

AFSC 3C2X1

COMMUNICATIONS-COMPUTER SYSTEMS CONTROL



Basic



Senior



Master

CAREER FIELD EDUCATION AND TRAINING PLAN

**COMMUNICATIONS-COMPUTER SYSTEMS CONTROL
AFSC 3C2X1
CAREER FIELD EDUCATION AND TRAINING PLAN**

TABLE OF CONTENTS

PART I

Preface	1
Abbreviations/Terms Explained	2
Section A - General Information	6
Purpose of the CFETP	
Use of the CFETP	
Coordination and Approval of the CFETP	
Section B - Career Field Progression and Information	8
Specialty Description	
Communications-Computer Systems Control Apprentice/Journeyman/Craftsman/Superintendent	
Communications-Computer Systems Chief Enlisted Manager (CEM) (3C000)	
Skill/Career Progression	
Apprentice (3-Level) Training	
Journeyman (5-Level) Training	
Craftsman (7-Level) Training	
Superintendent (9-Level) Training	
Chief Enlisted Manager (CEM) Training	
Training Decisions	
Community College of the Air Force Academic Programs	
Career Field Path	
Education and Training Path Table	
Section C - Skill Level Training Requirements	16
Purpose	
Specialty Qualification Requirements	
Apprentice (3-Level) Training	
Journeyman (5-Level) Training	
Craftsman (7-Level) Training	
Superintendent (9-Level) Training	
Section D - Resource Constraints	20
Purpose	
Apprentice (3-Level) Training	
Journeyman (5-Level) Training	
Craftsman (7-Level) Training	
Section E - Transition Training Guide	20

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Part II

Section A - Specialty Training Standard	21
Section B - Course Objective List	52
Section C - Support Materials	52
Air Force Job Qualification Standards and Air Force Qualification Training Packages	
Section D - Training Course Index	53
Purpose	
Air Force In-Residence Courses	
Air Force Institute for Advanced Distributed Learning (AFIADL) Courses	
Exportable Courses	
Section E - MAJCOM Unique Requirements	54

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PART I

Preface

1. The changing Command, Control, Communications, Computer, and Intelligence (C4I) and Expeditionary Aerospace Forces (EAF) environments require vision, preparation, and attention to ensure people have the right skills and tools to deliver the C4I capabilities and the support required by the war fighter in meeting the Air Force mission of today and the vision of the future. Declining resources, expanding diversity of mission, and ever-changing technologies in the Air Force are impacting the availability of our most valuable resource--people. These factors will continue to exist in the future, making it essential for the work force to be effectively and efficiently trained to perform duties within each skill level of an Air Force Specialty (AFS). To meet the challenges of tomorrow, the Air Force must place a greater emphasis on career field training. This Communications-Computer Systems Control Career Field Education and Training Plan (CFETP) is a comprehensive core training document that identifies life-cycle training/education requirements, support resources, and minimum core task requirements for the 3C2X1 specialty. The plan is a "training road map" for the career field. It provides personnel a clear career path to success and makes career field training identifiable, measurable, and budget defensible.
2. The CFETP documents the career field training program and consists of two parts. Management uses both parts to plan, manage, and control training within the career field.
 - 2.1. Part I, Section A provides the information necessary for overall management of training in the career field. It contains administrative details and explains the purpose and use of the CFETP. Section B provides a description of the specialty, suggests career field progression, provides career field information, documents training decisions, defines each skill level, and identifies MAJCOM continuation training options. Section C specifies qualification requirements for upgrade/progression in each subsequent skill level in the career field. It also identifies sources of training other than those provided by Air Education and Training Command (AETC). Section D identifies known resource constraints. Section E identifies transition training requirements.
 - 2.2. Part II, Section A identifies the Specialty Training Standard (STS) and includes duties, tasks, technical references, Air Education and Training Command (AETC) conducted training, core tasks, and correspondence course requirements. Section B contains the course objective list/training standard supervisors use to determine if airmen satisfied training requirements. Section C contains support material relevant across the specialty including Air Force Job Qualification Standards/Air Force Qualification Training Packages (AFJQS/AFQTP). Section D lists all mandatory Air Force in-residence, field, Air Force Institute for Advanced Distributed Learning (AFIADL), and exportable courses used to support training for this specialty. Section E is used to identify MAJCOM unique requirements. Supervisors and trainers at the unit level use Part I, Section C, and Part II of the CFETP to identify, plan, and conduct unit level training commensurate with the overall goals of this plan.
3. Use of the guidance provided in this CFETP provides the foundation for effective and efficient training for individuals in this career field at the appropriate points in their careers. This plan enables the Air Force to train today's work force for tomorrow's jobs.

Abbreviations/Terms Explained

This section provides a common understanding of the terms that apply to the Communications-Computer Systems Control Career Field and Education Training Plan.

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

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

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

Air Force Institute for Advanced Distributed Learning (AFIADL). The result of a merger between the Air Force Distance Learning Office and the Extension Course Institute.

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

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

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

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

Career Training Guide (CTG). A document that uses Task Modules (TM) in lieu of tasks to define performance and training requirements for a career field.

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.

