounts							-	-	-	-
42.1.3. Account Types							-	-	-	-
42.2. Access Management Fundamentals										
42.2.1. Add to Domain							B	-	-	-
42.2.2. Manage Security Groups							-	-	-	-
42.2.3. Manage Limited Access Accounts							-	-	-	-
42.3. Group Policy Fundamentals										
42.3.1. Principles							B	-	-	-
42.3.2. Query Group Policies							-	-	-	-
42.3.3. Apply Group Policy							-	-	-	-
43. CYBER SYSTEMS FAMILIARIZATION TR: 1D7X1K Learning Program (AF e-Learning); Skill Capability Pathfinder										
43.1. Operating Systems Fundamentals										
43.1.1. Types and Characteristics							B	-	-	-
43.1.2. Common Server Roles							B	-	-	-
43.1.3. Basic Cmd Line Programs							B	-	-	-
43.1.4. Account Management							B	-	-	-
43.1.5. Hardening							B	-	-	-
43.1.6. Process Management							B	-	-	-
43.2. Incident/Event Reporting							B	-	-	-
43.3. AF Standard Vulnerability Assessment (VA) Tools Fundamentals										
43.3.1. Functions and Capabilities							-	-	-	-
43.3.2. Review Vulnerability Scan							B	-	-	-
43.4. STIG Compliance Requirements Fundamentals										
43.4.1. Use STIG Viewer							-	-	-	-
43.4.2. Apply STIG							-	-	-	-
43.4.3. Use STIG Compliance Scanning Tool							-	-	-	-
43.5. Describe Best Practices for Vulnerability Assessment Tools							-	-	-	-

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	COURSE	COURSE	COURSE
43.6. Patch Management Fundamentals										
43.6.1. Purpose							-	-	-	-
43.6.2. Client Install and Uninstall							-	-	-	-
43.6.3. Install Security Patches							-	-	-	-
43.6.4. Utilize the Dashboard for Reporting							-	-	-	-
44. RF TRANSMISSION OPERATIONS CAREER FIELD TR: AFI 36-2101; CFETP; AFECD										
44.1. Explain duties of AFSC							A	-	-	-
45. SAFETY/RISK MANAGEMENT (RM) TR: AFI 48-109; AFI 90-802; AFI 91-202; AFMAN 91-203; TO 31Z-10-4										
45.1. Air Force Safety, Fire, and Health Standards for AFSC							A	-	-	-
45.2. Hazards of the AFSC							A	-	-	-
45.3. Practice Safety Precautions										
45.3.1. Maintenance Actions							-	-	-	-
45.3.2. Energized Equipment							A	-	-	-
45.3.3. High Voltage Equipment							-	-	-	-
45.3.4. Radio Frequency (RF) Hazard Environments							A	-	-	-
45.4. Safety and Personal Protective Equipment										
45.4.1. Use							2b	-	-	-
45.4.2. Maintain							-	-	-	-
45.4.3. Inspect							-	-	-	-
45.5. Perform General Housekeeping							-	-	-	-
46. ELECTRONIC PRINCIPLES TR: TO 31-1-141-2WA-1 Ch.7, 9, and 10										
46.1. Metric Notation										
46.1.1. Calculate Powers of Ten							-	-	-	-
46.1.2. Electrical Prefixes							-	-	-	-
46.2. Fundamentals of Electricity										
46.2.1. Ohm's Law and its Applications							-	-	-	-
46.2.2. Identify and Interpret Basic Electrical Symbols and Drawings							-	-	-	-
46.2.3. Current							-	-	-	-

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	COURSE	COURSE	COURSE
46.2.4. Voltage							-	-	-	-
46.2.5. Resistance							-	-	-	-
46.2.6. Inductance							-	-	-	-
46.2.7. Capacitance							-	-	-	-
46.2.8. Power							-	-	-	-
46.3. Direct Current										
46.3.1. Theory							-	-	-	-
46.3.2. Applications							-	-	-	-
46.4. Alternating Current										
46.4.1. Theory							-	-	-	-
46.4.2. Applications							-	-	-	-
46.5. Component and Device Theory										
46.5.1. Transformers							-	-	-	-
46.5.2. Resistors							-	-	-	-
46.5.3. Capacitors							-	-	-	-
46.5.4. Inductors							-	-	-	-
46.5.5. Relays/solenoids							-	-	-	-
46.5.6. Diodes							-	-	-	-
46.5.7. Transistors							-	-	-	-
46.5.8. Integrated Circuit							-	-	-	-
46.6. Electronic Circuits										
46.6.1. Kirchhoff's Law							-	-	-	-
46.6.2. Series Circuits							-	-	-	-
46.6.3. Parallel Circuits							-	-	-	-
46.7. Wave Generating Circuits										
46.7.1. Oscillators							-	-	-	-
46.7.2. Transistor Amplifier Circuits							-	-	-	-
46.8. Digital Circuits										
46.8.1. Theory							-	-	-	-
46.8.2. Applications							-	-	-	-
47. 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										
47.1. Use Publications when Performing Work							2b	-	-	-

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	COURSE	COURSE	COURSE
47.2. Installation							-	-	-	-
47.3. Configuration							-	-	-	-
47.4. Interconnection							-	-	-	-
47.5. Inspection							-	-	-	-
47.6. TEMPEST Suppression Techniques							-	-	-	-
47.7. Documentation										
47.7.1. Cabling							-	-	-	-
47.7.2. Installation							-	-	-	-
47.8. Wire Color Coding Standards							-	-	-	-
47.9. Fiber Optics Installation Concepts							-	-	-	-
47.10. Twisted pair Cable							-	-	-	-
47.11. Coaxial Cables							-	-	-	-
47.12. Fiber Optic Cable							-	-	-	-
47.13. Interfacing Considerations (e.g.TRI TAC, Pinouts, Signal Format)							-	-	-	-
47.14. Shielding							-	-	-	-
47.15. Lightning Protection							A	-	-	-
47.16. Equipment Grounding and Lightning Protection										
47.16.1. Install							-	-	-	-
47.16.2. Remove							-	-	-	-
47.16.3. Perform Inspection							-	-	-	-
47.16.4. Perform Maintenance							-	-	-	-
47.17. Underground Utilities										
47.17.1. Identify							-	-	-	-
47.17.2. Mark							-	-	-	-
47.18. Equipment Familiarization										
47.18.1. Visual Inspection							-	-	-	-
47.18.2. Basic Troubleshooting Techniques							B	-	-	-
48. TEST EQUIPMENT TR: Applicable Test Equipment Technical Orders; TO 33K-1-100-1										
48.1. Test Equipment Theory										
48.1.1. Optical 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	COURSE	COURSE	COURSE
48.1.2. Time Domain Reflectometer							-	-	-	-
48.1.3. Bit Error Rate Test Set							A	-	-	-
48.1.4. Frequency Counter							-	-	-	-
48.1.5. Network/Protocol Analyzer							-	-	-	-
48.1.6. Spectrum Analyzer							A	-	-	-
48.1.7. Power Meter							-	-	-	-
48.1.8. Insulation Test Set							-	-	-	-
48.1.9. Megaohmeter							-	-	-	-
48.1.10. Built in Test Equipment							-	-	-	-
48.1.11. Breakout Box							-	-	-	-
48.1.12. Communications System Analyzer/Communications Service Monitor							-	-	-	-
48.1.13. Sweep Generator							-	-	-	-
48.1.14. RMS Voltmeter							-	-	-	-
48.1.15. Distortion Analyzer							-	-	-	-
48.1.16. Wattmeter							-	-	-	-
48.1.17. Dummy Load							-	-	-	-
48.1.18. Audio Oscillator							A	-	-	-
48.1.19. Infrared Tester							-	-	-	-
48.1.20. Earth Ground Tester							A	-	-	-
48.1.21. Wavemeter							-	-	-	-
48.1.22. VSWR Tester							-	-	-	-
48.2. Equipment Maintenance using Test Equipment										
48.2.1. Optical Time Domain Reflectometer							-	-	-	-
48.2.2. Time Domain Reflectometer							-	-	-	-
48.2.3. Bit Error Rate Test Set							2b	-	-	-
48.2.4. Frequency Counter							-	-	-	-
48.2.5. Network/Protocol Analyzer							-	-	-	-
48.2.6. Spectrum Analyzer							2b	-	-	-
48.2.7. Power Meter							-	-	-	-
48.2.8. Insulation Test Set							-	-	-	-

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	COURSE	COURSE	COURSE
48.2.9. Megaohmeter							-	-	-	-
48.2.10. Built in Test Equipment							-	-	-	-
48.2.11. Breakout Box							-	-	-	-
48.2.12. Communications System Analyzer/Communications Service Monitor							2b / -	-	-	-
48.2.13. Sweep Generator							-	-	-	-
48.2.14. RMS Voltmeter							-	-	-	-
48.2.15. Distortion Analyzer							-	-	-	-
48.2.16. Wattmeter							-	-	-	-
48.2.17. Dummy Load							-	-	-	-
48.2.18. Audio Oscillator							-	-	-	-
48.2.19. Infrared Tester							-	-	-	-
48.2.20. Earth Ground Tester							2b	-	-	-
48.2.21. Wavemeter							-	-	-	-
48.2.22. VSWR Tester							-	-	-	-
49. SPECIALIZED TOOLS TR: Applicable Technical Publications										
49.1. Amphenol Tool							-	-	-	-
49.2. Tone Generator							-	-	-	-
49.3. Inductive Amplifier							-	-	-	-
49.4. LAN Tester							-	-	-	-
49.5. Light Source							-	-	-	-
49.6. Transit							-	-	-	-
49.7. Fusion Splicer							-	-	-	-
49.8. Fiber Optic Source and Meter							-	-	-	-
50. BASIC COMMUNICATIONS THEORY TR: TO 31-1-141-2WA-1 Ch.7, 9, and 10										
50.1. Digital Communications							-	-	-	-
50.2. Radio Theory										
50.2.1. Transmitters							-	-	-	-
50.2.2. Receivers							-	-	-	-
50.2.3. Transceivers							-	-	-	-
50.3. RF Transmission Mediums							-	-	-	-
50.4. Modulation Techniques							-	-	-	-

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	COURSE	COURSE	COURSE
50.5. Radio Etiquette							-	-	-	-
50.6. Practice Radio Etiquette							-	-	-	-
50.7. RF Spectrum										
50.7.1. Frequency Bands and Characteristics							-	-	-	-
50.7.2. Joint Spectrum Interference Resolution (JSIR) Program							-	-	-	-
50.7.3. Air Force Spectrum Interference Resolution (AFSIR) Program							-	-	-	-
50.8. Electromagnetic Wave Propagation Theory										
50.8.1. Radio Wave Propagation										
50.8.1.1. Refraction							-	-	-	-
50.8.1.2. Reflection							-	-	-	-
50.8.1.3. Diffraction							-	-	-	-
50.8.1.4. Skywave Fundamentals							-	-	-	-
50.8.2. Signal Loss										
50.8.2.1. Path Loss							-	-	-	-
50.8.2.2. Atmospheric Attenuation							-	-	-	-
50.8.2.3. Multipathing							-	-	-	-
50.8.2.4. Free Space Loss							-	-	-	-
50.8.2.5. Anomalous Propagation							-	-	-	-
50.8.2.6. Solar Emissions and effects							-	-	-	-
51. ANTENNA PRINCIPLES TR: TO 31-1-141-12										
51.1. Common Antennas										
51.1.1. Dipole							-	-	-	-
51.1.2. Whip							-	-	-	-
51.1.3. Longwire							-	-	-	-
51.1.4. Horn							-	-	-	-
51.1.5. Helical							-	-	-	-
51.1.6. Parabolic							-	-	-	-
51.1.7. Array							-	-	-	-
51.2. Antenna Efficiency							-	-	-	-

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	COURSE	COURSE	COURSE
51.3. Antenna Waves							-	-	-	-
51.4. Antenna Site Selection and Configuration							-	-	-	-
51.5. Mutual Interference							-	-	-	-
51.6. Antenna Gain							-	-	-	-
51.7. Impedance Matching							-	-	-	-
51.8. Resonant & Non Resonant Antennas							-	-	-	-
51.9. Law of Reciprocity							-	-	-	-
51.10. Polarization							-	-	-	-
51.11. Relationship of Antenna Height and Take Off Angle							-	-	-	-
51.12. Calculation of Electrical Length							-	-	-	-
51.13. Calculation of Physical Length							-	-	-	-
51.14. Beamwidth							-	-	-	-
51.15. Deployable Antenna Equipment										
51.15.1. Deployable Antennas							-	-	-	-
51.15.2. Deployable Antenna Masts							-	-	-	-
51.15.3. Erect Selected Deployable Antenna Masts and Antennas							-	-	-	-
51.16. Airborne Antenna Applications										
51.16.1. Effects of Flight on Antenna Propagation							-	-	-	-
51.16.2. Antenna Configuration On Airframes							-	-	-	-
52. TACTICAL RADIO APPLICATIONS TR: AFTTP(I) 3-2.27, Applicable Commercial Manuals										
52.1. High Frequency (HF) Transceiver Equipment										
52.1.1. Capabilities and Limitations							-	-	-	-
52.1.2. Controls and Indicators							-	-	-	-
52.1.3. Function of Modules							-	-	-	-
52.1.4. Operate the HF Transceiver							-	-	-	-
52.1.5. Perform Preventive Maintenance Inspection							-	-	-	-
52.1.6. Troubleshoot							-	-	-	-

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	COURSE	COURSE	COURSE
52.1.7. Survivable HF Communications										
52.1.7.1. HFGCS							-	-	-	-
52.1.7.2. Automatic Link Establishment (ALE)							-	-	-	-
52.2. Tactical VHF/UHF Transceiver										
52.2.1. Capabilities, Configurations, and Limitations							-	-	-	-
52.2.2. Controls and Indicators							-	-	-	-
52.2.3. Function of Modules							-	-	-	-
52.2.4. Operate the Transceiver							-	-	-	-
52.2.5. Perform Selected Preventive Maintenance Inspections (PMIs)							-	-	-	-
52.2.6. Troubleshoot							-	-	-	-
52.2.7. UHF TACSAT										
52.2.7.1. UHF Follow-on/TACSAT Purpose, Capabilities, and Limitations							-	-	-	-
52.2.7.2. UHF TACSAT Transceiver							-	-	-	-
52.2.7.3. Control and Indicator Functions							-	-	-	-
52.2.7.4. Operate the UHF TACSAT Transceiver							-	-	-	-
52.3. Battlefield Networks										
52.3.1. Jam Resistant Communications										
52.3.1.1. Frequency Hopping							-	-	-	-
52.3.1.2. Spread Spectrum							-	-	-	-
52.3.1.3. Joint Tactical Information Distribution System (JTIDS)/Multifunctional Information Distribution System (MIDS)							-	-	-	-
52.3.2. Tactical Data Links (TDLs)							-	-	-	-
52.3.3. Situation Awareness Data Link (SADL)							-	-	-	-
52.3.4. Enhanced Position Location Reporting System (EPLRS)							-	-	-	-
52.3.5. Advanced Waveforms										
52.3.5.1. Integrated Waveform (IW)							-	-	-	-

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	COURSE	COURSE	COURSE
52.3.5.2. Mobile User Objective System (MUOS)							-	-	-	-
52.3.5.3. ANW2							-	-	-	-
52.3.5.4. TACSAT DAMA							-	-	-	-
52.3.5.5. HPW							-	-	-	-
52.3.5.6. Program Radio Using an Advanced Waveform							-	-	-	-
53. LAND MOBILE RADIO (LMR) TRANSMISSION SYSTEMS TR: Applicable TOs and Commercial Manuals										
53.1. Conventional LMR Systems							-	-	-	-
53.2. Trunked LMR Systems							-	-	-	-
53.3. Enterprise LMR Systems							-	-	-	-
53.4. LMR Systems Encryption							-	-	-	-
53.5. Program LMRs							-	-	-	-
54. INSTALLATION NOTIFICATION AND WARNING SYSTEMS (GIANT VOICE) TR: AFI 10-2501 and Commercial Manuals										
54.1. Principles, Capabilities, and Limitations							-	-	-	-
54.2. Controls and Indicators							-	-	-	-
54.3. Functions of Modules							-	-	-	-
54.4. Perform Operational Checks							-	-	-	-
54.5. Configure							-	-	-	-
55. CRYPTO PRINCIPLES TR: Applicable TOs and Manuals										
55.1. Common Cryptology Methods							-	-	-	-
55.2. Cryptological Equipment							-	-	-	-
55.3. Fill Devices							-	-	-	-
55.4. Operate Selected Cryptological Equipment							-	-	-	-
56. SATELLITE COMMUNICATIONS (SATCOM) TR: CJCSI 6250.01; Applicable DISA Circulars, USSTRATCOM Wideband Standards and Operating Procedures										
56.1. Satellite System Segments Principles, Capabilities, and Limitations										
56.1.1. Space Segment							-	-	-	-
56.1.2. Command and Control Segment							-	-	-	-
56.1.3. Terminal Segment							-	-	-	-
56.2. Satellite Bands, Purpose, Capabilities and Limitations										

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	COURSE	COURSE	COURSE
56.2.1. Commercial C, Ku, K, X and Ka Band							-	-	-	-
56.2.2. Commercial L Band							-	-	-	-
56.3. Satellite Access Principles										
56.3.1. FDMA							-	-	-	-
56.3.2. TDMA							-	-	-	-
56.3.3. CDMA							-	-	-	-
56.3.4. DAMA							-	-	-	-
56.4. Satellite Systems and Constellations										
56.4.1. Wideband Global Satellite (WGS)							-	-	-	-
56.4.2. Defense Satellite Communications System (DSCS)							-	-	-	-
56.4.3. Defense Meteorological Satellite Program (DMSP)							-	-	-	-
56.4.4. Defense Support Program (DSP)							-	-	-	-
56.4.5. MILSTAR							-	-	-	-
56.4.6. Advanced Extremely High Frequency (AEHF)							-	-	-	-
56.4.7. Global Positioning Service (GPS)							-	-	-	-
56.4.8. Mystic Star							-	-	-	-
56.4.9. Commercial Satellite Systems							-	-	-	-
56.4.10. Air Force Satellite Control Network (AFSCN)							-	-	-	-
56.5. SATCOM Terminal Characteristics										
56.5.1. Introduction to UHF, SHF, EHF Terminals							-	-	-	-
56.5.2. Multiband Satellite Terminals							-	-	-	-
56.5.3. Power Distribution System							-	-	-	-
56.5.4. Transmit Systems										
56.5.4.1. Transmitter							-	-	-	-
56.5.4.2. Up Converters							-	-	-	-
56.5.4.3. Power Amplifiers (PA)							-	-	-	-
56.5.5. Receive Systems										

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	COURSE	COURSE	COURSE
56.5.5.1. Receiver							-	-	-	-
56.5.5.2. Low Noise Amplifiers (LNA)							-	-	-	-
56.5.5.3. Down Converters							-	-	-	-
56.5.6. Antenna and Tracking Systems										
56.5.6.1. Antenna Systems							-	-	-	-
56.5.6.2. Acquisition and Tracking Principles							-	-	-	-
56.5.6.3. Calculate Satellite Look Angles using specialized tools							-	-	-	-
56.5.6.4. Acquire and Track Satellites							-	-	-	-
56.5.7. Multiband Satellite Terminal Operation										
56.5.7.1. Perform Power Up/Down Procedures							-	-	-	-
56.5.7.2. Configure the Baseband Equipment							-	-	-	-
56.5.7.3. Perform Baseband Equipment Operational Check							-	-	-	-
56.5.7.4. Configure Transmit and Receive Equipment							-	-	-	-
56.5.7.5. Perform Transmit and Receive Equipment perational Check							-	-	-	-
56.5.7.6. Configure the Antenna System							-	-	-	-
56.5.7.7. Configure Control, Monitor, and Alarm system							-	-	-	-
56.5.7.8. Interfacing External Multiplexing Equipment							-	-	-	-
56.5.7.9. Timing and Synchronization							-	-	-	-
56.5.8. Network Bandwidth Management Equipment										
56.5.8.1. Principles, Capabilities, and Limitations							-	-	-	-
56.5.8.2. Multiplexing Equipment										
56.5.8.2.1. Principles, Capabilities, and Limitations							-	-	-	-
56.5.8.2.2. Perform Operational Check							-	-	-	-
56.5.8.2.3. Configure							-	-	-	-
56.5.8.2.4. Troubleshoot							-	-	-	-

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	COURSE	COURSE	COURSE
56.6. SATCOM Link Operations										
56.6.1. Access Processes										
56.6.1.1. Satellite Database							-	-	-	-
56.6.1.2. Satellite Access Request (SAR)							-	-	-	-
56.6.1.3. Submit SAR							-	-	-	-
56.6.1.4. Gateway Access Request							-	-	-	-
56.6.2. Communication Link Establishment										
56.6.2.1. Principles							-	-	-	-
56.6.2.2. Establish a Communications Link							-	-	-	-
56.6.3. Communication Link Maintenance										
56.6.3.1. Identify Counter Counter Measures Facts and Terms							-	-	-	-
56.6.3.2. Maintain Master Station Logs							-	-	-	-
56.6.3.3. Develop After Action Reports							-	-	-	-
56.6.3.4. DISA Reports										
56.6.3.4.1. SATCOM Equipment Reports (SERS)							-	-	-	-
56.6.3.4.2. HAZCON Reports							-	-	-	-
56.7. Global Positioning System Receiver										
56.7.1. Principles, Capabilities, and Limitations							-	-	-	-
56.7.2. Controls and Indicators							-	-	-	-
56.7.3. Operate a GPS Receiver							-	-	-	-
57. INTERNET PROTOCOL (IP) NETWORKING TR: AF e-Learning										
57.1. Internetworking Basics										
57.1.1. Internetworking Basics Fundamentals							-	-	-	-
57.1.2. OSI Reference Model							-	-	-	-
57.1.3. Topologies							-	-	-	-
57.1.4. IPv4/IPv6 Addressing Fundamentals							-	-	-	-
57.1.5. Fundamentals of Protocols							-	-	-	-

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	COURSE	COURSE	COURSE
57.2. Networking										
57.2.1. Internet Protocols							-	-	-	-
57.2.2. TCP/IP							-	-	-	-
57.2.3. LAN Technologies							-	-	-	-
57.2.4. WLAN (Wireless IEEE 802.11)							-	-	-	-
57.2.5. WAN Technologies										
57.2.5.1. WAN Fundamentals							-	-	-	-
57.2.5.2. Routing							-	-	-	-
57.2.5.3. Configure Router							-	-	-	-
57.2.5.4. Quality of Service (QoS)							-	-	-	-
57.2.5.5. Survivability							-	-	-	-
57.2.5.6. IP Network Security							-	-	-	-
58. RF DEVICES TO IP NETWORKING TR: Commercial Publications										
58.1. Methods of Interfacing RF Devices with IP Networks							-	-	-	-
58.2. Interface Selected RF Equipment with an IP Network							-	-	-	-
58.3. Cellular IP Networks and Equipment (GSM, LTE, CDMA)							-	-	-	-
59. ELECTRICAL POWER SYSTEMS TR: Commercial Manuals										
59.1. Switched Electrical Power Systems							-	-	-	-
59.2. Uninterruptible Power Supplies (UPS)							-	-	-	-
59.3. Batteries							-	-	-	-
59.4. Rectifiers							-	-	-	-
59.5. Filters							-	-	-	-
59.6. Inverters							-	-	-	-
59.7. Generators							-	-	-	-
60. MICROWAVE TRANSMISSION SYSTEMS TR: TO 31-1-141-11-WA-1, TO 31-1-141-12-WA-										
60.1. Line of Sight Microwave Radio Systems										
60.1.1. Principles, Capabilities, and Limitations							-	-	-	-
60.1.2. Controls and Indicators							-	-	-	-

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	COURSE	COURSE	COURSE
60.1.3. Setup and Teardown							-	-	-	-
60.1.4. Configure Microwave System							-	-	-	-
60.1.5. Troubleshoot							-	-	-	-
60.2. Troposcatter Radio System Theory							-	-	-	-
61. SOFTWARE DEVELOPMENT OPERATIONS CAREER FIELD TR: 1D7X1Z Learning Program (AF e-Learning); AFH 33-337; AFIs 10-401, 33-100, 33-101, 33-115 Vols 1 & 3, 33-150, 36-2101; 1D7X1Z CFETP; AFECD										
61.1. Explain duties of AFSC							A	-	-	-
62. SOFTWARE DEVELOPMENT FUNDAMENTALS TR: 1D7X1Z Learning Program (AF e-Learning)										
62.1. Software Engineering										
62.1.1. Goals and Principles							A	-	-	-
62.1.2. Use Software Development/Engineering Tools (e.g.IDE, DBMS, CLI)							2b	-	-	-
62.1.3. Compiling							2b	-	-	-
62.2. Problem Solving										
62.2.1. Define Problem							3b	-	-	-
62.2.2. Problem Solution Statements							3b	-	-	-
62.2.3. Develop Problem Solution							3b	-	-	-
62.3. Object Oriented Software Engineering										
62.3.1. Concepts							A	-	-	-
62.3.2. Design							A	-	-	-
62.3.3. Programming							2b	-	-	-
62.4. Design Concepts										
62.4.1. Sequential Design							-	-	-	-
62.4.2. Conditional Primitives							2b	-	-	-
62.4.3. Iterative Primitives							2b	-	-	-
62.4.4. Data Manipulation							2b	-	-	-
62.4.5. Exception Handling							2b	-	-	-
62.4.6. Bit Functions							-	-	-	-
62.4.7. Threading							-	-	-	-
62.4.8. System Interfaces							2b	-	-	-
62.4.9. Design Patterns (e.g.MVC)							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	COURSE	COURSE	COURSE
62.5. Web Fundamentals										
62.5.1. HTML Basics							2b	-	-	-
62.5.2. CSS Basics							2b	-	-	-
62.5.3. JavaScript							2b	-	-	-
62.5.4. JavaScript /HTTP Interaction							2b	-	-	-
62.5.5. JavaScript Libraries (e.g.jQuery, Angular, Bootstrap)							A	-	-	-
62.5.6. Document Object Model (DOM)							A	-	-	-
62.5.7. Representational State Transfer (REST)							-	-	-	-
62.5.8. Cloud Providers										
62.5.8.1. Government Cloud Providers							-	-	-	-
62.5.8.2. Commercial Cloud Providers							-	-	-	-
62.6. Serialization										
62.6.1. Reasoning / Purpose							A	-	-	-
62.6.2. Types										
62.6.2.1. JSON							A	-	-	-
62.6.2.2. Google Protobuffs							-	-	-	-
62.6.2.3. XML							A	-	-	-
62.6.2.4. YAML							-	-	-	-
62.7. Persistent Storage Functions										
62.7.1. Create							2b	-	-	-
62.7.2. Read							2b	-	-	-
62.7.3. Update							2b	-	-	-
62.7.4. Delete							2b	-	-	-
63. SOFTWARE DEVELOPMENT PROCESS TR: 1D7X1Z Learning Program (AF e-Learning)										
63.1. Interpersonal Skills							A	-	-	-
63.2. Elicit User Requirements							2b	-	-	-
63.3. Evaluate User Requirements							-	-	-	-
63.4. User Stories							2b	-	-	-
63.5. Feasibility Studies							-	-	-	-
63.6. Technical Design Considerations										

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	COURSE	COURSE	COURSE
63.6.1. Environmental Limitations							-	-	-	-
63.6.2. Environmental Considerations							-	-	-	-
63.7. Software Quality Metrics							A	-	-	-
63.8. Extreme Programming							2b	-	-	-
63.9. Lifecycle Methodologies							A	-	-	-
63.10. Test Driven Development							2b	-	-	-
63.11. Iterative Development							A	-	-	-
63.12. DevOps							A	-	-	-
63.13. Create/Update Software Documentation										
63.13.1. Software System Documentation							A	-	-	-
63.13.2. User Documentation							A	-	-	-
64. SOFTWARE CONFIGURATION MANAGEMENT TR: 1D7X1Z Learning Program (AF e-Learning)										
64.1. Overview							A	-	-	-
64.2. Source Control										
64.2.1. Purpose							A	-	-	-
64.2.2. Repositories							A	-	-	-
64.2.3. Lock Modify Unlock Model							A	-	-	-
64.2.4. Copy Modify Merge Model							A	-	-	-
64.2.5. Utilize Source Control Tools							2b	-	-	-
64.2.6. Versioning										
64.2.6.1. Version Number Scheme							-	-	-	-
64.2.6.2. Release Baselines							-	-	-	-
64.2.6.3. Concurrent Release Development							-	-	-	-
64.3. Software Support Libraries										
64.3.1. Development of Library Modules							-	-	-	-
64.3.2. Use							2b	-	-	-
64.3.3. Maintain							-	-	-	-
65. SOFTWARE SECURITY TR: 1D7X1Z Learning Program (AF e-Learning)										

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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	COURSE	COURSE	COURSE
65.1. System Security										
65.1.1. Buffer Overflow							B	-	-	-
65.1.2. Stack Overflow							B	-	-	-
65.1.3. Heap Overflow							B	-	-	-
65.1.4. Format String Attack							B	-	-	-
65.1.5. Fuzzing							-	-	-	-
65.1.6. Safe Functions							B	-	-	-
65.1.7. Memory Leaks							B	-	-	-
65.1.8. Root Kits							-	-	-	-
65.1.9. Privilege Escalation/Lateral							-	-	-	-
65.1.10. Check Return Values							-	-	-	-
65.1.11. Shellcode							-	-	-	-
65.2. Transport Security										
65.2.1. Transport Layer Security							-	-	-	-
65.2.2. Encoding							-	-	-	-
65.2.3. Tunneling							-	-	-	-
65.2.4. Session Hijacking							-	-	-	-
65.2.5. Integrity / Checksum Check							-	-	-	-
65.2.6. Cross Site Request Forgery							-	-	-	-
65.3. Input Validation										
65.3.1. Data Validation							2b	-		
65.3.2. Sanitization							2b	-		
65.3.3. SQL Injection							-	-		
65.3.4. Code Injection							-	-		
65.3.5. Cross Site Scripting							-	-		
65.4. Encryption										
65.4.1. Block							-	-	-	-
65.4.2. Stream							-	-	-	-
65.4.3. Securely Stored Tokens/Keys/Certificates							-	-	-	-
65.4.4. End to End Encryption							-	-	-	-
65.4.5. RSA							-	-	-	-

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	COURSE	COURSE	COURSE
65.4.6. Public Key Infrastructure (PKI)							-	-	-	-
65.4.7. Certificates										
65.4.7.1. Certificate Trust Chain							-	-	-	-
65.4.7.2. Certificate Revocation List							-	-	-	-
65.4.7.3. Certificate Generation										
65.4.7.3.1. OpenSSL							-	-	-	-
65.4.7.3.2. Bouncy Castle							-	-	-	-
65.4.7.4. Authentication Levels							-	-	-	-
65.5. Malware Reverse Engineering										
65.5.1. Strings							-	-	-	-
65.5.2. VirusTotal							-	-	-	-
65.5.3. Advanced Static Analysis							-	-	-	-
65.5.4. Advanced Dynamic Analysis							-	-	-	-
65.5.5. Wireshark							-	-	-	-
65.5.6. Imports/Exports							-	-	-	-
65.5.7. Isolate in Virtual Machine							-	-	-	-
65.6. Common Vulnerabilities and Exposures (CVE)							-	-	-	-
65.7. Information Assurance Vulnerability Alert (IAVA)							-	-	-	-
65.8. Auditing							-	-	-	-
66. SOFTWARE TESTING TR: 1D7X1Z Learning Program (AF e-Learning)										
66.1. Documentation										
66.1.1. Test Plans							A	-	-	-
66.1.2. Test Cases										
66.1.2.1. Format							2b	-	-	-
66.1.2.2. Positive Testing							A	-	-	-
66.1.2.3. Negative Testing							A	-	-	-
66.1.3. Bug Reporting							A	-	-	-
66.2. Testing Types										
66.2.1. Black / White Box Testing							-	-	-	-
66.2.2. Functional Testing										

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	COURSE	COURSE	COURSE
66.2.2.1. Unit Testing							A	-	-	-
66.2.2.2. Integration Testing							A	-	-	-
66.2.2.3. System / Regression Testing							A	-	-	-
66.2.2.4. Acceptance Testing							A	-	-	-
66.2.3. Nonfunctional Testing										
66.2.3.1. Security Testing										
66.2.3.1.1. Vulnerability Scanning							-	-	-	-
66.2.3.1.2. Security Scanning							-	-	-	-
66.2.4. Performance Testing							A	-	-	-
66.2.5. End to End Testing							A	-	-	-
66.3. Testing Automation										
66.3.1. GUI Testing							A	-	-	-
66.3.2. Web Services / API Testing							A	-	-	-
66.4. Continuous Testing							A	-	-	-
67. SOFTWARE MAINTENANCE TR: 1D7X1Z Learning Program (AF e-Learning)										
67.1. Corrective										
67.1.1. Bug Management										
67.1.1.1. Collection							A	-	-	-
67.1.1.2. Prioritization							-	-	-	-
67.1.2. Error Correction										
67.1.2.1. Data Entry							-	-	-	-
67.1.2.2. Syntax							2b	-	-	-
67.1.2.3. Logic							2b	-	-	-
67.2. Adaptive										
67.2.1. Migration							-	-	-	-
67.2.2. Redesign							-	-	-	-
67.3. Perfective										
67.3.1. Periodic Validation										
67.3.1.1. Federal Requirements							-	-	-	-
67.3.1.2. Functional Testing							2b	-	-	-
67.3.1.3. Security Testing							2b	-	-	-
67.3.2. Efficiency Analysis										