Command, Control, Communications, Computer, and Intelligence (C4I). Integrated systems of doctrine, procedures, organizational structures, personnel, equipment, facilities, and communications designed to support a commander's exercise of command and control through all phases of the operational continuum. C4 systems include base visual information support systems. ([Joint Pub 1-02, Department of Defense Dictionary of Military and Associated Terms](#))

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.

Communications-Computer Systems Training Advisory Group (CTAG). Chaired by the HQ USAF C-CS CFM and attended by the C-CS MAJCOM and FOA functional managers. The CTAG sets training goals and priorities, reviews training programs, and evaluates emerging training technologies. The group meets, as required, to prioritize training product development.

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

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

Core Task. A task AFCFMs identify as a minimum qualification requirement for everyone within an AFSC, regardless of duty position. Core task may be specified for a particular skill level or in general across the AFSC. Guidance for using core task can be found 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 AFI 36-2201, vol 1 thru 6.

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

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

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

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

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

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.

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

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

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.

Go/No Go. Go-The stage at which a trainee has gained enough skill, knowledge, and experience to perform the tasks without supervision. Meeting the task standard. No Go-Trainee has not gained enough skill, knowledge, and experience to perform task without supervision. Does not meet task standard.

Initial Skills Training. A formal resident course resulting in award of the 3-skill level.

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

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.

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

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

Oracle Training Administration (OTA). An HQ AFPC/DPPAT managed computer support system that links Air Force units or activities. This system is used for planning, controlling, and funding formal training throughout the Air Force, including the MAJCOM TDY-to-School Program.

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.

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

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

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

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

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

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

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

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

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

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

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

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

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

Wartime Tasks. Those task that must be taught when courses are accelerated in a wartime environment. They are identified by a “#” in CFETP Part II, Section A, STS. In response to a wartime scenario, these task will be taught in the 3- level course in a streamlined training environment. These task are only for those career fields that still need them applied to their schoolhouse tasks.

Section A - General Information

1. Purpose of the CFETP. This CFETP provides the information necessary for career field managers, training management, supervisors, and trainers to plan, develop, manage, and conduct an effective and efficient career field training program. The plan outlines the training that individuals in AFSC 3C2X1 should receive in order to develop and progress throughout their careers. For purpose of this plan, training is divided into: initial skills, upgrade, qualification, and continuation training. Initial skills training is the AFS specific training an individual receives upon entering into the AFSC. This training is provided by the 336 Training Squadron (TRS) at Keesler AFB, MS. Upgrade training identifies the mandatory courses, task qualification requirements, and Career Development Course (CDC) completion required for award of the 5-, 7-, or 9-skill level. Qualification training is actual hands-on task performance training designed to qualify an airman in a specific duty position. This training program occurs both during and after the upgrade training process. It is designed to provide the performance skills/knowledge training required to do the job. Continuation training is additional training provided to 3-, 5-, 7-, and 9-level personnel to increase their skills and knowledge beyond the minimum required for upgrade. The CFETP has several purposes, some of which are:

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

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

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

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

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

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

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

2.3. 81 TRSS Qualification Training Flight (Q-Flight) develops AFJQs/AFQTPs based on requests submitted by the MAJCOMs and according to the priorities assigned by the Communications-Computer Systems Training Advisory Group (CTAG).

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

Automated Maintenance System (CAMS) is the primary means of collecting and maintaining information pertaining to OJT training and is mandatory for use by all 3CXXX career fields.

2.5. Submit recommended CFETP improvements/corrections to the AFSC Training Manager at 336 TRS/TRR, 108 Phantom Drive MS 39534-2235 or call DSN 597-4521.

3. Coordination and Approval of the CFETP. The AFCFM is the approval authority. MAJCOM representatives and AETC training personnel coordinate on the career field training requirements. The AFCA executive agent reviews CFETPs for accuracy prior to submission for approval by the AFCFM.

Section B - Career Field Progression and Information

4. Specialty Description. This information supplements that presented in AFMAN 36-2108, *Airman Classification*.

4.1. Communications-Computer Systems Control Apprentice/Journeyman/Craftsman/ Superintendent (3C231/3C251/3C271/3C291).

4.1.1. Specialty Summary. Operates, monitors, secures, and controls the physical, data link, network, and transport layers of garrison and tactical Communications-Computer Systems (C-CS) encompassing local and wide area networks, end-to-end telecommunications and circuit switching systems, long-haul transmission, and the global information grid. Performs, coordinates, and supervises their design, configuration, operation, restoration, and improvements. Analyzes their capabilities and performance, identifies problems, and takes corrective action. Operates cryptographic equipment. Fabricates cable assemblies. Performs C-CS control facility quality assurance evaluation. Directs and makes operational adjustments to C-CS equipment. Related DoD Occupational Subgroup: 120100

4.1.2. Duties and Responsibilities:

4.1.2.1. Monitors and controls C-CS performance. Operates processor assisted diagnostic and control equipment and software to perform network, technical, and configuration control, surveillance, and security. Monitors status and performance of transmission and switching systems, local and wide area networks, and subscriber equipment. Operates test equipment to verify end-to-end circuit, system, and network signals meet minimum standards. Operates network management hardware and software to ensure compliance with security standards and service levels. Configures circuits, systems, and networks based on standards, traffic patterns, and results of quality assurance tests. Performs circuit, system, and network patching and cross connecting to establish, sustain, and restore service. Localizes failures, performs operational adjustments, and reconfigures circuit, system, and network equipment. Fabricates copper and fiber optics cable assemblies. Operates cryptographic equipment to test, reset, and rekey.