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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	COURSE	COURSE	COURSE
67.3.2.1. Hardware Limitations							-	-	-	-
67.3.2.2. OS / Host System Limitations							-	-	-	-
68. USER EXPERIENCE DESIGN (UXD) TR: 1D7X1Z Learning Program (AF e-Learning)										
68.1. User Centered Design							A	-	-	-
68.2. Information Architecture							A	-	-	-
68.3. Interaction Design							A	-	-	-
68.4. Visual Design							A	-	-	-
68.5. Accessibility							A	-	-	-
68.6. Usability							A	-	-	-
69. DATABASE TR: 1D7X1Z Learning Program (AF e-Learning)										
69.1. Design										
69.1.1. Logical							A	-	-	-
69.1.2. Normalization							A	-	-	-
69.1.3. Denormalization							A	-	-	-
69.1.4. Physical							A	-	-	-
69.1.5. Data Models										
69.1.5.1. Relational							A	-	-	-
69.1.5.2. Key Value							A	-	-	-
69.1.5.3. Document							A	-	-	-
69.1.5.4. Graph							A	-	-	-
69.1.5.5. Column Oriented							A	-	-	-
69.1.6. Transaction Processing										
69.1.6.1. CAP Theorem							-	-	-	-
69.1.6.2. Atomicity, Consistency, Isolation, Durability (ACID)							-	-	-	-
69.1.6.3. Basically Available, Soft State, Eventual Consistency (BASE)							-	-	-	-
69.1.7. Query Performance Tuning							A	-	-	-
69.1.8. Backups							A	-	-	-
69.1.9. Restore and Recovery							A	-	-	-
69.2. Objects										
69.2.1. Table							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	COURSE	COURSE	COURSE
69.2.2. View							A	-	-	-
69.2.3. Stored Procedure							A	-	-	-
69.2.4. Trigger							-	-	-	-
69.2.5. Index							-	-	-	-
69.2.6. Query Language Fundamentals							2b	-	-	-
70. ARCHITECTURE TR: 1D7X1Z Learning Program (AF e-Learning)										
70.1. Memory										
70.1.1. Cache Levels							-	-	-	-
70.1.2. Memory Allocation							-	-	-	-
70.1.3. Stack							-	-	-	-
70.1.4. Heap							-	-	-	-
70.1.5. Data Types							A	-	-	-
70.2. Character Encoding							A	-	-	-
70.3. Compilers / Flags							-	-	-	-
71. NETWORKING TR: 1D7X1Z Learning Program (AF e-Learning)										
71.1. Network Fundamentals										
71.1.1. Networking RFCs							-	-	-	-
71.1.2. Network Byte Order							-	-	-	-
71.2. Common Protocols (e.g.Handshake, State, OSI Layer, Header Standard Port #)										
71.2.1. SSH							A	-	-	-
71.2.2. SSL / TLS							A	-	-	-
71.2.3. Secure FTP Versions							A	-	-	-
71.2.4. HTTP(S)							A	-	-	-
71.2.5. SNMP							A	-	-	-
71.3. Sockets										
71.3.1. BSD Sockets							-	-	-	-
71.3.2. WinSock							-	-	-	-
71.3.3. Pipes							-	-	-	-
71.3.4. FIFOs							-	-	-	-
71.3.5. Websockets							-	-	-	-
71.4. Proxy/Redirection										
71.4.1. Web Proxies							-	-	-	-

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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	COURSE	COURSE	COURSE
71.4.2. Forward Proxy							-	-	-	-
71.4.3. Reverse Proxy							-	-	-	-
71.4.4. Anonymous Proxies							-	-	-	-
71.4.5. Tunneling							-	-	-	-
71.5. Command Line Network Utilities										
71.5.1. Ping							A	-	-	-
71.5.2. Tracert / Traceroute							A	-	-	-
71.5.3. Ipconfig / Ifconfig							A	-	-	-
71.5.4. Netstat							A	-	-	-
72. SPECTRUM OPERATIONS CAREER FIELD TR: 1D7X2F Learning Program (AF e-Learning); AFI 36-2101; CFETP; AFECD										
72.1. Duties/Responsibilities of AFSC							A	-	-	-
72.2. Spectrum Operations Role in Cyber							B	-	-	-
73. SAFETY/RISK MANAGEMENT (RM) TR: AFI 48-109; AFI 90-802; AFI 91-202; AFMAN 91-203										
73.1. Air Force Safety, Fire, and Health Standards for AFSC							A	-	-	-
73.2. Hazards of the AFSC							A	-	-	-
73.3. Manage Work Center Safety Program							-	-	-	-
74. INTRODUCTION TO CYBER TR: AFI 36-2101; AFGM2018-17-02										
74.1. Cyber Mission Force							-	-	-	-
74.2. Explain Qualifications							-	-	-	-
74.3. Security Programs TR: AFIs 10-701, 16-1404; AFPD										
74.3.1. OPSEC							-	-	-	-
74.3.2. INFOSEC							-	-	-	-
74.3.3. COMPUSEC							-	-	-	-
74.3.4. TEMPEST							A	-	-	-
74.3.5. COMSEC							A	-	-	-
74.4. Physical Security							A	-	-	-
74.5. Classified Material Control							-	-	-	-
74.6. Force Management TR: AFECD; AFIs 36-2651, 36-2845, 38-101, 33-396										

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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	COURSE	COURSE	COURSE
74.6.1. Utilization and Training Workshop (U&TW) & Specialty Training Requirements Team (STRT)							-	-	-	-
74.6.2. Occupational Survey							-	-	-	-
75. SPECTRUM MANAGEMENT										
75.1. International Telecommunications Union (ITU) Radio Regulations							B	-	-	-
75.2. National and Government										
75.2.1. U.S. National Policy Regulation							B	-	-	-
75.2.2. National Telecommunications & Information Administration (NTIA)							B	-	-	-
75.2.3. Federal Communications Commission (FCC)							B	-	-	-
75.2.4. Code of Federal Regulations Title 47							B	-	-	-
75.2.5. Spectrum Legislation							-	-	-	-
75.2.6. National Frequency Table of Allocations							-	-	-	-
75.3. DoD Spectrum Management Organization										
75.3.1. DoD Chief Information Officer (DoD CIO)							A	-	-	-
75.3.2. Defense Spectrum Organization (DSO)							A	-	-	-
75.3.3. Joint Chiefs of Staff United States Military Command, Control, Communications, and Computers (C4) Executive Board (JCSMC4EB)							A	-	-	-
75.3.4. Military Command, Control, Communications, and Computers (C4) Executive Board (MC4EB) Frequency Panel (FP)							B	-	-	-
75.3.5. Joint Spectrum Center (JSC)							B	-	-	-
75.3.6. Unified/Specified Command							B	-	-	-
75.3.7. DoD Area Frequency Coordinator							B	-	-	-
75.3.8. MAJCOM							B	-	-	-
75.3.9. Wing/Base							B	-	-	-

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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	COURSE	COURSE	COURSE
75.3.10. Test Ranges							-	-	-	-
75.3.11. US Army Spectrum Organization							-	-	-	-
75.3.12. US Navy Spectrum Organization							-	-	-	-
75.3.13. US Marine Corps Spectrum Organization							-	-	-	-
75.3.14. US Air Force Spectrum Organization							B	-	-	-
75.3.15. DoD Policy							B	-	-	-
75.4. OCONUS Spectrum Management Structure (e.g. NATO)							-	-	-	-
75.5. Spectrum Certification										
75.5.1. Processes										
75.5.1.1. Application for Equipment Frequency Allocation (DD Form 1494)							B	-	-	-
75.5.1.2. Note to Holders							B	-	-	-
75.5.1.3. Foreign Disclosure							B	-	-	-
75.5.1.4. Commercial Off the Shelf							B	-	-	-
75.5.1.5. Host Nation Coordination							B	-	-	-
75.5.2. Operational Databases (Global Electromagnetic Spectrum Information System, GEMSIS)										
75.5.2.1. Spectrum Certification Systems (Ex: SCS Database/E2ESS)										
75.5.2.1.1. Purpose							B	-	-	-
75.5.2.1.2. Query Database							2b	-	-	-
75.5.2.1.3. Perform Title Search							2b	-	-	-
75.5.2.1.4. Supportability Comments (e.g. Host Nation Documents)							2b	-	-	-
75.5.2.2. Host Nation Support Systems (Ex: Host Nation Supportability Worldwide Database Online HNSWD-O)										
75.5.2.2.1. Purpose							B	-	-	-
75.5.2.2.2. Query Database							2b	-	-	-
75.5.2.2.3. Supportability Restrictions							B	-	-	-
75.5.2.3. Joint Spectrum Data Repository (JSDR)										
75.5.2.3.1. Purpose							B	-	-	-
75.5.2.3.2. Query Database							2b	-	-	-

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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	COURSE	COURSE	COURSE
75.5.2.4. Spectrum XXI										
75.5.2.4.1. Overview of Installation							-	-	-	-
75.5.2.4.2. Configure System Preferences							-	-	-	-
75.5.2.4.3. Help Files							-	-	-	-
75.5.2.5. Topographic Data										
75.5.2.5.1. Purpose							A	-	-	-
75.5.2.5.2. Install Topographic Manager (TOPOMAN)							2b	-	-	-
75.5.2.5.3. Topographic Data Acquisition							A	-	-	-
75.5.2.5.4. Import/Activate Data Files							2b	-	-	-
75.5.2.6. Data Exchange										
75.5.2.6.1. Purpose							A	-	-	-
75.5.2.6.2. Perform Initial Data Exchange							2b	-	-	-
75.5.2.6.3. System Interfaces (e.g. STE, SIPRNET)							A	-	-	-
75.5.2.7. Frequency Assignment Module										
75.5.2.7.1. Purpose							A	-	-	-
75.5.2.7.2. Load Initial Frequency Assignments							2b	-	-	-
75.5.2.7.3. Perform Database Query							2b	-	-	-
75.5.2.7.4. Manipulate Database Query							2b	-	-	-
75.5.2.7.5. Use Proposal Functions							2b	-	-	-
75.5.2.7.6. Interpret Status Codes							2b	-	-	-
75.5.2.7.7. Interpret Digital Agendas							2b	-	-	-
75.5.2.7.8. Produce Management Reports							2b	-	-	-
75.5.2.7.9. Use System Manager Module							2b	-	-	-
75.5.2.7.10. Use Allotment Plans Module							2b	-	-	-
75.5.2.7.11. Use Interference Analysis Module							2b	-	-	-

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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	COURSE	COURSE	COURSE
75.5.2.7.12. Use Engineering Tools Module							2b	-	-	-
75.5.2.7.13. Use Joint Restricted Frequency List Editor Module							-	-	-	-
75.5.2.7.14. Use Electronic Warfare Deconfliction Module							-	-	-	-
75.6. Coordination Policy										
75.6.1. Allied Partners							-	-	-	-
75.6.2. Frequency Assignment										
75.6.2.1. Peacetime							B	-	-	-
75.6.2.2. Wartime/ Contingency							B	-	-	-
75.7. Position Continuity Plan							-	-	-	-
76. SPECTRUM MANAGEMENT PRINCIPLES ADMINISTRATION										
76.1. Bandwidth Types (e.g. Necessary, Authorized and Occupied)							B	-	-	-
76.2. Emission Designators										
76.2.1. Composition							B	-	-	-
76.2.2. Formulate							2b	-	-	-
76.2.3. Interpret							2b	-	-	-
76.2.4. Determine							2b	-	-	-
76.3. Radio Communications Service and Station Classes										
76.3.1. Principles							B	-	-	-
76.3.2. Types							B	-	-	-
76.3.3. Research Table of Allocations							2b	-	-	-
76.3.4. Research Footnotes, Provisions and Remarks							2b	-	-	-
76.3.5. Determine Radio Service							2b	-	-	-
76.3.6. Determine Type Station Class							2b	-	-	-
76.4. Standard Frequency Action Format (SFAF)										
76.4.1. Administrative Data							B	-	-	-
76.4.2. Emission Characteristics Data							B	-	-	-
76.4.3. Organizational Data							B	-	-	-
76.4.4. Transmitter Data							B	-	-	-
76.4.5. Space Systems Data							B	-	-	-

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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	COURSE	COURSE	COURSE
76.4.6. Receiver Data							B	-	-	-
76.4.7. Supplemental Details Data							B	-	-	-
76.4.8. SFAF Processing							B	-	-	-
76.4.9. Prohibited Data Entries							B	-	-	-
76.4.10. Restricted Data Entries							B	-	-	-
76.4.11. Data Item Occurrence Identifiers							B	-	-	-
76.4.12. Data Item Purge Identifier							B	-	-	-
76.4.13. Mass Purge Identifier							B	-	-	-
76.4.14. Multiple Record Identifiers							B	-	-	-
76.4.15. Types of Input for SFAF Proposals (e.g. Theater Unique Requirements)							B	-	-	-
76.4.16. Mass Record Changes							B	-	-	-
76.4.17. SFAF Transaction Security Rules							B	-	-	-
76.4.18. Classification of Aggregate Frequency Records (e.g. Theater Unique Requirements)							B	-	-	-
76.5. National and International Databases										
76.5.1. Frequency Resource Record System (FRRS)							B	-	-	-
76.5.2. Government Master File (GMF)							-	-	-	-
76.5.3. Federal Communications Commission (FCC) File							-	-	-	-
76.5.4. International Frequency List (IFL)							-	-	-	-
76.5.5. Area Studies							-	-	-	-
77. MATHEMATICS OF SPECTRUM MANAGEMENT										
77.1. Order of Operations							-	-	-	-
77.2. Convert Between Units of Power, Voltage and Frequency							-	-	-	-
77.3. Solve Problems Using Common Logarithms							-	-	-	-
77.4. Convert Decibels							-	-	-	-
77.5. Power										

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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	COURSE	COURSE	COURSE
77.5.1. Power, Voltage, Current & Resistance							-	-	-	-
77.5.2. Calculate Power Using Decibels							-	-	-	-
78. RADIO FREQUENCY (RF) PRINCIPLES										
78.1. Modulation Techniques										
78.1.1. Amplitude Modulated							B	-	-	-
78.1.2. Frequency Modulated							B	-	-	-
78.1.3. Pulse/Phase Modulated							B	-	-	-
78.1.4. Principles of Transmitters/ Receivers							B	-	-	-
78.2. Receiver Sensitivity										
78.2.1. Internal Noise Theory							-	-	-	-
78.2.2. Receiver Selectivity							-	-	-	-
78.3. Transmission Lines										
78.3.1. Coaxial Cables (Flexible, Semi-rigid, & Rigid)							-	-	-	-
78.3.2. Open/Parallel Lines							-	-	-	-
78.3.3. Wave Guides							-	-	-	-
78.3.4. Fiber Optics							-	-	-	-
78.3.5. Dielectric Types							-	-	-	-
78.3.6. Attenuation							-	-	-	-
78.3.7. Standing Wave Ratios							-	-	-	-
78.3.8. Effective Isotropic Radiated Power (EIRP)							-	-	-	-
78.3.9. Effective Transmit Power (ETP)							-	-	-	-
78.4. Antenna Principles										
78.4.1. Common Antennas										
78.4.1.1. Dipole							-	-	-	-
78.4.1.2. Whip							-	-	-	-
78.4.1.3. Longwire							-	-	-	-
78.4.1.4. Horn							-	-	-	-
78.4.1.5. Helical							-	-	-	-
78.4.1.6. Parabolic							-	-	-	-
78.4.1.7. Reflector							-	-	-	-
78.4.1.8. Array							-	-	-	-

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
78.4.2. Antenna Efficiency							-	-	-	-
78.4.3. Antenna Gain							-	-	-	-
78.4.4. Polarization							B	-	-	-
78.5. Electromagnetic Wave Propagation Theory										
78.5.1. Radio Wave Propagation										
78.5.1.1. Free Space							-	-	-	-
78.5.1.2. Refraction							-	-	-	-
78.5.1.3. Reflection							-	-	-	-
78.5.1.4. Diffraction							-	-	-	-
78.5.1.5. Knife Edge Diffraction							-	-	-	-
78.5.2. Path Loss							-	-	-	-
78.5.3. Multipathing							-	-	-	-
78.5.4. Free Space Loss							-	-	-	-
78.5.5. Calculate Path Loss							-	-	-	-
78.6. Jam Resistant Communications										
78.6.1. Frequency Hopping Theory							B	-	-	-
78.6.2. Spread Spectrum Theory							B	-	-	-
78.6.3. Jam Resistant Systems Employment							-	-	-	-
78.6.4. Frequency Agile Systems										
78.6.4.1. Have Quick Systems							-	-	-	-
78.6.4.2. Single Channel Ground and Airborne Radio System (SINCGARS)							-	-	-	-
78.6.4.3. Joint Tactical Information Distribution System (JTIDS)/Multifunctional Information Distribution System (MIDS)							-	-	-	-
78.6.4.4. Airborne\ Enhanced Position Location Reporting System (A\EPLRS)							-	-	-	-
78.6.4.5. Software Defined Systems							-	-	-	-
79. SPECTRUM PLANNING FOR HIGH FREQUENCY (HF) SYSTEMS										
79.1. Solar Ionospheric Physics										
79.1.1. Physical & Non- Physical Emissions from the Sun							-	-	-	-