4.1.2.2. Directs and coordinates C-CS configuration, operation, security, restoration, and improvements. Communicates with subscribers, contractors, lateral agencies, and higher headquarters using secure and unsecure voice, data, electronic mail, web, or facsimile communications to schedule down-time and quality assurance tests, isolate faults or degradation, restore services and effect repairs, maintain situational awareness, and inform of status changes. Directs and controls maintenance to minimize impacts. Provides technical advice and assistance.

4.1.2.3. Monitors C-CS to ensure efficiency and compliance with technical orders, manufacturer handbooks, local procedures, codes, and directives. Uses manual and computerized techniques to analyze and record C-CS capabilities, operation, security, and performance. Identifies causes of C-CS limitations, failures, or degradation and takes corrective actions. Modifies C-CS equipment and configuration according to directives and time compliance technical orders. Controls configuration, plans and analyzes systems, and recommends improvements to ensure systems meet current and future mission requirements. Monitors C-CS control facility contractor compliance with contract requirements.

4.1.2.4. Protects C-CS security through proper cryptographic and boundary control interconnections and using effective security procedures. Uses electronic combat procedures and computer crime protocols to protect equipment, software, and data before, during, and subsequent to crimes, viruses, and attacks.

5. Skill/Career Progression. Adequate training and timely progression from the apprentice to superintendent skill levels play an important role in the Air Force's ability to accomplish its mission. It is essential that everyone involved in training do their part to plan, manage, and conduct an effective training program. The guidance provided in this part of the CFETP and the [3C2X1 Education and Training Path](#) table will ensure individuals receive viable training at appropriate points in their careers.

Apprentice (3-Level) Training
Upon completion of initial skills training a trainee will work with a trainer to enhance their knowledge and skills.
Utilize CDCs, AFJQs/AFQTPs, and other exportable courses to progress in the field.
Once task certified, a trainee may perform the task unsupervised.
Journeyman (5-Level) Training
Enter into continuation training to broaden experience base.
Five-levels may be assigned job positions such as team leader and shift supervisor.
Attend the Airman Leadership School (ALS) after serving 48 months in the Air Force or selection to rank of SSgt (active duty only). In-residence or correspondence course is required for Air National Guard/Air Force Reserve Command (ANG/AFRC) personnel.
Use CDCs and other references identified by the AFCFM to prepare for Weighted Airman Performance Systems (WAPS) testing.
Should continue pursuing a Community College of the Air Force (CCAF) degree.
Craftsman (7-Level) Training
A seven-level can expect to fill various supervisory and management positions such as shift leader, team chief, supervisor, or task certifier.
Seven-levels should take courses or obtain added knowledge on management of resources and personnel and attend the 7-level resident course.
Encouraged continuing academic education through CCAF and higher degree programs.
Attend the Noncommissioned Officer Academy (NCOA). In-residence or correspondence course is required for ANG/AFRC personnel.
Superintendent (9-Level) Training
A nine-level can be expected to fill positions such as flight chief, superintendents, and various staff positions.
Should pursue increased knowledge for budget, manpower, resources, and personnel management.
Recommend they pursue additional education and completion of courses outside of their AFSC.
Chief Enlisted Manager (CEM) Training
Must be selected for CMSgt and possess qualifications in a feeder specialty (3C090, 3C191, 3C192, 3C291, or 3C391).
CEMs work in a variety of similar jobs and functional areas where general managerial and supervisory abilities can be most effectively used and challenged.
Resident graduation of the USAF Senior NCO Academy (SNCOA) is a prerequisite for CMSgt sew-on (active duty only). In-residence or correspondence course required for ANG/AFRC personnel.

6. Training Decisions. This CFETP was developed to encapsulate an entire spectrum of training requirements for the Communications-Computer Systems Control career field, using a building block approach (simple to complex). Included in this spectrum was the strategy of when, where, and how to meet the training requirements. The strategy must be apparent and affordable to reduce duplication of training and eliminate a disjointed approach to training. The following training decisions were made by members of the 8-12 July 2002 Utilization and Training Workshop.

6.1. Initial Skills. The initial skills course was reviewed and the recommended changes from the schoolhouse and MAJCOM representatives were incorporated. Proficiency codes were changed to increase and/or decrease the level of information instructed in the course. The workshop also replaced the Integrated Digital Network Exchange (IDNX) with Promina; in addition Fault Management was expanded to both LAN and WAN networks were included to the course curriculum. Finally, the U&TW added item 13 Information Operations.

6.2. Five-Level Upgrade Requirements. Activation of the 3C251B CDC's, September 2002. Volume 1 covers the different types of transmission media used in the Defense Information Infrastructure (DII). Volume 2 discusses the various types of communications systems used in the Air Force. Volume 3 focuses on the types of systems control facilities and their associated equipment and functions. Finally, Volume 4 covers quality control and the tests needed for the different types of systems control functions. Personnel testing for promotion are reminded to refer to the WAPS catalog <http://www.maxwell.af.mil/au/afiadl/main.htm> for current information.

6.3. Seven-Level Upgrade Training Requirements. As of 5 December 2000 there is no seven level CDCs available. There is no new discussion on releasing a new 7 level CDC. There have been changes made to the seven-level curriculum to incorporate the CDC information into the course. It was agreed that attendance and successful completion of seven level school is required.

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

6.4.1. 81 TRSS (Q-Flight) develops AFJQSS/AFQTPs to support tasks relating to communications-electronics and communications-computer systems, functions, and duties. Completion of AFJQSS/AFQTPs is mandatory by duty position for personnel in upgrade or qualification training (ex: Personnel assigned to a Network Control Center (NCC) performing Network Management duties must use AFJQS 3CXXX-200C, Position Certification for Network Professionals).

6.4.2. Licensing and Certification Training. AFI 33-115 Vol 2, *Licensing Network Users and Certifying Network Professionals*, defines policy and procedures for training and certifying Air Force network professionals who access the Air Force (.af.mil) domain. Compliance with this AFI meets DoD initiative to train and certify those network professionals who actively manage, configure, and control the network, to a consistent verifiable skill level ensuring the DoD Information Assurance (IA) posture is uncompromised. The objective of the network certification program is to qualify network personnel for position certification during peacetime and combat operations in support of the EAF. Network personnel perform daily network management (NM), control, administration, and security of the enterprise of information flow within the functional areas as well as within the Network Control Center (NCC). Certification is achieved through a combination of AFJQSS, in-residence courses, supervised on-the-job training (OJT), and Air Force provided interactive computer based training (CBT).

6.4.3. AFJQS for Enterprise Network Professionals. The network certification program trains all network professionals to standardized criteria. Network professionals are military and DoD civilians who work in the following functional areas: Help Desk Services, Network Administration, Network Management, Information Protection (IP), Workgroup Management (WM), and Functional System Administration (FSA). This program standardizes demonstrable, knowledge level, and core skills for enterprise network professionals across the Air Force. Supervisors determine the network professional crew position based on the trainee's duties. Training required for each crew position is identified in AFJQS 3CXXX-200C, AFJQS for Enterprise Network Professionals. This AFJQS outlines knowledge training and performance tasks network professionals must complete to receive certification for each crew position. The tasks listed are the minimum required for Network Certification. MAJCOMs and bases may add unique training requirements to ensure position certification is comprehensive and meets mission needs. The following table lists the various crew positions for enterprise network professionals. Refer to AFI 33-115 Vol 1, *Network Management*, for additional information.

CREW POSITION CODES

Position Code	Network Crew Position
A	NCC Help Desk/NOSC Event Manager (2EXXX, 3CXXX, and 3AXXX)
B	Messaging Technician (3C0X1)
C	Configuration Management Technician (3C0X1)
D	Applications Services Technician (3C0X1)
E	NCC Infrastructure Technician/NOSC Enterprise Controller (2E2X1 and 3C2X1)
F	Internet Services Technician (3C0X1)
G	Boundary Protection Specialist/NOSC Network Defense Controller (3C0X1)
H	Vulnerability Assessment Specialist (3C0X1)
I	Intrusion Detection Specialist (3C0X1)
J	Workgroup Manager (3A0X1)
K	Functional System Administrator (any AFSC)
ALL	All Crew Positions

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. The degree must be completed before the student separates from the Air Force, retires, or is commissioned as an officer. In addition to its associates degree program, CCAF offers the following:

7.1. Occupational Instructor Certification. The College offers the Occupational Instructor Certification to instructors teaching full time in a CCAF affiliated school. To qualify, instructors must complete an instructor course, a teaching practicum, have two years teaching experience, hold an associate or higher degree, and be recommended by their commander/commandant.

7.2. Trade Skill Certification. When a CCAF student separates or retires, a trade skill certification is awarded for the primary occupational specialty. The College uses a competency based assessment process for trade skill certification at one of four proficiency levels-Apprentice, Journeyman, Craftsman/Supervisor, or Master Craftsman/Manager. The trade skill certification is annotated on DD Form 214, Certificate Of Release Or Discharge From Active Duty.

7.3. The Electronic Systems Technology (4VHP) program applies to the 3C2X1 career field.

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

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

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

7.3.3. Leadership, Management, and Military Studies (6 semester hours): Professional military education (PME) and/or civilian management courses. See CCAF General Catalog for application of civilian management courses.