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	COURSE	COURSE	COURSE
79.1.2. Ionization							-	-	-	-
79.1.3. Recombination							-	-	-	-
79.1.4. Earth's Atmosphere							-	-	-	-
79.1.5. Sunspots							-	-	-	-
79.1.6. Sunspot Number							-	-	-	-
79.1.7. Solar Flares							-	-	-	-
79.1.8. Solar Variations							-	-	-	-
79.2. Skywave Fundamentals										
79.2.1. Skip Distance							-	-	-	-
79.2.2. Skip Zone							-	-	-	-
79.2.3. Critical Angle							-	-	-	-
79.2.4. Critical Frequency							-	-	-	-
79.2.5. Maximum Usable Frequency (MUF)							-	-	-	-
79.2.6. Frequency Optimum Transmission (FOT)							-	-	-	-
79.2.7. Lowest Usable Frequency (LUF)							-	-	-	-
79.2.8. Factors for Refraction							-	-	-	-
79.2.9. Ionospheric Sounders							-	-	-	-
79.2.10. Automatic Link Establishment (ALE)							-	-	-	-
79.3. Antenna Radiation Patterns							-	-	-	-
79.4. Antenna Planning										
79.4.1. Physical Properties of Antennas							-	-	-	-
79.4.2. HF Antenna Selection Based on Patterns Versus Path Requirements							-	-	-	-
79.5. Long-Wire Antennas										
79.5.1. Characteristics and Variations							-	-	-	-
79.5.2. Effects on Termination and Directivity							-	-	-	-
79.6. HF Tuning Techniques										
79.6.1. Principles of Sideband Techniques							-	-	-	-

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	COURSE	COURSE	COURSE
79.6.2. Reference Frequency and Assigned Frequency Identification							-	-	-	-
79.6.3. Occupied Spectrum							-	-	-	-
79.7. HF Groundwave Propagation and Predictions										
79.7.1. Fundamentals							B	-	-	-
79.7.2. Reliability Factors							-	-	-	-
79.7.3. Interpret Propagation Prediction Products							-	-	-	-
79.8. Use Automated HF Prediction Systems							-	-	-	-
79.9. HF Systems Engineering										
79.9.1. Principles of HF System Planning							B	-	-	-
79.9.2. Determine best Antenna for Requirements							-	-	-	-
79.9.3. Determine Path Requirements using Propagation Data							-	-	-	-
79.9.4. Engineer Ground Wave Communications							-	-	-	-
79.9.5. Engineer Skywave Communications							2b	-	-	-
79.9.6. Complete SFAF Proposals for HF Requirements							2b	-	-	-
79.9.7. Nominate HF Frequencies							2b	-	-	-
80. SPECTRUM PLANNING FOR VERY HIGH (VHF) & ULTRA HIGH FREQUENCY (UHF) SYSTEMS										
80.1. VHF/UHF Amplitude Modulated (AM)/ Frequency Modulated (FM) Air/Ground/Air (A/G/A) Systems										
80.1.1. Principles of VHF/UHF AM Systems Planning							-	-	-	-
80.1.2. Principles of Area Coverage of A/G/A Systems Calculation							-	-	-	-
80.1.3. Principles of AM/FM Air/Ground Communications Engineering							-	-	-	-
80.1.4. Complete SFAF Proposals for VHF/UHF AM/FM A/G/A Requirements							2b	-	-	-
80.1.5. Nominate VHF/UHF AM A/G/A Frequencies							2b	-	-	-
80.2. VHF/UHF Frequency Modulated (FM) Systems										

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	COURSE	COURSE	COURSE
80.2.1. Principles of VHF/UHF FM Systems Planning							B	-	-	-
80.2.2. Spectrum Support for Land Mobile Radio (LMR) Systems										
80.2.2.1. Simplex							B	-	-	-
80.2.2.2. Duplex/ Repeater							B	-	-	-
80.2.2.3. Trunking							B	-	-	-
80.2.3. Principles of System Parameter Calculation (Distance, Reliability, Antenna Height, Frequency, Receive Signal Level and Systems Gain/ Losses)							-	-	-	-
80.2.4. Complete SFAF Proposals for LMR Requirements							2b	-	-	-
80.2.5. Nominate LMR Frequencies							2b	-	-	-
80.2.6. Complete SFAF Proposals for VHF/UHF G/G Requirements							2b	-	-	-
80.2.7. Nominate VHF/UHF G/G Frequencies							2b	-	-	-
81. SPECTRUM PLANNING FOR MULTICHANNEL SYSTEMS										
81.1. Microwave Antennas										
81.1.1. Parabolic Antennas							-	-	-	-
81.1.2. Horn Antennas							-	-	-	-
81.1.3. Reflectors							-	-	-	-
81.1.4. Principles of the Gain Calculation of Parabolic Antennas							-	-	-	-
81.1.5. Principles of the Gain Calculation of Flat Passive Reflectors							-	-	-	-
81.2. Line of Site (LOS) Systems										
81.2.1. Principles of Refraction							B	-	-	-
81.2.2. Principles of Direct and Ground Propagation Paths							B	-	-	-
81.2.3. Usable Frequency Range							-	-	-	-
81.2.4. Advantages/ Disadvantages of LOS Systems in Communications							-	-	-	-
81.2.5. LOS Equipment Capabilities and Limitations							-	-	-	-

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	COURSE	COURSE	COURSE
81.2.6. Basic Configurations of LOS Systems							-	-	-	-
81.2.7. Propagation Considerations in LOS Communications							-	-	-	-
81.2.8. Principles of Free Space Loss for LOS Systems Communications Calculation							-	-	-	-
81.2.9. Principles of LOS Systems Path Profile							-	-	-	-
81.2.10. Principles of LOS Systems Predicted Reliability							-	-	-	-
81.2.11. Develop SFAF Proposals for LOS Requirements							2b	-	-	-
81.2.12. Nominate LOS Systems Frequencies							2b	-	-	-
81.2.13. Frequency Share Plan for Operating Multiple Systems at a Single Location							-	-	-	-
81.3. Troposcatter (TROPO) Systems										
81.3.1. TROPO Theory							-	-	-	-
81.3.2. Capabilities/ Limitations of TROPO Systems							-	-	-	-
81.3.3. Principles of TROPO Total Propagation Loss (TPL) Calculation							-	-	-	-
81.3.4. Principles of TROPO Receive Signal Level (RSL) Calculation							-	-	-	-
81.3.5. Principles of TROPO Median Receiver Input Signal Level Calculation							-	-	-	-
81.3.6. Principles of TROPO Minimum Receiver Input Signal Level Calculation							-	-	-	-
81.3.7. Principles of TROPO Fade Margin and Reliability Calculation							-	-	-	-
81.3.8. Principles of TROPO Total Path Loss Calculation							-	-	-	-
82. SPECTRUM PLANNING FOR SATELLITE SYSTEMS										
82.1. Application of Satellite Systems							-	-	-	-
82.2. Satellite Terminology							-	-	-	-
82.3. Satellite Orbits							-	-	-	-

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	COURSE	COURSE	COURSE
82.4. Interference Mechanisms Affecting Up/Down Link Performance (e.g. Scintillation)							-	-	-	-
82.5. SFAF Requirements for Satellite Access Authorization (SAA)s							-	-	-	-
82.6. Develop SFAF Proposals for SATCOM requirements							-	-	-	-
82.7. Satellite Look and Elevation Angles							-	-	-	-
82.8. Satellite Access Request (SAR) Procedures										
82.8.1. Ground Mobile Forces SAR							-	-	-	-
82.8.2. Tactical UHF SAR (TACSAT)							-	-	-	-
82.8.3. Software Defined Waveforms (MUOS, IW, DAMA, DASA)							A	-	-	-
82.9. DoD use of Commercial Satellites							-	-	-	-
83. SPECTRUM PLANNING FOR NON- COMMUNICATIONS SYSTEMS										
83.1. Radar Systems										
83.1.1. Principles of Radar Operations							B	-	-	-
83.1.2. Radar Types and Functions							B	-	-	-
83.1.3. IFF/SIF										
83.1.3.1. Operation							A	-	-	-
83.1.3.2. Modes							A	-	-	-
83.1.3.3. Complete SFAF							-	-	-	-
83.1.4. Principles of Radar Distance Calculation							-	-	-	-
83.1.5. Complete SFAF Proposals for Radar Requirements							-	-	-	-
83.1.6. Nominate Radar Frequencies							2b	-	-	-
83.2. Navigational Aid (NAVAID) Systems (e.g. TACAN)										
83.2.1. Principles of NAVAID Operations							B	-	-	-
83.2.2. NAVAID Types and Functions							B	-	-	-
83.2.3. NAVAID Frequencies							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	COURSE	COURSE	COURSE
83.2.4. Complete SFAF Proposal for NAVAID Requirements							-	-	-	-
83.2.5. Nominate NAVAID Frequencies							2b	-	-	-
83.2.6. Principles of Global Positioning Systems (GPS)							B	-	-	-
83.2.7. Military Aircraft Collision Avoidance System (MILACAS)							-	-	-	-
83.3. Wireless Technologies (e.g. Radio Frequency Identification, Wireless LAN)							-	-	-	-
83.4. Remotely Piloted Vehicles							-	-	-	-
83.5. Airborne ISR\C2 (e.g. AWACS, JSTARS)							-	-	-	-
84. ELECTROMAGNETIC COMPATIBILITY (EMC)										
84.1. Fundamentals of EMC										
84.1.1. DoD EMC Programs							B	-	-	-
84.1.2. Effects of Electromagnetic Interference (EMI)							B	-	-	-
84.2. Harmonics and Intermodulation										
84.2.1. EMI Potential							B	-	-	-
84.2.2. Harmonic-Free Complement Generation using Spectrum Management Software							-	-	-	-
84.2.3. Intermodulation- Free Compliment Generation using Spectrum Management Software							-	-	-	-
84.3. Types of Interference										
84.3.1. Co-Channel Interference							B	-	-	-
84.3.2. Adjacent Channel Interference							B	-	-	-
84.3.3. Spurious Responses							B	-	-	-
84.3.4. Spurious Emissions							B	-	-	-
84.3.5. Intermodulation							B	-	-	-
84.3.6. Unintentional Interference/Jamming							B	-	-	-
84.3.7. Power Line Noise							B	-	-	-
84.3.8. Mutual Interference							B	-	-	-
85. ELECTRONIC COUNTERMEASURES (ECM) AND ELECTRONIC WARFARE (EW)										

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	COURSE	COURSE	COURSE
85.1. Types										
85.1.1. Electronic Attack							B	-	-	-
85.1.2. Electronic Protection							B	-	-	-
85.1.3. Electronic Support							B	-	-	-
85.2. Clearance Process							B	-	-	-
85.3. Coordination (ECM and EW)							B	-	-	-
86. DOD ELECTROMAGNETIC ENVIRONMENTAL EFFECTS (E3) PROGRAM										
86.1. DoD RADHAZ Program							A	-	-	-
86.2. Effects of Non- Ionizing Radiation on Personnel, Fuels and Ordnance (e.g. HERO, HERP)							A	-	-	-
86.3. Electromagnetic Radiation (EMR) Survey Requirements							B	-	-	-
87. SPECTRUM MANAGEMENT IN A JOINT ENVIRONMENT										
87.1. Joint Task Force (JTF)										
87.1.1. JTF Terminology							A	-	-	-
87.1.2. Associated Publications/ Directives							A	-	-	-
87.1.3. JTF Organizations							A	-	-	-
87.1.4. JTF Command & Control							A	-	-	-
87.1.5. JTF Operational Phases							A	-	-	-
87.2. Information Warfare Purpose and Relationship)							A	-	-	-
87.3. Joint Electromagnetic Spectrum Operations Cell (JEMSOC)							A	-	-	-
87.4. JTF Planning, Deployment, Buildup, and Employment										
87.4.1. Crisis Action Planning (CAP) Process							A	-	-	-
87.4.2. CAP Spectrum Management Responsibilities							A	-	-	-
87.4.3. Global Command & Control System and Joint Operational Planning Execution System in CAP							-	-	-	-
87.4.4. Battlefield Spectrum Use Considerations							B	-	-	-
87.5. Joint Automated Communication Electronics Operation Instructions (JCEOI) System (JACS)										
87.5.1. JACS Overview							-	-	-	-

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	COURSE	COURSE	COURSE
87.5.2. Master Net List										
87.5.2.1. Overview							A	-	-	-
87.5.2.2. Build							-	-	-	-
87.5.2.3. Manipulate							-	-	-	-
87.5.3. Import Data							-	-	-	-
87.5.4. Complete Frequency Analysis							-	-	-	-
87.5.5. Generate SFAF Proposals Import/Export							-	-	-	-
87.5.6. Use Resource Manager Import/Export							-	-	-	-
87.5.7. Import SFAF Assignments							-	-	-	-
87.5.8. Generate JCEOI							-	-	-	-
87.5.9. Produce JCEOI Outputs										
87.5.9.1. Prints							-	-	-	-
87.5.9.2. Reports							-	-	-	-
87.5.10. Operations										
87.5.10.1. Build HOPSET							-	-	-	-
87.5.10.2. Build LOADSET							-	-	-	-
87.5.10.3. Install LOADSET into Radio							-	-	-	-
87.6. Service Specific Communications Operations Plans										
87.6.1. Annex K							A	-	-	-
87.6.2. Air Tasking Order (ATO)/Special Instructions (SPINS)							A	-	-	-
87.6.3. Real Time Spectrum Operations (RTSO)										
87.6.3.1. Shipboard Communications Planning (OPTASK COMMS)							-	-	-	-
87.6.3.2. Shipboard Radar Planning							-	-	-	-
87.6.3.3. Deconflict Strike Group Radar							-	-	-	-
87.6.3.4. Develop Strike Group Communication Plans							-	-	-	-
88. ELECTROMAGNETIC BATTLESPACE (EMB) INTERGRITY (ELECTRONIC WARFARE SUPPORT)										
88.1. Interference Reporting Policy										

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	COURSE	COURSE	COURSE
88.1.1. Joint Spectrum Interference Resolution (JSIR)							B	-	-	-
88.1.2. Air Force Spectrum Interference Resolution (AFSIR) Program							B	-	-	-
88.2. Electromagnetic Management Battlespace (EMB) Signature Management										
88.2.1. Electronic Order of Battle (EOB)							A	-	-	-
88.2.2. Conduct EMB Site/ Emitter Survey							2b	-	-	-
88.2.3. Operate EMB Analysis Tools							2b	-	-	-
88.2.4. Operate GPS Receiving Device							-	-	-	-
88.2.5. Establish Normal Baseline of EMB							2b	-	-	-
88.2.6. Determine Abnormal Activities within the EMB							2b	-	-	-
88.2.7. Determine Availability/Limitations of EMB to meet mission requirements							2b	-	-	-
88.3. Interference Resolution										
88.3.1. Direction Finding Techniques							B	-	-	-
88.3.2. Determine Emission Location							2b	-	-	-
88.3.3. Emission Characteristics										
88.3.3.1. Determine Modulation Type							2b	-	-	-
88.3.3.2. Determine Occupied Bandwidth							2b	-	-	-
88.3.3.3. Determine Amplitude							2b	-	-	-
88.3.3.4. Determine Emission Transmission Period							2b	-	-	-
88.3.4. Mitigation Techniques										
88.3.4.1. Man-Made Sources										
88.3.4.1.1. Friendly Forces							B	-	-	-
88.3.4.1.2. Hostile Forces							B	-	-	-
88.3.4.1.3. Neutral Sources							B	-	-	-
88.3.4.1.4. Unintentional Sources							B	-	-	-
88.3.4.2. Natural Sources							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	COURSE	COURSE	COURSE
88.3.4.3. Incident Escalation Procedures							B	-	-	-
89. CAPSTONE										
89.1. Pre-Deployment										
89.1.1. Identify AOR							-	-	-	-
89.1.2. Conduct EMB Site/ Emitter Survey							-	-	-	-
89.1.3. Establish Normal Baseline of EMB							-	-	-	-
89.1.4. Operate EMB Analysis Tools							-	-	-	-
89.1.5. Query HNSWDO Database							-	-	-	-
89.1.6. Use Spectrum XXI Proposal Functions							-	-	-	-
89.1.7. Complete SFAF Proposals for VHF/UHF G/G Requirements							-	-	-	-
89.1.8. Nominate VHF/UHF G/G Frequencies							-	-	-	-
90. WORK CENTER MANAGEMENT TR: 1D7XX Learning Program (AF e-Learning); AFIs 10-201, 21-103, 146352, DODI1400.25V610_AFI36-807; TO 00-33A-1001; AFJQS XXXXX-212S										
90.1. Management Policies							-	-	-	-
90.2. Training										
90.2.1. Base/Unit Roles & Responsibilities							-	-	-	-
90.2.2. Supervisor / Trainer Roles & Responsibilities							-	-	-	-
90.2.3. Task Certifier Roles & Responsibilities							-	-	-	-
90.2.4. Trainee Responsibilities							-	-	-	-
91. FUNCTIONAL MANAGEMENT TR: 1D7XX Learning Program (AF e-Learning); AFECD; AFIs 36-2651, AFPD 36-28, 38-101, AFMAN 33-396; AFQTP 1D7XX-225E; 1D7XX CFETP										
91.1. Career Field Functional Management							-	-	-	-
91.2. Superintendent Duties							-	-	-	-
91.3. Force Development/ Management							-	-	-	-
91.4. Awards and Recognition							-	-	-	-
92. RESOURCE MANAGEMENT TR: 1D7XX Learning Program (AF e-Learning); AFPDs 10-6, 656; AFIs 10-601, 65601 V(1) & V(2)										
92.1. Financial Management							-	-	-	-