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

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

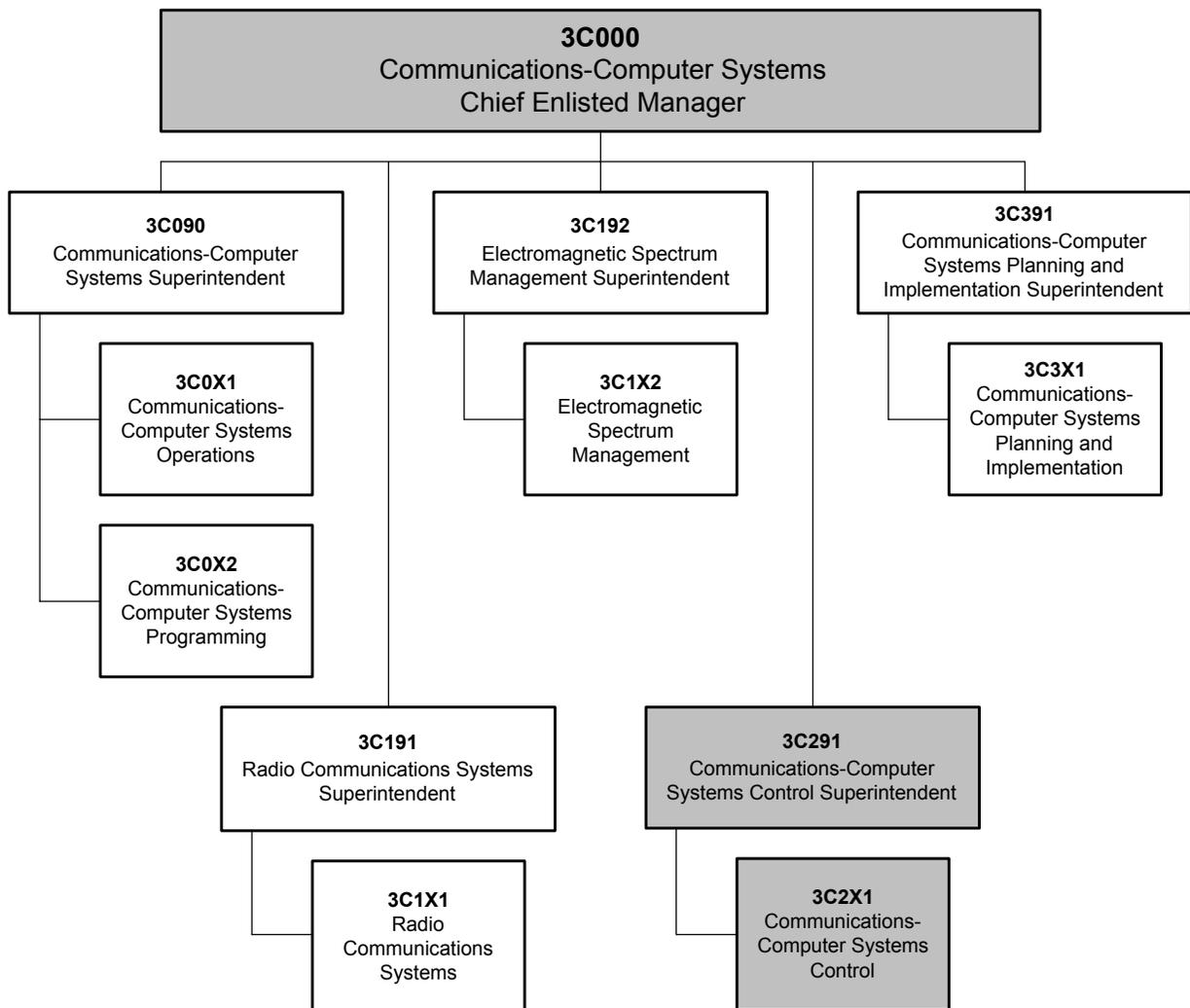
7.3.6. Program Elective (15 semester hours): Satisfied with applicable Technical Education; Leadership, Management, and Military Studies; or General Education courses, including natural science courses meeting General Education requirement application criteria. Six semester hours of CCAF degree applicable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

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

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

8. Career Field Path. The following summarizes career progression and personnel allocations across the career ladder. 3C2X1 personnel maintain their individual AFSC identifiers through the rank of SMSgt. At Chief, the 3C291 merges with other 3CXXX 9-level specialties to become a 3C000. Specific demographic information is available on the Web at <http://www.afpc.randolph.af.mil/demographics/ReportSearch.asp>.

3CXXX Career Field Progression



**3C2X1, COMMUNICATIONS-COMPUTER SYSTEMS CONTROL
EDUCATION AND TRAINING PATH**

EDUCATION AND TRAINING REQUIREMENTS	AVERAGE SEW ON TIME AND COMMENTS
BASIC MILITARY TRAINING SCHOOL	
APPRENTICE TECHNICAL SCHOOL (3-SKILL LEVEL).....Mandatory	Amn..... 6 months
UPGRADE TO JOURNEYMAN (5-SKILL LEVEL) Minimum 15 months OJT training (9 months for retrainees). Complete 5-Level CDCs.....Mandatory Specific AFJQs/AFQTPs for equipment at assigned location.Mandatory C-CS Management and Generic AFJQs/AFQTPs for various unit level duties.....Mandatory AETC Supplemental training courses as determined by MAJCOMOptional	A1C 10 months SrA 3 years Earliest 28 Months HYT 12 years
AIRMAN LEADERSHIP SCHOOL (ALS) Attendance is limited to SSgt selectees or those attaining 48 months Total Active Federal Military Service (TAFMS) and who have not been selected for promotion to SSgt. Completion is mandatory before assuming the rank of SSgt. ANG/AFRC may complete by correspondence course.....Mandatory	TRAINER: Qualified to perform the task to be trained; must attend formal OJT Trainer Training; and appointed by the Commander. Refer to AFI 36-2201 Vol 3, Chap 6
UPGRADE TO CRAFTSMAN (7-SKILL LEVEL) Minimum rank of SSgt. 12 months OJT training (6 months for retrainees) . Completion of AFQTP 3CXXX-212A, Work Center Supervisor's Handbook. Attendance at formal 7-level school. Must be 7-level to sew on TSgt.....Mandatory C-CS Management and Generic AFJQs/AFQTPs for various unit level duties.....Mandatory AETC Supplemental training courses as determined by MAJCOMOptional	SSgt 7.5 years Earliest 3 years HYT 20 years TSgt..... 12.5 years Earliest 5 years HYT 24 years CERTIFIER: Must be at least a SSgt (E-5) with a 5-skill level or civilian equivalent; attend the Air Force Training Course; be capable of evaluating the task being certified; evaluate training and certify qualifications. Refer to AFI 36-2201 Vol 3, Chap 6

**3C2X1, COMMUNICATIONS-COMPUTER SYSTEMS CONTROL
EDUCATION AND TRAINING PATH**

EDUCATION AND TRAINING REQUIREMENTS	AVERAGE SEW ON TIME AND COMMENTS
<p>NONCOMMISSIONED OFFICER ACADEMY (NCOA) Attendance is limited to TSgt and TSgt selectees. Completion is mandatory before assuming the rank of MSgt. ANG/AFRC may attend in-residence as SSgt or TSgt or complete correspondence course.Mandatory</p> <p>NCOA Correspondence Course.....Optional</p>	<p>MSgt..... 16 years Earliest 8 years HYT 26 years</p>
<p>USAF SENIOR NONCOMMISSIONED OFFICER ACADEMY (SNCOA) Attendance is limited to SMSgt, SMSgt selectees, and selected MSgts. Completion is mandatory before assuming the rank of CMSgt.Mandatory</p> <p>SNCOA Correspondence CourseOptional</p> <p>ANG/AFRC may complete by correspondence course. ANG/AFRC MSgts may attend in-residence.....Mandatory</p>	<p>SMSgt 19.2 years Earliest 11 years HYT 28 years</p>
<p>UPGRADE TO SUPERINTENDENT (9-SKILL LEVEL) Awarded upon sew on of SMSgt.....Mandatory</p> <p>C-CS Management and Generic AFJQs/AFQTPs for various unit level duties.....Mandatory</p>	<p>CMSgt 21.5 years Earliest 14 years HYT 30 years</p>

NOTE 1: Published sew-on times are Air Force averages. Refer to the Air Force Personnel Center's homepage to determine career field specific information: <http://www.afpc.randolph.af.mil/eprom>.

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

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

Section C - Skill Level Training Requirements

9. Purpose. The various skill levels in the career field are defined in terms of tasks and knowledge requirements for each skill level in the Communications-Computer Systems Control career field of the Communications-Computer Systems career ladder. They are stated in broad, general terms and establish the standards of performance. Core tasks, knowledge items, and skill requirements for this specialty are identified in the STS, COL, CDCs, AFJQs/AFQTPs, etc. Completion of the mandatory 3-level skill awarding course, CDCs, 7-level course, and applicable AFJQs/AFQTPs define the Air Force core tasks for this specialty.

10. Specialty Qualification Requirements.

10.1. Apprentice (3-Level) Training.

KNOWLEDGE	<p>C-CS protocols and interface techniques, open systems interconnection reference model</p> <p>Design, optimization, security, and operating principles of packet, local area, wide area, and circuit switching networks</p> <p>Operating principles of routing, and circuit, frame, and packet switching devices; operating principles of computers, peripherals, and interface devices; operating principles and signal characteristics of electronic components and data interfaces</p> <p>Modulation and encoding techniques; time, frequency, and optical division multiplexing techniques; digital circuit signal characteristics</p> <p>Operating principles of copper and fiber optic cable; operating principles of transmission equipment and antennas</p> <p>Transmission media theory</p>
EDUCATION	Completion of high school with courses in physics, mathematics and computer networking is desirable
TRAINING	Completion of the C-CS Control Apprentice course, E3ABR3C2X1 006 (PDS Code X4N) (See Part II, Section B for Course Objective List)
EXPERIENCE	None required
OTHER	<p>Normal color vision is required for entry into this AFSC as defined by AFI 48-123, <i>Medical Examination and Standards</i>.</p> <p>Qualification to operate government vehicles according to AFI 24-301, <i>Vehicle Operations</i>.</p> <p>Specialty requires routine access to Top Secret material or similar environment. For award and retention of AFSCs 3C2X1, completion of a current Single Scope Background Investigation (SSBI) according to AFI 31-501, <i>Personnel Security Program Management</i>.</p> <p>NOTE: Award of the 3-skill level without a completed SSBI is authorized provided an interim TS has been granted according to AFI 31-501</p>
IMPLEMENTATION	Attendance at the C-CS Control Apprentice course is mandatory for award of the 3-skill level unless waived by the 3CXXX AFCFM