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	COURSE	COURSE	COURSE
92.2. Funded Requirements							-	-	-	-
92.3. Unfunded Requirements							-	-	-	-
93. MANPOWER AND ORGANIZATION TR: 1D7XX Learning Program (AF e-Learning); AFPD 38-1; AFIs 38-101, 38-101										
93.1. Manpower Requirements							-	-	-	-
93.2. Air Force Manpower Standard (AFMS) Application							-	-	-	-
93.3. Manpower Studies							-	-	-	-
93.4. Manpower Products							-	-	-	-
93.5. Allocating Personnel							-	-	-	-
94. CABLE AND ANTENNA SYSTEMS CAREER FIELD TR: AFECD, AFH 33-337; AFGM2018-17-02, 31 May 2018, AFI 36-2101; 1D7X3C CFETP; TO 00-33A-1001-WA-1										
94.1. Duties/Responsibilities of AFSC							A	-	-	-
94.2. Cable and Antenna Systems' Role in Cyber							B	-	-	-
94.3. Air Force Specialty Code 1D7X3C										
94.3.1. Explain Duties of AFSC							-	-	-	-
94.3.2. Explain Responsibilities of AFSC							-	-	-	-
94.3.3. Explain AFSC Core Competencies							-	-	-	-
94.3.4. Explain Qualifications							-	-	-	-
95. CYBERSPACE ORGANIZATIONAL SUCTURE TR: AFPD 10-17; AFGM2018-17-02, 31 May 2018, 38-101, https://cs.eis.af.mil/a6/default.aspx										
95.1. Air Force Units										
95.1.1. Communication Squadrons							-	-	-	-
95.1.2. Combat Communication Squadrons							-	-	-	-
95.1.3. Expeditionary Communication Squadron							-	-	-	-
95.1.4. Contingency Response Wing (CRW)							-	-	-	-
95.1.5. Engineering & Installation Squadron (E&I)							-	-	-	-
96. EXPEDITIONARY COMMUNICATIONS TR: https://aef.afpc.randolph.af.mil, https://jkodirect.jten.mil/Atlas2/faces/page/login/Login.seam; AFIs 10-401, 10-403, 21-109, 33-201 (V2), 23-101										
96.1. Concepts of Aerospace Expeditionary Force (AEF) Employment										
96.1.1. Deployment Process Overview							-	-	-	-

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	COURSE	COURSE	COURSE
96.1.2. Deployment Planning and Execution							-	-	-	-
96.1.3. Unit Type Codes (UTC)							-	-	-	-
97. ENTERPRISE SYSTEMS/PROGRAMS TR: AFI 13 Series, CJCSI 6211.02C, Joint Pub 6-0										
97.1. Define Non-Secure Networks										
97.1.1. DoD Information Network (DoDIN)							-	-	-	-
97.1.2. Defense Information Systems Network (DISN)							-	-	-	-
97.1.3. Defense Switched Network							-	-	-	-
97.1.4. Non-Secure Internet Protocol Router Network (NIPRNET)							-	-	-	-
97.2. Define Secure Networks										
97.2.1. Secret Internet Protocol Router Network (SIPRNET)							-	-	-	-
97.2.2. Defense Red Switch Network (DRSN)							-	-	-	-
97.2.3. Joint World-Wide Intelligence Communications System (JWICS)							-	-	-	-
97.2.4. National Security Agency (NSA) Network							-	-	-	-
97.3. Nuclear Command and Control Systems TR: CJCSI 3231.01B										
97.3.1. Global High Frequency Network							-	-	-	-
98. C4I SECURITY TR: ACP 122; AFIs 33-129,33-138, 33-332; AFKAG-1&2; AFMAN 33-326; DOD Manuel 5200.01 Volume 1; TO 31S5-4-7205 -8-1 PKI Fundamentals										
98.1. Operations Security (OPSEC) TR: AFI 10-701; AFPD 10-7										
98.1.1. Definition							-	-	-	-
98.1.2. Background							-	-	-	-
98.1.3. Vulnerabilities										
98.1.3.1. Open Conversations							-	-	-	-
98.1.3.2. Short Message Services (i.e. texting)							-	-	-	-
98.1.3.3. Social Media							-	-	-	-
98.1.3.4. Family/Friends							-	-	-	-
98.1.3.5. Critical Information							-	-	-	-

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	COURSE	COURSE	COURSE
98.2. Information Security (INFOSEC) TR: AFI 31-401 and AFPDs 31-4, 33-2										
98.2.1. Definition							-	-	-	-
98.2.2. Information Safeguards										
98.2.2.1. Privacy Act (PA)							-	-	-	-
98.2.2.2. Controlled Unclassified Information (CUI)							-	-	-	-
98.2.2.3. Sensitive Unclassified							-	-	-	-
98.2.2.4. Classified							-	-	-	-
98.3. Emission Security (EMSEC) TR: AFSSI 7700; AFPD 33-2										
98.3.1. Definition							-	-	-	-
98.3.2. Vulnerabilities							-	-	-	-
98.3.3. Protected Distribution Systems (PDS)							-	-	-	-
98.3.4. Separation							-	-	-	-
98.4. Physical Security TR: AFI 31-101; AFPD 31-1										
98.4.1. Definition							-	-	-	-
98.4.2. Secure Area Access Management							-	-	-	-
98.4.3. Facility Security Requirements							-	-	-	-
99. SAFETY/RISK MANAGEMENT (RM) TR: AFIs 90-802, 91-202, 91-203, 91-302										
99.1. Safety							B	-	-	-
99.2. Risk Management							B	-	-	-
99.3. Air Force Consolidated Occupational Safety Instructions for AFSC							B	-	-	-
99.4. Hazards of the AFSC							A	-	-	-
99.5. Fire Extinguishers							A	-	-	-
99.6. Understanding First Aid							A	-	-	-
99.7. CPR							2b	-	-	-
99.8. Personal and Family Countermeasures							A	-	-	-
99.9. Practice Safety Precautions:										
99.9.1. Maintenance Actions							2b	-	-	-
99.9.2. Energized Equipment							2b	-	-	-

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	COURSE	COURSE	COURSE
99.9.3. High Voltage Equipment							-	-	-	-
100. AUTHORITY AND USER RESPONSIBILITIES TR: AFDD 3-13, Information Operations; Health Insurance Portability and Accountability Act (HIPAA), http://www.dtic.mil/docine/new_pubs/jp3_13.pdf, USC TITLE 10, 18 and 50										
100.1. Laws and Ethics										
100.1.1. US Codes (e.g. Titles 10, 15, 18, 32, 50)							-	-	-	-
100.1.2. US Telecommunications Laws							-	-	-	-
100.1.3. International Laws Affecting Electronic Communications							-	-	-	-
101. UTILIZE PUBLICATIONS AND DIRECTIVES TR: AFIs 33-360 and 17-series; TOs 00-5-1, 00-33A-1001-WA-1, and other Applicable TO 00-series: https://www.my.af.mil/etims/ETIMS/index.jsp										
101.1. Department of Defense (DOD)/Joint Publications TR: http://www.dtic.mil/whs/directives/corres/pub1.html							-	-	-	-
101.2. Air Force Publications TR: AFI 33-360; AFPD 33-4							-	-	-	-
101.3. AF Publication Types										
101.3.1. Instructions							-	-	-	-
101.3.2. Manuals							-	-	-	-
101.3.3. Policy Directives							-	-	-	-
101.3.4. Pamphlets							-	-	-	-
101.3.5. Guidance Memorandums							-	-	-	-
101.4. Locate AF Publications TR: http://www.e-publishing.af.mil/							-	-	-	-
101.5. Prepare Local Instructions TR: AFI 33-360 and CCC SharePoint site https://usaf.dps.mil/teams/ccc/SitePages/Home.aspx							-	-	-	-
101.6. Report Publication Errors, Form Deficiencies, and Improvements TR: AFI 33-360							-	-	-	-
101.7. Allied Communication Publications (ACP) TR: http://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp6_0.pdf							-	-	-	-
101.8. Commercial/Vendor Publications							-	-	-	-

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	COURSE	COURSE	COURSE
101.9. DISA Publications TR: http://www.disa.mil/About/DISA-Issuances							-	-	-	-
101.10. Use Publications When Performing Work							2b	-	-	-
101.11. Technical Orders (TO)										
101.11.1. Describe Technical Orders							-	-	-	-
101.11.2. Describe Technical OrderSystem							-	-	-	-
101.11.3. Locate TO Numbers and Titles in each TO Index							-	-	-	-
101.11.4. Identify Time Compliance Technical Orders (TCTO) Procedures and Document Completion TR: https://www.my.af.mil/etims/ETIMS/index.jsp; AFI 33-150; TO 00-5-15-WA-1, TO 00-33A-1001-WA-1; and applicable TCTOs							-	-	-	-
101.11.5. Prepare Local Work Cards and Checklist							-	-	-	-
101.11.6. Report Technical Order Improvements							-	-	-	-
101.11.7. Standard Installation Practices Technical Order (SIPTO) TR: TO 00-5-1-WA-1							-	-	-	-
101.12. Telecommunications Industry Association (TIA) Standards TR: https://www.tiaonline.org							-	-	-	-
101.13. Building Industry Consulting Services, International (BICSI) Standards							-	-	-	-
101.14. Military Standard (MIL STD) TR: http://www.dsp.dla.mil/AP_UIL/displayPage.aspx?action=content&contentid= 66							-	-	-	-
102. TEST EQUIPMENT/SPECIALIZED TOOLS TR: Applicable Equipment Commercial Manual										
102.1. Identify Principles, Capabilities, Limitations of the Following Test Equipment										
102.1.1. Multimeter							A	-	-	-
102.1.2. Optical Time Domain Reflectometer (OTDR)							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	COURSE	COURSE	COURSE
102.1.3. Time Domain Reflectometer (TDR)							A	-	-	-
102.1.4. Bit Error Rate Test (BERT) Set							-	-	-	-
102.1.5. Frequency Counter							-	-	-	-
102.1.6. Network Analyzer							-	-	-	-
102.1.7. Protocol Analyzer							-	-	-	-
102.1.8. Spectrum Analyzer							-	-	-	-
102.1.9. Power Meter							-	-	-	-
102.1.10. RF Signal Generator							-	-	-	-
102.1.11. Insulation Test Set							-	-	-	-
102.1.12. Megaohmeter							-	-	-	-
102.1.13. Built-In Test Equipment							-	-	-	-
102.1.14. Wattmeter							-	-	-	-
102.1.15. Dummy Load							-	-	-	-
102.1.16. Earth Ground Tester							-	-	-	-
102.1.17. Cable and Fault Locator							-	-	-	-
102.1.18. Audible Test Set							-	-	-	-
102.1.19. Premise wire Tester							-	-	-	-
102.1.20. Subscriber Loop Analyzer							-	-	-	-
102.2. Use the Following Test Equipment										
102.2.1. Multimeter							2b	-	-	-
102.2.2. OTDR							2b	-	-	-
102.2.3. TDR							2b	-	-	-
102.2.4. BERT Set							-	-	-	-
102.2.5. Frequency Counter							-	-	-	-
102.2.6. Network Analyzer							-	-	-	-
102.2.7. Protocol Analyzer							-	-	-	-
102.2.8. Spectrum Analyzer							-	-	-	-
102.2.9. Power Meter							-	-	-	-
102.2.10. RF Signal Generator							-	-	-	-
102.2.11. Insulation Test Set							-	-	-	-
102.2.12. Megaohmeter							-	-	-	-

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	COURSE	COURSE	COURSE
102.2.13. Built-in Test Equipment							-	-	-	-
102.2.14. Wattmeter							-	-	-	-
102.2.15. Dummy Load							-	-	-	-
102.2.16. Earth Ground Tester (Ground Resistance)							-	-	-	-
102.2.17. Cable and Fault Locator							-	-	-	-
102.2.18. Audible Test Set							-	-	-	-
102.2.19. Premise Wire Tester							-	-	-	-
102.2.20. Subscriber Loop Analyzer							-	-	-	-
102.3. Identify and use the Following Specialized Tools										
102.3.1. Tone Generator							-	-	-	-
102.3.2. Inductive Amplifier							-	-	-	-
102.3.3. Local Area Network (LAN) Tester							-	-	-	-
102.3.4. Light Source							-	-	-	-
102.3.5. Transit							-	-	-	-
102.3.6. Fusion Splicer							-	-	-	-
102.3.7. Fiber Optic Source andMeter							-	-	-	-
102.3.8. Pressure Testing Gauge							-	-	-	-
102.3.9. Multigas Monitor							2b	-	-	-
102.3.10. Modular Splicing System							-	-	-	-
102.3.11. Tension Meter							-	-	-	-
102.3.12. Receiver and Exploring Coil							-	-	-	-
103. STANDARD PRACTICES TR: TOs 00-25-234, 31-10-7, 31-10-13, 31-1-141-1; AFI 32-1065, MIL-STD 2000A, American Public Works Association Policy and American National St; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/ TO_to_Civilian_Std_X-Reference.xlsx										
103.1. State Facts Related to the Following Practices										
103.1.1. Installation										
103.1.1.1. Patch Panels							-	-	-	-
103.1.1.2. Cabling							-	-	-	-
103.1.1.3. Equipment							-	-	-	-
103.1.1.4. Antennas							-	-		

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	COURSE	COURSE	COURSE
103.1.1.5. Fiber Optics Concepts							-	-	-	-
103.1.2. Configuration							B	-	-	-
103.1.3. Interconnection							B	-	-	-
103.1.4. Inspection							-	-	-	-
103.2. Locate Underground Utilities or Cabling							-	-	-	-
103.3. Identify Underground Utilities							-	-	-	-
103.4. Mark Underground Utilities							-	-	-	-
103.5. EMSEC Suppression Techniques							-	-	-	-
103.6. Cable Labeling and Installation Documentation							B	-	-	-
103.7. Wire Color-Coding Standards							B	-	-	-
103.8. Explain Land Line Concepts:										
103.8.1. Copper Cables							-	-	-	-
103.8.2. Coaxial Cables							-	-	-	-
103.8.3. Fiber Optic Cable							-	-	-	-
103.8.4. Interfacing Considerations (e.g., Pinouts, Signal Format)							-	-	-	-
103.9. Concepts Installation of: TR: TO to Commercial X-Reference										
103.9.1. Grounding							B	-	-	-
103.9.2. Bonding							B	-	-	-
103.9.3. Shielding							B	-	-	-
103.9.4. Lightning Protection							B	-	-	-
103.10. Electrostatic Discharge:										
103.10.1. Fundamentals							-	-	-	-
103.10.2. Concepts							-	-	-	-
103.10.3. Handling, Packaging and Storing							-	-	-	-
103.11. Equipment Grounding and Lightning Protection:										
103.11.1. Install							-	-	-	-
103.11.2. Remove							-	-	-	-
103.11.3. Perform Inspection and Maintenance							-	-	-	-

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	COURSE	COURSE	COURSE
103.12. Equipment Familiarization:										
103.12.1. Locate Equipment Elements										
103.12.1.1. Alphanumerics							-	-	-	-
103.12.1.2. Visual Inspection							-	-	-	-
103.13. Basic Troubleshooting Techniques							-	-	-	-
103.14. Concepts of PMI Process							-	-	-	-
104. COMMUNICATIONS PRINCIPLES TR: TO 31-1-141 Series										
104.1. Amplitude Modulation (AM)							-	-	-	-
104.2. Frequency Modulation (FM)							-	-	-	-
104.3. Phase Modulation (PM)							-	-	-	-
104.4. Pulse Code Modulation (PCM)							-	-	-	-
104.5. Bandwidth							-	-	-	-
104.6. Light Wave Communications							-	-	-	-
104.7. Asynchronous and Synchronous Communication Modes							-	-	-	-
104.8. Error Detection and Correction							-	-	-	-
105. ELECICAL POWER SYSTEMS TR: Commercial Manuals										
105.1. Switched Electrical Power Systems							-	-	-	-
105.2. Uninterruptible Power Supplies (UPS)							-	-	-	-
105.3. Batteries							-	-	-	-
105.4. Rectifiers							-	-	-	-
105.5. Inverters							-	-	-	-
105.6. Generators							-	-	-	-
106. CABLE AND ANTENNA SYSTEMS FUNDAMENTALS TR: TOs 31W3-10-21 and 31-10 Series; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
106.1. Cable Plant Classification							B	-	-	-
106.2. Cable Composition							B	-	-	-
106.3. Conductor Identification							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	COURSE	COURSE	COURSE
106.4. Procedures to Label and Tag Cable Systems							b	-	-	-
106.5. Procedures to Label and Tag Antenna Systems							b	-	-	-
106.6. Types and Construction of Antenna Systems							-	-	-	-
106.7. Antenna Fundamentals:										
106.7.1. Wave Propagation							B	-	-	-
106.7.2. Wave Length							B	-	-	-
106.7.3. Wave Velocity							B	-	-	-
106.7.4. Antenna Impedance							B	-	-	-
106.7.5. Transmission Lines:										
106.7.5.1. Characteristics							-	-	-	-
106.7.5.2. VSWR Fundamentals							A	-	-	-
106.8. Physical Characteristics of Antennas							-	-	-	-
106.9. Frequency Characteristics of Antennas							-	-	-	-
107. CABLE SPLICING TR: TO 31W3-101-21 and 31-10 Series; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
107.1. Splice Cables Using ModularSplicing System							-	-	-	-
107.2. Splice Plastic-Sheath Plastic-Insulated Cable										
107.2.1. Straight Splice							-	-	-	-
107.2.2. Bridge Splice							-	-	-	-
107.2.3. Butt Splice							-	-	-	-
107.2.4. Foldback Method							-	-	-	-
107.3. Splice Cable:										
107.3.1. Filled Cable							-	-	-	-
107.4. Splice Fiber Optic Cable by:										
107.4.1. Setting Up Splice Point							-	-	-	-
107.4.2. Mechanical Splice Method							-	-	-	-
107.4.3. Fusion Splice Method							-	-	-	-
107.5. Install Fiber Optic Splice Closures							-	-	-	-
107.6. Clear Cap Conductors							-	-	-	-