10.2. Journeyman (5-Level) Training.

KNOWLEDGE	All 3C231 knowledge qualifications apply to the 3C251 requirements
TRAINING	No mandatory AETC training courses are required for upgrade.
EXPERIENCE	<p>Qualification in and possession of AFSC 3C231</p> <p>C-CS functions such as operating fixed, mobile, or transportable C-CS circuits, equipment, transmission media, test equipment, and network management</p> <p>Completion of the 3C251 Career Development Course</p> <p>Completion of all STS core tasks</p> <p>Completion of applicable AFJQs/AFQTPs</p> <p>Completion of all local tasks assigned for the duty position</p>
OTHER	<p>Normal color vision is required for entry into this AFSC as defined by AFI 48-123, <i>Medical Examination and Standards</i>.</p> <p>Qualification to operate government vehicles according to AFI 24-301, <i>Vehicle Operations</i>.</p> <p>Specialty requires routine access to Top Secret material or similar environment. For award and retention of AFSCs 3C2X1, completion of a current Single Scope Background Investigation (SSBI) according to AFI 31-501, <i>Personnel Security Program Management</i>.</p> <p>NOTE: Award of the 3-skill level without a completed SSBI is authorized provided an interim TS has been granted according to AFI 31-501.</p>
IMPLEMENTATION	Entry into formal journeyman upgrade training is accomplished once individuals are assigned to their first duty station. Qualification training is initiated anytime individuals are assigned duties for which they are not qualified. Use CDCs and AFJQs/AFQTPs concurrently to obtain the necessary qualification for refresher and cross-utilization training.

10.3. Craftsman (7-Level) Training.

KNOWLEDGE	All 3C251 knowledge qualifications apply to the 3C271 requirements
TRAINING	Completion of the C-CS Control Craftsman course, E3ACR3C271 003, (PDS Code X4P) (See Part II, Section B for Course Objective List)
EXPERIENCE	Qualification in and possession of AFSC 3C251 Performing or supervising functions such as help desk, monitor and control, C-CS control, network management, and operations facilities including operating terminals, computers, or automated test systems Completion of all STS core tasks Completion of AFQTP 3CXXX-212A, Work Center Supervisor's Handbook Completion of applicable AFJQsS/AFQTPs Completion of all local tasks assigned for the duty position
OTHER	Normal color vision is required for entry into this AFSC as defined by AFI 48-123, <i>Medical Examination and Standards</i> . Qualification to operate government vehicles according to AFI 24-301, <i>Vehicle Operations</i> . Specialty requires routine access to Top Secret material or similar environment. For award and retention of AFSCs 3C2X1, completion of a current Single Scope Background Investigation (SSBI) according to AFI 31-501, <i>Personnel Security Program Management</i> . NOTE: Award of the 3-skill level without a completed SSBI is authorized provided an interim TS has been granted according to AFI 31-501.
IMPLEMENTATION	Entry into OJT is initiated when individuals obtain the necessary rank and skill level. Qualification training is initiated anytime an individual is assigned duties for which they are not qualified. Use CDCs and AFJQsS/AFQTPs concurrently to obtain the necessary qualification for refresher and cross-utilization training.

10.4. Superintendent (9-Level) Training.

KNOWLEDGE	All 3C271 qualifications apply to the 3C291 requirements
TRAINING	No mandatory AETC training courses are required for upgrade.
EXPERIENCE	Qualification in and possession of AFSC 3C271 Managing C-CS control facilities or multiple C-CS functions
OTHER	Normal color vision is required for entry into this AFSC as defined by AFI 48-123, <i>Medical Examination and Standards</i> . Qualification to operate government vehicles according to AFI 24-301, <i>Vehicle Operations</i> . Specialty requires routine access to Top Secret material or similar environment. For award and retention of AFSCs 3C2X1, completion of a current Single Scope Background Investigation (SSBI) according to AFI 31-501, <i>Personnel Security Program Management</i> . NOTE: Award of the 3-skill level without a completed SSBI is authorized provided an interim TS has been granted according to AFI 31-501.
IMPLEMENTATION	Entry into OJT is initiated when individuals are selected for the rank of SMSgt. Qualification training is initiated anytime individuals are assigned duties for which they are not qualified.

10.5. Training Sources.

10.5.1. AFSC specific training – 336 TRS, Keesler AFB, MS at <https://wwwmil.keesler.af.mil/>.

10.5.2. CDC 3C251 is available for upgrade purposes through the unit training manager. For individual qualification and cross-utilization training, CDCs are ordered through the unit training office.

10.5.3. AFJQSS/AFQTPs are Air Force publications and are mandatory for use by personnel in upgrade or qualification training. AFJQSS/AFQTPs developed by the 81 TRSS (Q-Flight) and may be downloaded from <https://wwwmil.keesler.af.mil/81trss/qflight/index.htm>. Procedures for requesting development of AFJQSS/AFQTPs are contained in AFI 36-2233, *Air Force On-the-Job Training Products for Communications-Electronics Enlisted Specialty Training*. AFJQSS/AFQTPs are listed in Part II, Section C, of this CFETP.