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	COURSE	COURSE	COURSE
107.7. Install a Connector on a Sanded Flexible Coaxial Cable							-	-	-	-
107.8. Install a Connector on a Solid Center Conductor, Semi-Flexible Coaxial Cable							-	-	-	-
107.9. Make a Cable Section Replacement							-	-	-	-
107.10. Make a Cable Transfer							-	-	-	-
107.11. Repair Major/Minor Sheath Damage on a Non- Pressurized Plastic- Sheath Cable							-	-	-	-
107.12. Make Cable Count Changes							-	-	-	-
107.13. Install Temporary Bonds							-	-	-	-
108. CABLE SEALING TR: TO 31W3-101-21										
108.1. Seal Cable Ends										
108.1.1. End Cap							-	-	-	-
108.1.2. Cured Rubber (CR) Tape							-	-	-	-
108.1.3. Stainless Steel Closure							-	-	-	-
108.2. Seal Splice Opening										
108.2.1. Temporary Seal							-	-	-	-
108.2.2. Stainless Steel Closure Method							-	-	-	-
109. CABLE TERMINATION TR: TO 31-10-7; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
109.1. Install Main Distribution Frame (MDF)							-	-	-	-
109.2. Install Central Office Stubbed Protectors							-	-	-	-
109.3. Install Central Office Unstubbed Protectors							-	-	-	-
109.4. Install Tip Cables							-	-	-	-
109.5. Terminate Conductors on an MDF							-	-	-	-
109.6. Stencil an MDF with the Proper Information							-	-	-	-
109.7. Install Protected Terminals and Housings in:										
109.7.1. Buried Distribution Systems							-	-	-	-

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	COURSE	COURSE	COURSE
109.7.2. Aerial Distribution Systems							-	-	-	-
109.7.3. Building Distribution Systems							-	-	-	-
109.8. Terminate Cable on Protected Terminals in:										
109.8.1. Buried Distribution Systems							-	-	-	-
109.8.2. Aerial Distribution Systems							-	-	-	-
109.8.3. Building Distribution Systems							-	-	-	-
109.9. Terminate Fiber Optic Cable Using:										
109.9.1. Splicer Support Shelf/Patch Panel							-	-	-	-
109.9.2. Splice ay Configuration							-	-	-	-
109.10. Install Connectors on Fiber Optic Cable:										
109.10.1. Epoxy Connectors							-	-	-	-
109.10.2. Crimped Connectors							-	-	-	-
109.11. Label Terminals with the Proper Information							-	-	-	-
109.12. Perform Terminating Techniques Using the:										
109.12.1. Mechanical Method							-	-	-	-
109.12.2. Wire Wrap Method							-	-	-	-
109.12.3. Terminate Conductors Using the Punch-Down Method							-	-	-	-
109.12.4. Crimp Method							-	-	-	-
109.12.5. Hot Melt Type Connector							-	-	-	-
110. PRINCIPLES OF WORKING ALOFT TR: TOs 31-10-3, 31-10-19, 31W3-101-21, 32-1-101; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7% 20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
110.1. Inspect Climbing Equipment							-	-	-	-
110.2. Adjust Climbing Equipment							-	-	-	-
110.3. Prepare Work Area by Inspecting Poles and Surrounding Area							-	-	-	-
110.4. Climb/Work Aloft on an Unstepped Pole							-	-	-	-
110.5. Climb/Work Aloft on a Stepped Pole							-	-	-	-

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	COURSE	COURSE	COURSE
110.6. Climb/Work Aloft on a Tower							-	-	-	-
110.7. Perform Rescue Procedures										
110.7.1. Pole top							-	-	-	-
110.7.2. Tower							-	-	-	-
110.8. Perform Standard Hand Signals							-	-	-	-
111. AERIAL CABLE SYSTEMS TR: TOs 31-1-141 Series, 31-10-3, 31-10-14, 31W3-101-21, 31R2-2GRC-1232; EIDR-700-7; Applicable Commercial Manuals; TO to Comm Std X- Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X- Reference.xlsx										
111.1. Principles of an Aerial Cable System							-	-	-	-
111.2. Installing Lightning Protection:										
111.2.1. Install Continuous Lightning Protection							-	-	-	-
111.2.2. Install Non- Continuous Lightning Protection							-	-	-	-
111.3. Install Anchors							-	-	-	-
111.4. Install Antenna Support Guys:										
111.4.1. Temporary							-	-	-	-
111.4.2. Permanent							-	-	-	-
111.5. Install Poles Using the Construction Vehicle (Crane, Low-Pro, Mid- Pro) Method							-	-	-	-
111.6. Secure Tools and Equipment at Working Height							-	-	-	-
111.7. Install Suspension Sand							-	-	-	-
111.8. Remove Suspension Sand							-	-	-	-
111.9. Remove Two Spans of Aerial Cable and Associated Hardware							-	-	-	-
111.10. Install Cable Supports							-	-	-	-
111.11. Inventory Material for a Self-Supporting Tower							-	-	-	-
111.12. Install Self- Supporting Antenna Sections Using a Construction Vehicle (Crane, Low-Pro, Mid- Pro)							-	-	-	-
111.13. Remove Self- Supporting Antenna Sections Using a Construction Vehicle (Crane, Low-Pro, Mid- Pro)							-	-	-	-

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	COURSE	COURSE	COURSE
111.14. Plumb Antenna Supports Using the Plumb Bob Method							-	-	-	-
111.15. Safety Climb Device Installation							-	-	-	-
112. UNDERGROUND CABLE SYSTEMS TR: TO 31-10-3; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
112.1. Enter a Confined Space							b	-	-	-
112.2. Prepare Subterranean Work Area										
112.2.1. Place Warning Devices, Manhole Guards and Personnel							2b	-	-	-
112.2.2. Test Subterranean Atmosphere							2b	-	-	-
112.2.3. Identify Manhole Classification							-	-	-	-
112.2.4. Prevent Entrance of Water							b	-	-	-
112.2.5. Ventilate Subterranean Structures							2b	-	-	-
112.2.6. Monitor the Air Quality at Required Intervals While Working in a Confined Space							2b	-	-	-
112.2.7. Set Up Ground Tents							-	-	-	-
112.2.8. Perform Manhole Rescue Procedures							2b	-	-	-
112.2.9. Master Entry Plan (MEP) TR: AFI 91-203, chap 23										
112.2.9.1. MEP Principles							B	-	-	-
112.2.9.2. Describe MEP Elements							-	-	-	-
112.2.9.3. Develop MEP							-	-	-	-
112.3. Install a Continuous Duct Rod in Conduit Between Runs							-	-	-	-
112.4. Clean Cable Ducts							-	-	-	-
112.5. Install Pulling-In Rope							-	-	-	-
112.6. Prepare Cable Ends For Pulling Using a:										
112.6.1. Core Hitch							-	-	-	-
112.6.2. Cable Grip							-	-	-	-
112.7. Prepare Cable-Pulling Apparatus at Manhole Opening							-	-	-	-

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	COURSE	COURSE	COURSE
112.8. Test the Length of Cable on a Reel							-	-	-	-
112.9. Match a Specified Pulling Length of Cable to an Engineered Project Drawing							-	-	-	-
112.10. Install Cable Racks							-	-	-	-
112.11. Install Copper Core Cable							-	-	-	-
112.12. Remove Copper Core Cable							-	-	-	-
112.13. Install an Underground Fiber Optic Inner Duct/ Mesh Fabric							-	-	-	-
112.14. Install an Underground Fiber Optic Cable							-	-	-	-
112.15. Remove Fiber Optic Cable							-	-	-	-
112.16. Install a Pulling Frame, Sheave and Sheave Shackle over a Manhole Opening							-	-	-	-
112.17. Install a Cable Through Two Manhole Runs With One 90-Degree Turn using a Cable Reel Truck							-	-	-	-
112.18. Remove Cable From Two Manhole Runs With One 90-Degree Turn using a Cable Reel Truck							-	-	-	-
112.19. Form Cable in Subterranean Structures by:										
112.19.1. Hand							-	-	-	-
112.19.2. Using Cable Jacks							-	-	-	-
112.19.3. Using Bending Springs							-	-	-	-
112.20. Rack Cable in Subterranean Structures Using the:										
112.20.1. Permanent Method							-	-	-	-
112.20.2. Temporary Method							-	-	-	-
112.21. Install Bonding Ribbon in Subterranean Structures							-	-	-	-
112.22. Bond Cable in Subterranean Structures							-	-	-	-
112.23. Bond a Stainless Steel Closure in a Manhole							-	-	-	-
112.24. Tag Cable in Subterranean Structures							-	-	-	-

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	COURSE	COURSE	COURSE
113. BURIED CABLE SYSTEMS TR: TO 32-1-101-WA-1										
113.1. Mark Buried Cable Path Prior to Digging							2b	-	-	-
113.2. AF Form 103 Clearance Permit Through Base Civil Engineering (BCE) Prior to Digging							b	-	-	-
113.3. Locate Existing Buried Cables Using Test Equipment										
113.3.1. Locate an Existing Cable							-	-	-	-
113.3.2. Determine the Depth of a Cable							-	-	-	-
113.4. Excavate Cable							-	-	-	-
113.5. Set Up Cable for Splicing							-	-	-	-
113.6. Set Up a Ground Tent							-	-	-	-
113.7. Protect Cable Plant							-	-	-	-
113.8. Prepare Splice Pit and Trench for:										
113.8.1. Copper Core Cable							-	-	-	-
113.8.2. Fiber Optic Cable							-	-	-	-
113.9. Prepare a Splice Pit for Splicing a Cable using the Single-Offset Method							-	-	-	-
113.10. Prepare a Splice Pit for Splicing a Cable using the Double-Offset Method							-	-	-	-
113.11. Backfill Splice Pits and Trenches using the:										
113.11.1. Manual Method							-	-	-	-
113.11.2. Mechanical Method							-	-	-	-
113.11.3. Backfill a Cable Trench for a Base Distribution System							-	-	-	-
113.11.4. Backfill a Splice Pit for a Base Distribution System							-	-	-	-
113.12. Install Cables Using the:										
113.12.1. Manual Method							-	-	-	-
113.12.2. Mechanical Method							-	-	-	-
113.13. Install Buried Cables to Include:										
113.13.1. Copper Core										
113.13.1.1. Install a Copper Core Cable using the Open Trench Method							-	-	-	-

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	COURSE	COURSE	COURSE
113.13.1.2. Install a Copper Core Cable using the Cable Plow Method							-	-	-	-
113.13.2. Coaxial:										
113.13.2.1. Flexible							-	-	-	-
113.13.3. Control Cable							-	-	-	-
113.13.4. Fiber Optic										
113.13.4.1. Install a Buried Fiber Optic Inner- Duct							-	-	-	-
113.13.4.2. Install a Buried Fiber Optic Cable using the Plow Method							-	-	-	-
113.13.4.3. Install a Buried Fiber Optic Cable using the Trench Method							-	-	-	-
113.14. Install Cable Markers							-	-	-	-
113.15. Cable Route Markers										
113.15.1. Types of Cable Route Markers							-	-	-	-
113.15.2. Marking Standards of a Cable Route Marker							-	-	-	-
113.15.3. Placement Requirements of a Cable Route Marker							-	-	-	-
113.16. Cable Reel										
113.16.1. Place a Cable using Cable Reel Jacks							-	-	-	-
113.16.2. Place a Cable using Cable Reel Stands							-	-	-	-
113.16.3. Use a Cable Trailer to Place a Cable Reel							-	-	-	-
114. FIBER OPTICS TR: TO 31-10-34; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
114.1. Theory of Fiber Optic Lightwave Communication							B	-	-	-
114.2. Characteristics of Fiber Optic Cable Types										
114.2.1. Single Mode Fibers							-	-	-	-
114.2.2. Multimode Fibers							-	-	-	-
114.2.3. Tight-Tube							-	-	-	-
114.2.4. Loose-Tube							-	-	-	-
114.2.5. Hybrid Fiber Optic Cable							-	-	-	-

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	COURSE	COURSE	COURSE
114.3. Test Cables Using:										
114.3.1. OTDR										
114.3.1.1. Measure the Length of a Fiber Optic Cable							-	-	-	-
114.3.1.2. Measure the Db Loss of a Fiber Optic Cable							-	-	-	-
114.3.2. Optical Power Meter										
114.3.2.1. Measure the Db Loss of an Optical Fiber							-	-	-	-
114.4. Install Fiber Optic Cable										
114.4.1. Interior Building Fiber Optic Cable							-	-	-	-
114.4.2. Fiber Optic Splice Enclosure							-	-	-	-
114.5. Splice Fiber Optic Cable										
114.5.1. Mechanical Splices							-	-	-	-
114.5.2. Optical Fusion Splicer							-	-	-	-
114.5.3. Arrange Fiber Optic Splices in a Splice tray							-	-	-	-
114.6. Install Fiber Optic Connections										
114.6.1. Terminate at Patch Panel							-	-	-	-
114.6.2. No Polish-Type Pre-Polished Connector							-	-	-	-
114.6.3. Small Form Connectors							-	-	-	-
115. CABLE TESTING TR: TOs 31-1-141-1, 33A1-12-1300-1, 33A1-12-310-1; Applicable Commercial Manuals										
115.1. Wire Transmission Principles							-	-	-	-
115.2. Measure Insulation Resistance							2b	-	-	-
115.3. Use a Multimeter to Measure:										
115.3.1. Loop Resistance							-	-	-	-
115.3.2. Say Voltage							-	-	-	-
115.4. Detect Cable Faults Using a:										
115.4.1. Multimeter							-	-	-	-
115.4.2. Cable Fault Detector							-	-	-	-
115.5. Detect Splicer's Errors Using a:										
115.5.1. Multimeter							-	-	-	-

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	COURSE	COURSE	COURSE
115.5.2. Tone Set							-	-	-	-
115.6. Identify Conductors in Non-Working Cable Using a:										
115.6.1. Multimeter							-	-	-	-
115.6.2. Tone Set							-	-	-	-
115.7. Locate Earth Return Faults in Non- Working Cable using the Cable and Fault Locator Test Set							-	-	-	-
115.8. Locate Non- Resistive Cable Faults on Non-Working Cable using a Subscriber Loop Analyzer Test Set							-	-	-	-
115.9. Locate Resistive- Type Faults on a Non- Working Cable using a Subscriber Loop Analyzer Test Set							-	-	-	-
115.10. Locate Split Pairs Faults using a Subscriber Loop Analyzer Test Set							-	-	-	-
115.11. Identify Conductors in Working Cable using a:										
115.11.1. Tone Set and Amplifier							-	-	-	-
115.11.2. Multimeter							-	-	-	-
115.12. Locate Cable Faults Using a:										
115.12.1. Tone Set, Exploring Coil and Amplifier							-	-	-	-
115.12.2. Fault Locator							-	-	-	-
115.12.3. Open Fault Locator							-	-	-	-
115.12.4. TDR							-	-	-	-
115.13. Locate Cable Faults in a Working Cable Section using a Subscriber Loop Analyzer Test Set							-	-	-	-
115.14. Types of Splice Errors							B	-	-	-
115.15. Measure Resistance of Station Grounds							-	-	-	-
115.16. Record Station Ground Test Data on Applicable Forms							-	-	-	-
116. LOCAL AREA NETWORK/WIDE AREA NETWORK (LAN/WAN) DISIBUTION SYSTEMS TR: Commercial Manuals, EIA/TIA 569, 570; TIA/EIA 568A, 606, 607, TSB 67, TSB 72, AF e-Learning										
116.1. Theory of the Following LAN/WAN Distribution Systems:										
116.1.1. International Standards Organization (ISO) Open Systems Interconnect (OSI) Model							-	-	-	-

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	COURSE	COURSE	COURSE
116.1.2. Topology of LAN/WAN Distribution Systems							-	-	-	-
116.1.3. Use of Multiplexers in LAN/WAN Distribution Systems							-	-	-	-
116.1.4. Use of Modems in LAN/WAN Distribution Systems							-	-	-	-
116.1.5. Use of Routers, Hubs and Servers in LAN/WAN Distribution Systems							-	-	-	-
116.2. Types of LAN/WAN Transmission Methods:										
116.2.1. Single Mode Fiber Optics							-	-	-	-
116.2.2. Multimode Fiber Optics							-	-	-	-
116.2.3. Unshielded Twisted Pair\Shielded Twisted Pair (UTP\STP) (Intra-Building Wiring)							-	-	-	-
116.3. Install LAN/WAN Distribution Systems to include:										
116.3.1. Single Mode Fiber Optics							-	-	-	-
116.3.2. Multimode Fiber Optics							-	-	-	-
116.3.3. UTP\STP (Intra- Building Wiring)							-	-	-	-
116.3.4. Patch Panels and Associated Hardware							-	-	-	-
116.4. Maintain LAN/WAN Distribution Systems to include:										
116.4.1. Single Mode Fiber Optics							-	-	-	-
116.4.2. Multimode Fiber Optics							-	-	-	-
116.4.3. Patch Panels and Associated Hardware							-	-	-	-
116.4.4. UTP\STP (Intra- Building Wiring)							-	-	-	-
116.5. Terminate LAN/WAN Cables by:										
116.5.1. Installing Twisted Pair Connectors							-	-	-	-
116.5.2. Installing Work Area Outlets							-	-	-	-
116.5.3. Fabricating Patch Cords							-	-	-	-
116.5.4. Installing Cable Methods in/through Protected Distribution System (PDS) TR: NSTISSI_7003, https://www.cnss.gov/CNSS/							-	-	-	-

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	COURSE	COURSE	COURSE
117. TELEPHONY DEVICES INSTALLATION AND MAINTENANCE TR: TOs 31-10-7, 31-10-13, TIA/EIA 568A & 569; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7% 20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
117.1. Install Cross-Connects on Distribution Frames							-	-	-	-
117.2. Terminate Sapping Connections							-	-	-	-
117.3. Install Cross-Connects for Premise							-	-	-	-
117.4. Perform System Operational Test to Validate Installation							-	-	-	-
117.5. Perform System Corrective Maintenance							-	-	-	-
118. INTRA-BUILDING DISIBUTION SYSTEMS TR: EIA/TIA 568 Series, TIA/EIA 606, Tele-communications System Bulletin (TSB) – 67, 606 Standard; TO 00-33D-3003-WA-1; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X- Reference.xlsx										
118.1. Principles of Intra-Building Wiring Distribution System							B	-	-	-
118.2. Installation Principles and Associated Hardware							B	-	-	-
118.3. Install, Route, Form, Terminate and Label Cables/Associated Wiring							-	-	-	-
118.4. Test Distribution System							-	-	-	-
118.5. Install Racks, Patch Panels and Wire Management Systems							-	-	-	-
118.6. Principles of-Certify and Document Distribution System							-	-	-	-
118.7. Install, Route, Form, Terminate and Label Cables/Associated Wiring in a Protected Distributions System							-	-	-	-
119. OPERATE AND MAINTAIN SPECIAL PURPOSE VEHICLES TR: AFI 24-301; AFI 91- Series; TO36A11-18 Series										
119.1. Driver Safety Practices							-	-	-	-
119.2. Inspect for Proper Configuration of Tools, Parts and Materials							-	-	-	-
119.3. Purpose and Use of Special Purpose/ Construction Vehicles							-	-	-	-
119.4. Perform Operator Maintenance on Special Purpose Vehicles and Accessories to include:										
119.4.1. Line Trucks							-	-	-	-
119.4.2. Low Profile							-	-	-	-

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	COURSE	COURSE	COURSE
119.4.3. Cable Reel Truck							-	-	-	-
119.4.4. Trenchers							-	-	-	-
119.4.5. Cable Trailers:										
119.4.5.1. Hydraulic							-	-	-	-
119.4.5.2. Non-Hydraulic							-	-	-	-
119.4.6. Forklift							-	-	-	-
119.4.7. Backhoes							-	-	-	-
119.4.8. Pole Trailers							-	-	-	-
119.4.9. Tractor and Trailer							-	-	-	-
119.4.10. Cable Plow							-	-	-	-
119.4.11. Combination Pole and Cable Trailer							-	-	-	-
119.4.12. Fiber Optic Splicing Trailer							-	-	-	-
119.4.13. General Power Component (GPC) Utility Trailer							-	-	-	-
119.5. Operate Special Purpose Vehicles and Accessories to include:										
119.5.1. Line Trucks							-	-	-	-
119.5.2. Low Profile							-	-	-	-
119.5.3. Cable Reel Truck							-	-	-	-
119.5.4. Trenchers							-	-	-	-
119.5.5. Cable Trailers:										
119.5.5.1. Hydraulic							-	-	-	-
119.5.5.2. Non-Hydraulic							-	-	-	-
119.5.6. Forklift							-	-	-	-
119.5.7. Backhoes							-	-	-	-
119.5.8. Pole Trailers							-	-	-	-
119.5.9. actor and Trailer							-	-	-	-
119.5.10. Cable Plow							-	-	-	-
119.5.11. Combination Pole and Cable Trailer							-	-	-	-
119.5.12. Fiber Optic Splicing Trailer							-	-	-	-
119.5.13. General Power Component (GPC) Utility Trailer							-	-	-	-
120. CABLE AND ANTENNA SYSTEMS COMMON MAINTENANCE PRACTICES TR: AFI 91-203; TOs 31-10-3, 31W3-10-21, 36A11-18 series; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										

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	COURSE	COURSE	COURSE
120.1. Utilize Auxiliary Equipment to include:										
120.1.1. Water Pumps:										
120.1.1.1. Electrical							-	-	-	-
120.1.1.2. Mechanical							-	-	-	-
120.1.2. Generators							-	-	-	-
120.1.3. Blowers							-	-	-	-
120.1.4. Heaters							-	-	-	-
120.2. Use Power Actuated Tools to include:										
120.2.1. Pneumatic							-	-	-	-
120.2.2. Powder							-	-	-	-
120.2.3. Electric							-	-	-	-
120.3. Types of Fiber Ropes							B	-	-	-
120.4. Care of Fiber Ropes							b	-	-	-
120.5. Explain how Fiber Ropes are used in this AFSC							-	-	-	-
120.6. Splice Fiber Ropes										
120.6.1. Crown							-	-	-	-
120.6.2. Eye							-	-	-	-
120.6.3. Long							-	-	-	-
120.6.4. Short							-	-	-	-
120.7. Tie Knots in Fiber Ropes										
120.7.1. Square							-	-	-	-
120.7.2. Bowline-on-a-Bight							-	-	-	-
120.7.3. Sheetbend							-	-	-	-
120.7.4. Bowline							2b	-	-	-
120.7.5. Double Bowline							2b	-	-	-
120.7.6. Intermediate Bowline							-	-	-	-
120.8. Tie Hitches in Fiber Ropes										
120.8.1. Clove							2b	-	-	-
120.8.2. Timber							-	-	-	-
120.8.3. Snubbing							-	-	-	-
120.9. Rolled Eye Wire Rope Splice							-	-	-	-
120.10. Wire Rope										
120.10.1. Most Common Types							-	-	-	-

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	COURSE	COURSE	COURSE
120.10.2. Most Common Uses							-	-	-	-
120.10.3. Caring For							-	-	-	-
120.11. Use Rigging Techniques to Install Antenna and Cable Systems							-	-	-	-
120.12. Load and Unload Cable Reels							-	-	-	-
120.13. Position Cable Trucks/Reels for:										
120.13.1. Aerial Construction							-	-	-	-
120.13.2. Buried Construction							-	-	-	-
120.13.3. Underground Construction							-	-	-	-
120.13.4. Cable Reel Jacks							-	-	-	-
120.13.5. Cable Reel Stand							-	-	-	-
120.13.6. Cable Trailer							-	-	-	-
120.14. Identify the Purpose and Use of Common Hand Tools							-	-	-	-
120.15. Maintain Common Hand Tools for Safe Use							b	-	-	-
120.16. Identify the Purpose and Use of Construction Tools							-	-	-	-
120.17. Maintain Construction Tools							-	-	-	-
120.18. Identify Purpose of Construction Equipment							-	-	-	-
120.19. Maintain Construction Equipment							-	-	-	-
121. ANTENNA SYSTEMS TR: TOs 31-1-141 Series, 31-10-14, 31R2-2GRC-1232, 31-10-3, 31R5-4-142-2; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
121.1. Antenna Fundamentals							B	-	-	-
121.2. Transmission Line Fundamentals							B	-	-	-
121.3. Antenna Types and Characteristics							B	-	-	-
121.4. Non-Self-Supporting Antenna Systems										
121.4.1. Maintain Guys							-	-	-	-
121.4.2. Maintain Anchors							-	-	-	-
121.5. Maintain Hazard Markings:										
121.5.1. Hazard Lights							-	-	-	-

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	COURSE	COURSE	COURSE
121.5.2. Warning Signs, Symbols and Markings							-	-	-	-
121.6. Use a Transit to:										
121.6.1. Site Anchor Locations							-	-	-	-
121.6.2. Establish Datum Lines							-	-	-	-
121.7. Install the Following Antenna Components:										
121.7.1. Radiators							-	-	-	-
121.7.2. Reflectors							-	-	-	-
121.7.3. Rotator Controls							-	-	-	-
121.7.4. Azimuth Controls							-	-	-	-
121.7.5. Mechanical Controls							-	-	-	-
121.7.6. Antenna Support Hardware							-	-	-	-
121.8. Align Reflectors							-	-	-	-
121.9. Maintain Antenna Components:										
121.9.1. Radiators							-	-	-	-
121.9.2. Reflectors							-	-	-	-
121.9.3. Rotator Controls							-	-	-	-
121.9.4. Azimuth Controls							-	-	-	-
121.9.5. Mechanical Controls							-	-	-	-
121.9.6. Antenna Support Hardware							-	-	-	-
121.10. Antenna Support Poles:										
121.10.1. Load and Unload							-	-	-	-
121.10.2. Transport Antenna Support Poles							-	-	-	-
121.11. Install Antenna Support Pole:										
121.11.1. Construction Vehicle							-	-	-	-
121.11.2. Crane							-	-	-	-
121.12. Remove Antenna Support Pole:										
121.12.1. Construction Vehicle							-	-	-	-
121.12.2. Crane							-	-	-	-
121.13. Remove the Following Antenna Components:										
121.13.1. Radiators							-	-	-	-
121.13.2. Reflectors							-	-	-	-
121.13.3. Rotator Controls							-	-	-	-

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	COURSE	COURSE	COURSE
121.13.4. Azimuth Controls							-	-	-	-
121.13.5. Mechanical Controls							-	-	-	-
121.13.6. Antenna Support Hardware							-	-	-	-
121.14. Install Antenna Ground Reflector Systems							-	-	-	-
121.15. Maintain Open Wire Transmission Lines							-	-	-	-
121.16. Parabolic Microwave Dish:										
121.16.1. Install and Remove							-	-	-	-
121.16.2. Align							-	-	-	-
121.16.3. Perform a Scheduled PMI							-	-	-	-
122. CLIMBING CERTIFICATIONS/ RESCUE PROCEDURES TR: AFI 91-203, OSHA 1910.146, 1926; TOs 31-10-3, 31-10-19, 31W3-10-21; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
122.1. Tower Climbing							-	-	-	-
122.2. Unstepped Pole							-	-	-	-
122.3. Pole Top Rescue							-	-	-	-
122.4. Tower Rescue							-	-	-	-
122.5. Manhole Rescue							-	-	-	-
122.6. Confined Space Certification							-	-	-	-
123. ANTENNA SYSTEMS INSTALLATION AND MAINTENANCE TR: AFI 33 Series; TOs 31-1-141 Series, 31-10 Series, 33A1-15-39-1, 00-33D-3004-WA-1 and Applicable Technical Data; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
123.1. Maintain RF Coaxial Cables:										
123.1.1. Flexible							-	-	-	-
123.1.2. Rigid							-	-	-	-
123.2. Install Connectors on:										
123.2.1. Flexible Coaxial Cable							-	-	-	-
123.2.2. Flexible Waveguide							-	-	-	-
123.3. Install Waveguides:										
123.3.1. Flexible							-	-	-	-
123.3.2. Rigid							-	-	-	-
123.4. Maintain Waveguides:										
123.4.1. Flexible							-	-	-	-
123.4.2. Rigid							-	-	-	-

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	COURSE	COURSE	COURSE
123.5. Remove Waveguides:										
123.5.1. Flexible							-	-	-	-
123.5.2. Rigid							-	-	-	-
123.6. Perform Scheduled PMIs on:										
123.6.1. Coaxial cables							-	-	-	-
123.6.2. Antennas							-	-	-	-
123.6.3. Support Structures							-	-	-	-
123.6.4. Antenna Hardware							-	-	-	-
123.6.5. Grounding Systems							-	-	-	-
123.7. Use Project Support Documentation and CSIRs to:										
123.7.1. Install Antenna Systems							-	-	-	-
123.7.2. Maintain Antenna Systems							-	-	-	-
124. COMMUNICATIONS DISIBUTION MAPS, RECORDS AND DIAGRAMS TR: TOs 00-33D-3004-WA-1 and 00-33D-3003-WA-1										
124.1. Update a Communications Mission Data Set							2b	-	-	-
124.2. Configuration Accounting Information Retrieval System (CAIRS) TR: Commercial Publications							-	-	-	-
125. ELECTRONIC PRINCIPLES TR: TO 31-1-141-2-WA-1 Ch. 7, 9, and 10										
125.1. Identify Relationships of Basic Facts Associated with:										
125.1.1. Direct Current (DC)							-	-	-	-
125.1.2. Alternating Current (AC)							-	-	-	-
125.1.3. Inductors and Capacitors							-	-	-	-
126. MANHOLE PREVENTIVE MAINTENANCE INSPECTION (PMI) TR: AFI 91-203; TOs 31W3-10-21, 31-10-6, 31-10-13, 31-10-12, 31-10-3; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
126.1. Housekeeping							-	-	-	-
126.2. Minor Repairs										
126.2.1. Manhole							-	-	-	-
126.2.2. Conduit							-	-	-	-
126.3. Prevention of Water Entrance							-	-	-	-
126.4. Rodding and Cleaning							-	-	-	-

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	COURSE	COURSE	COURSE
126.5. Maintenance and Repair of Cable Bonds										
126.5.1. Grounding							-	-	-	-
126.6. Detection/ Prevention of Corrosion in Underground Plant							-	-	-	-
126.7. Update CSIR Drawings							-	-	-	-
126.8. Quality Assurance										
126.8.1. Racks/Supports							-	-	-	-
126.8.2. Conduits							-	-	-	-
126.8.3. Tags/Markings							-	-	-	-
126.9. Safety							-	-	-	-
127. TOWER/POLE PREVENTIVE MAINTENANCE INSPECTION (PMI) TR: T.O. 31-10-19, 31-10-21,1-1-700, 31-10-21, 31-10-19, 31-10-28, 31R-10-5, 31-1-141-11, 31-1-141-12, 31-10-3, National Electric Code (NEC); TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/ TO_to_Civilian_Std_X-Reference.xlsx										
127.1. Pole Condition							-	-	-	-
127.2. Pole Grounding							-	-	-	-
127.3. Corrosion Prevention							-	-	-	-
127.4. Install Pole							-	-	-	-
127.5. Pole Attachments							-	-	-	-
127.6. Pole Guyed Attachments							-	-	-	-
127.7. Markings							-	-	-	-
127.8. Tower Condition							-	-	-	-
127.9. Tower Grounding							-	-	-	-
127.10. Corrosion Prevention							-	-	-	-
127.11. Tower Attachments							-	-	-	-
127.12. Tower Guyed Attachments							-	-	-	-
127.13. Anchors							-	-	-	-
127.14. Markings							-	-	-	-
127.15. Transmission Lines							-	-	-	-
127.16. Antenna Testing							-	-	-	-
127.17. Safety							-	-	-	-
128. CABLE MANAGEMENT TR: T.O. 31-10-19, 31-1-75, 31-10-6, 31-10-13, 31-10-12, 31W3-10-22, 31-10-13, 00-25-245, 31-10-14, 31-10-34, 31-10-7, 31-10-7; ANSI/EIA/TIA 568B, BITSEP Handbook, National Electric Code (NEC); TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
128.1. Equipment Location							-	-	-	-
128.2. Racks/Cabinets							-	-	-	-

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	COURSE	COURSE	COURSE
128.3. Grounding							-	-	-	-
128.4. Conduit							-	-	-	-
128.5. Marking							-	-	-	-
128.6. Fanning/Forming							-	-	-	-
128.7. Cable for Fixed Ground C-E Equipment							-	-	-	-
128.8. Terminations							-	-	-	-
129. WORK CENTER MANAGEMENT TR: AFJQS XXXXX-212S, AFI 10-201, AFI 21- 103, AFI 36-807, Ch 4. and TO 00-33A-1001										
129.1. Management Policies										
129.1.1. Report Resources Status							-	-	-	-
129.1.2. Document Actions							-	-	-	-
129.1.3. Develop Work Schedules							-	-	-	-
129.1.4. Equipment Readiness							-	-	-	-
129.1.5. Staffing and Utilization							-	-	-	-
129.2. Training										
129.2.1. Evaluate Newly Assigned Personnel and Identify Individual Training Requirements TR: AFI 36-2651; AFI 33-150; Applicable CFETP; Unit Training Manual							-	-	-	-
129.2.2. Conduct On-the- Job Training (OJT) TR: AFI 36-2651; Local Directives							-	-	-	-
129.2.3. Evaluate Quality of OJT and Provide Trainee Feedback: TR: AFI 36-2651							-	-	-	-
129.2.4. Develop Master Training Plan							-	-	-	-
129.3. Quality Assurance (QA)										
129.3.1. Describe the QA Function							-	-	-	-
129.4. Air Force Inspection System (AFIS) TR: AFI 90-201, MPTO 00-33A-1001-WA-1										
129.4.1. Unit Effectiveness Inspection							-	-	-	-
129.4.2. Self-Assessment Program										
129.4.2.1. Work Center Role							-	-	-	-

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	COURSE	COURSE	COURSE
129.4.2.2. QA Role							-	-	-	-
129.4.2.3. Self- Assessment Checklist (SACS)							-	-	-	-
129.4.2.4. Management Internal Control Toolset (MICT)							-	-	-	-
129.5. Automated Information Systems (AIS)										
129.5.1. Integrated Maintenance Data System (IMDS)							-	-	-	-
129.5.2. Remedy							-	-	-	-
129.5.3. Defense Property Accountability System (DPAS)							-	-	-	-
129.5.4. myTraining							-	-	-	-
129.6. Logistic Support TR: AFI 23-101										
129.6.1. Submit Price Challenges							-	-	-	-
129.6.2. Report Item and Packaging Discrepancies TR: AFJAM 23-215							-	-	-	-
129.6.3. Report Uniform Source, Maintenance and Recoverability Code and Air Force Expendability, Recoverability, Reparability Category Code Discrepancies							-	-	-	-
129.6.4. Submit Deficiency Reports TR: TO 00-35D-54-WA-1, chap 3							-	-	-	-
129.6.5. Research and Identify Part and Stock Numbers							-	-	-	-
129.6.6. Maintain Supply Listings and Reports (D04, D18, M30, D23, or equivalent IMDS)							-	-	-	-
129.6.7. Maintain Bench Stock							-	-	-	-
129.6.8. Maintain Supply Point Stock							-	-	-	-
129.6.9. Request and Validate Adjusted Stock Levels							-	-	-	-
129.6.10. Describe Procedures for Recovering and Turning in Precious Metals							-	-	-	-
129.6.11. Process and Control Repair Cycle Assets Due in For Maintenance (DIFM)							-	-	-	-
129.6.12. Initiate Not Repairable This Station (NRTS) Actions							-	-	-	-

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	COURSE	COURSE	COURSE
129.6.13. Initiate Contract Repair (AF Form 9)							-	-	-	-
129.6.14. Maintain Custodian Authorization/Custody Receipt Listing (CA/CRL) Equipment Accounts							-	-	-	-
130. FUNCTIONAL MANAGEMENT TR: AFECD; AFIs 33-101, 36-2651, 36-2845, 38-101; AFMAN 37-104 (will convert to AFI 33-396); AFQTP 1D7XX-225E										
130.1. Career Field Supervision and Leadership										
130.1.1. AF Career Field Manager TR: CFM Handbook							-	-	-	-
130.1.2. MAJCOM Functional Manager TR: MFM Handbook							-	-	-	-
130.1.3. Base Functional Manager							-	-	-	-
130.2. Superintendent Duties										
130.2.1. Roles and Responsibilities of Supervising Gov't, Civ, or Contract Personnel							-	-	-	-
130.2.2. Roles and Responsibilities of each Communications Squadron Work Center							-	-	-	-
130.2.3. Principles of Retraining Programs							-	-	-	-
130.2.4. Plan and Organize Maintenance Activities							-	-	-	-
130.2.5. Direct Systems Analysis, Design, Programming, Operations and Maintenance							-	-	-	-
130.2.6. Direct Systems Management, Technical Support, and Resource Management							-	-	-	-
130.2.7. Manage Plans and Provide Implementation and Development Functions in a Maintenance Environment							-	-	-	-
130.3. Force Management										
130.3.1. Utilization and Training Workshop (U&TW)							-	-	-	-
130.3.2. Occupational Survey							-	-	-	-
130.3.3. Specialty Training Requirements Team (ST)							-	-	-	-
130.4. Awards and Recognition										

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	COURSE	COURSE	COURSE
130.4.1. Unit/Installation Awards							-	-	-	-
130.4.2. A2/6 Special Trophies and Awards TR: AFI 36-2845							-	-	-	-
131. RESOURCE MANAGEMENT TR: AFPDs 16-5, 33-1, 10-6, 65-6; AFIs 16-501, 10-601, 65-601 V(3)										
131.1. Financial Management										
131.1.1. Principles of Financial Management							-	-	-	-
131.1.2. Program Objective Memorandum (POM) Cycle							-	-	-	-
131.1.3. Government Purchase Card Program Oversight							-	-	-	-
131.1.4. Shortfall Procedures							-	-	-	-
131.2. Funded Requirements										
131.2.1. Responsibilities							-	-	-	-
131.2.2. Funding Process							-	-	-	-
131.3. Unfunded Requirements										
131.3.1. Responsibilities							-	-	-	-
131.3.2. Funding Process							-	-	-	-
131.3.3. Develop Requirements							-	-	-	-
131.4. Funding Types							-	-	-	-
131.5. Primary and Alternate Funding Sources							-	-	-	-
131.6. Financial Planning (FINPLAN)							-	-	-	-
132. MANPOWER AND ORGANIZATION TR: AFPD 38-2, AFI 38-101, 38-201										
132.1. Manpower Requirements							-	-	-	-
132.2. Air Force Manpower Standard (AFMS) Application							-	-	-	-
132.3. Manpower Studies							-	-	-	-
132.4. Manpower Products										
132.4.1. Unit Manpower Document (UMD)							-	-	-	-
132.4.2. Authorization Change Request (ACR)							-	-	-	-
132.4.3. Organizational Change Request (OCR)							-	-	-	-

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	COURSE	COURSE	COURSE
132.4.4. Program Element Code (PEC)							-	-	-	-
132.4.5. Unit Personnel Management Roster (UPMR)							-	-	-	-
132.5. Allocating Personnel							-	-	-	-
133. PROJECTS AND REQUIREMENTS FUNCTION TR: T.O. MPTOs 00-33A-1001-WA-1, 00-33D-3003-WA-1										
133.1. IT Requirements TR: AFI 33-401 and 33-210										
133.1.1. Lifecycle							-	-	-	-
133.1.2. Procurement							-	-	-	-
133.1.3. Integrated Technical Reference Model (i-M)							-	-	-	-
133.2. IT/NSS Project Management TR: AFPDs 33-1, 32-90; AFIs, 32-1021, 32-1022, 32-1023, 32-1032, 33-101, 10-501, 32-9005, 65-106; MPTO 00-33A-1001-WA-1, 00-33D-2002-WA-1, 00- 33D-3003-WA-1, 00-33D-3004-WA-1										
133.2.1. Principles of Project Management							-	-	-	-
133.2.2. Complete AF e- Learning 1D7X3C Project Management Training Track TR: https://www.my.af.mil (under AF e-Learning site)							-	-	-	-
133.2.3. Implementing Command/Organization										
133.2.3.1. Project/ProgramDocumentation							-	-	-	-
133.2.3.2. Responsibilities							-	-	-	-
133.2.4. Requiring Organization										
133.2.4.1. Project Documentation Content							-	-	-	-
133.2.4.2. Project Documentation Review							-	-	-	-
133.2.4.3. Site Surveys							-	-	-	-
133.2.5. System Accreditation							-	-	-	-
133.2.6. Support Agreements										
133.2.6.1. Characteristics and Responsibilities Concerning Support Agreements, Memorandums of Agreements and Memorandums of Understanding							-	-	-	-
133.2.6.2. Scheduling Management							-	-	-	-
133.2.6.3. Critical Path							-	-	-	-

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	COURSE	COURSE	COURSE
133.2.6.4. Project Support Requirements							-	-	-	-
133.2.6.5. Host Nation/Federal/State/Local Requirements/Coordination							-	-	-	-
133.2.6.6. Support Construction										
133.2.6.6.1. Prepare Base Civil Engineering (BCE) Work Request							-	-	-	-
133.2.6.6.2. Military Construction Program (MCP) TR: EIA/TIA 568A, 569A, 606, 607, ETL 02-12							-	-	-	-
133.2.6.6.3. Construction Design Reviews										
133.2.6.6.3.1. DD Form 1391 Review							-	-	-	-
133.2.6.6.3.2. Review MCP Design Package							-	-	-	-
133.2.6.6.3.3. MCP Design Drawing Symbolism							-	-	-	-
133.2.6.6.3.4. Compliance with ETL 02-12							-	-	-	-
133.2.6.6.3.5. Joint Occupancy							-	-	-	-
133.2.6.6.3.6. Maintenance Work Center Roles							-	-	-	-
133.2.7. Initial Logistic Support Actions							-	-	-	-
133.2.8. Implementation										
133.2.8.1. Liaison with Base Agencies							-	-	-	-
133.2.8.2. Support Documentation							-	-	-	-
133.2.8.3. Project Material							-	-	-	-
133.2.8.4. Integrated Logistics Support Completion							-	-	-	-
133.2.9. Implementation Support										
133.2.9.1. Focal Point for Implementation Teams							-	-	-	-
133.2.9.2. Project Monitor Responsibilities							-	-	-	-
133.2.10. Project Acceptance and Completion Actions										
133.2.10.1. Schedule Systems Acceptance Inspections							-	-	-	-

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	COURSE	COURSE	COURSE
133.2.10.2. Material Accountability							-	-	-	-
133.2.10.3. Material Disposition							-	-	-	-
133.2.10.4. Real Property Transfer							-	-	-	-
133.2.10.5. Acceptance Documentation							-	-	-	-
133.2.11. Exceptions							-	-	-	-
134. PLANS, PLANNING AND AGREEMENTS TR: AFIs, 33-150, 36-2651, 63-501, 63-131, 64-102; AFPD 36-5, 64-1; Federal Acquisition Regulation (FAR) Part 39; OMB Circular A-130; TO 00-33A- 1001-WA-1 and 00-33D-3003-WA-1										
134.1. IT/National Security System (NSS) Planning TR: AFIs 10-501, 10-601, 16-501, ; AFMAN 10-401 (V) 2; AFPDs 10-4, 16-5, 33-1										
134.1.1. Architecture TR: AFPD 33-1; AFIs 33-108, 33-210, 33-401; AFPD 33-4; CJCSI 6212.01;C4ISRDODAF 4630.8; GIG/CRD; MPTOs 00-33A- 1001-WA-1, 00-33D-2002-										
134.1.1.1. Purpose							-	-	-	-
134.1.1.2. Department of Defense Architecture Framework TR: DoDAF Version 2.02 https://dodcio.defense.gov/Library/DoD-Architecture-Framework/										
134.1.1.2.1. Locate Information within Architecture Views							-	-	-	-
134.1.1.2.2. DOD IT Standards Registry (DISR)							-	-	-	-
134.1.1.2.3. Air Force Communications and Information Info-structure Technical Reference Model (I -M)							-	-	-	-
134.1.2. Cyberspace Systems Integrator (CSI) Concept TR: MPTO 00- 33D-2002							-	-	-	-
134.1.3. Cyberspace Infrastructure Planning System (CIPS) (e.g. Base IT/NSS Blueprints) TR: MPTO 00-33A-1001- WA-1, 00-33D-2002-WA-1, 00-33D-3003-WA-1, 00-33D-3004-WA-1; AFPD 33-1										
134.1.3.1. Purpose							-	-	-	-
134.1.3.2. Process							-	-	-	-
134.1.3.3. Maintain CIPS Visualization Components							-	-	-	-
134.1.3.4. track Project in CIPS							-	-	-	-
134.1.3.5. CIPS CVC tool							-	-	-	-
134.1.3.6. Legacy CSIRs							-	-	-	-
134.1.4. Lead Command TR: AFI 10-901							-	-	-	-
134.1.5. IT/NSS Requirements TR: AFPDs 10-6 and 33-1; AFIs, 10-601; MPTOs 00- 33A-1001-WA-1,00-33D-2002-WA-1, 00-33D-3003- WA-1, 00-33D-3004-WA-1										
134.1.5.1. Purpose							-	-	-	-

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	COURSE	COURSE	COURSE
134.1.5.2. IT/NSS Documentation TR: AFPD 33-1; AFIs 33-580, 10-601										
134.1.5.2.1. Purpose							-	-	-	-
134.1.5.2.2. Content							-	-	-	-
134.1.5.2.3. Develop IT/NSS Requirement Document							-	-	-	-
134.1.5.2.4. Process IT/NSS Requirements							-	-	-	-
134.1.5.2.5. Risk Identification TR: AFPAM 90-902; OMB Circular No. A-130; MPTO 00-33A-1001-WA-1 http://www.whitehouse.gov/omb/										
134.1.5.2.5.1. Technical Solutions							-	-	-	-
134.1.5.2.5.2. Identify Provisions for Logistic Support							-	-	-	-
134.1.5.2.5.3. Types (ICD, CDDP-Plan, etc)							-	-	-	-
134.1.5.3. IT/NSS Contracts TR: AFPD 33-1										
134.1.5.3.1. Purpose							-	-	-	-
134.1.5.3.2. Content							-	-	-	-
134.1.5.3.3. Validate Technical Solutions Against Applicable Contracts							-	-	-	-
134.1.5.3.4. Commercial Off-the-Shelf (COTS) (GSA, DoD,Contracts, 1218)							-	-	-	-
134.1.5.3.5. Government Off-the-Shelf (GOTS)							-	-	-	-
134.1.5.4. Host Nation Approval TR: Local Procedures							-	-	-	-
134.1.6. Planning Meetings TR: AFPD 33-1; AFI 33-101; T.O. 00-33D-3003-WA-1										
134.1.6.1. Types							-	-	-	-
134.1.6.2. Impacts							-	-	-	-
134.2. Plans Management TR: AFPDs 10-4, 10-5; AFIs 10-402, 10-403, 10-404, 10-501, 25-101, 10-201; MPTO 00-33A-1001-WA-1										
134.2.1. Types of Plans										
134.2.1.1. Purpose							-	-	-	-
134.2.1.2. Content							-	-	-	-
134.2.1.3. Develop Plans Annex							-	-	-	-
134.2.2. IT/NSS Point of Contact (POC) for Plans										

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	COURSE	COURSE	COURSE
134.2.2.1. Evaluate Plans to Determine IT/NSS Resource Impact							-	-	-	-
134.2.2.2. Adminisatively Manage Plans							-	-	-	-
134.3. IT/NSS Installation Records TR: MPTOs 00-33A-1001- WA-1, 00-33D-3003-WA-1, 00-33D-3004-WA-1										
134.3.1. Purpose							-	-	-	-
134.3.2. Content							-	-	-	-
134.3.3. Responsibilities										
134.3.3.1. Base IT/NSS Installation Records Manager							-	-	-	-
134.3.3.2. Work Centers							-	-	-	-
134.3.4. Drawing Records										
134.3.4.1. Processing							-	-	-	-
134.3.4.2. Reviews							-	-	-	-
134.3.4.3. Index							-	-	-	-
134.4. Agreements TR: AFIs 25-201, 33-115 (V) 1, 65-601 (V)1, AFPD 25-2; DODI 4000.19; MPTO 00-33A-1001-WA-1										
134.4.1. Purpose							-	-	-	-
134.4.2. Types							-	-	-	-
134.4.3. Content							-	-	-	-
134.4.4. Reviews							-	-	-	-
134.5. Modification Management										
134.5.1. Control Configuration							-	-	-	-
134.5.2. Initiate Modification Proposals TR: AFI 63-131							-	-	-	-
134.6. Adminisative Contract Management TR: Federal Acquisition Regulation (FAR), Part 16										
134.6.1. Establishing and Managing a Contract							-	-	-	-
134.6.2. Types of Contracts										
134.6.2.1. Time and Material							-	-	-	-
134.6.2.2. Firm Fixed Price							-	-	-	-
134.6.2.3. Sole Source							-	-	-	-
134.6.2.4. Performance Based							-	-	-	-
134.6.2.5. Indefinite Delivery Indefinite Quantity							-	-	-	-

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	COURSE	COURSE	COURSE
134.6.2.6. Blanket Purchase Agreement (e.g. AFWAY, PCOE)							-	-	-	-
134.6.3. Responsibilities										
134.6.3.1. Quality Assurance Program Coordinator							-	-	-	-
134.6.3.2. Functional Director/Commander							-	-	-	-
134.6.3.3. Quality Assurance Personnel							-	-	-	-
134.6.3.4. Unit Contract Monitor							-	-	-	-
134.7. Base Civil Engineer (BCE) Interface TR: AFIs 32-1001, 32-1021, 32-9002; AFPD 32-90; MPTO 00-33A-1001-WA-1										
134.7.1. Unit Focal Point Responsibilities							-	-	-	-
134.7.2. BCE Work Request Processing							-	-	-	-
134.7.3. BCE Planning							-	-	-	-
134.7.4. Environmental Impacts							-	-	-	-