Section D - Resource Constraints

11. Purpose. This section identifies known resource constraints that preclude optimal/desired training from being developed or conducted, including information such as part numbers, national stock numbers, number of units required, cost, manpower, etc. Included are narrative explanations of each resource constraint and an impact statement describing what effect each constraint has on training. Finally, this section includes actions required, OPR, and target completion date. Resource constraints will be, at a minimum, reviewed and updated annually.

12. Apprentice (3-Level) Training.

12.1. Constraints: None.

12.1.1. Impact. N/A

12.1.2. Resources Required. N/A

12.1.3. Action Required. N/A

12.2. OPR/Target Completion Date. N/A

13. Journeyman (5-Level) Training.

13.1. Constraints: None.

13.1.1. Impact. N/A

13.1.2. Resources Required. N/A

13.1.3. Action Required. N/A

13.2. OPR/Target Completion Date. N/A

14. Craftsman (7-Level) Training.

14.1. Constraints: None.

14.1.1. Impact. N/A

14.1.2. Resources Required. N/A

14.1.3. Action Required. N/A

14.2. OPR/Target Completion Date. N/A

Section E - Transition Training Guide

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

PART II

Section A - Specialty Training Standard

1. Implementation. This STS will be used for technical training provided by AETC for the 3-level class beginning 20040723 and graduating 20041116 and the 7-level class beginning 20040802 and graduating 20040826.

2. Purpose. As prescribed in AFI 36-2201, Vol 5 this STS:

2.1. Lists in column 1 (Task, Knowledge, and Technical Reference) the most common tasks, knowledge, and technical references (TR) necessary for airman to perform duties in the 3-, 5-, and 7-skill level. Column 2 (Core Tasks) identifies, by asterisk (*), specialty-wide training requirements. NOTE: Core tasks are minimum task training requirements for upgrade to the 5- and 7- 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. Task certification must show a certification/completion date. (As a minimum, use the following column designators: Stop Date, Certifier Initials). When available, Core Automated Maintenance System (CAMS) is the primary means of collecting and maintaining information pertaining to OJT training and is mandatory for use by all 3CXXX career fields. You must have prior approval by the Air Force Career Field Manager before using a different data collection system.

2.3. Shows formal training and correspondence course requirements. Column 4 shows the proficiency to be demonstrated on the job by the graduate as a result of training on the task/knowledge and the career knowledge provided by the correspondence course. See the AFIADL Catalog maintained at <http://www.maxwell.af.mil/au/afiadl> for current CDC listings.

2.4. Qualitative Requirements. Attachment 1 contains the proficiency code key used to indicate the level of training and knowledge provided by resident training and career development courses.

2.5. Becomes a job qualification standard (JQS) for on-the-job training when placed in AF Form 623, On-the-Job Training Record, and used according to AFI 36-2201, Vol 3.

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

3. Recommendations. Comments and recommendations are invited concerning the quality of AETC training. A Training Feedback Hotline has been installed for the supervisors' convenience. For a quick response to concerns, call our Training Feedback Hotline at DSN 597-4566, fax us at DSN 597-3790, or e-mail us at 81trg-tget@keesler.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

DONALD J. WETEKAM, Lieutenant General, USAF
Deputy Chief of Staff /Installations & Logistics

Attachment:
3C2X1 Specialty Training Standard

PREFACE

NOTE 1: Users are responsible for annotating technical references to identify current references pending STS revision. Locate current Air Force publications at <http://www.e-publishing.af.mil/>. AFSSIs at <https://private.afca.af.mil/index.html> or in AFIND 5, DISA Circulars and Instructions at <https://disa-ca.dtic.mil/pubs/> and Technical Orders (TO) at <https://www.toindex-s.wpafb.af.mil/>.

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: AFQTP 3CXXX-212A, Work Center Supervisor's Handbook is mandatory for upgrade to the 7-skill level in all 3CXXX career fields.

NOTE 4: All objectives are trained during wartime.

NOTE 5: When available, Core Automated Maintenance System (CAMS) is the primary means of collecting and maintaining information pertaining to OJT training and is mandatory for use by all 3CXXX career fields. You must have prior approval by the Air Force Career Field Manager before using a different data collection system.

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. (COMPLETE THEORY)
**Subject Knowledge Levels	A	Can identify basic facts and terms about the subject. (FACTS)
	B	Can identify relationship of basic facts and state general principles about the subject. (PRINCIPLES)
	C	Can analyze facts and principles and draw conclusions about the subject. (ANALYSIS)
	D	Can evaluate conditions and make proper decisions about the subject. (EVALUATION)
EXPLANATIONS		
<p>* A task knowledge scale value may be used alone or with a task performance scale value to define a level of knowledge for a specific task. (Examples: b and 1b)</p> <p>** A subject knowledge scale value is used alone to define a level of knowledge for a subject not directly related to any specific task or for a subject common to several tasks.</p> <p>- This mark is used alone instead of a scale value to show that no proficiency training is provided in the course or CDC.</p> <p>X This mark is used alone in course columns to show that training is required, but not given, due to limitations in resources.</p>		

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

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
1. COMMUNICATIONS-COMPUTER SYSTEMS (C-CS) CONTROL CAREER FIELD TR: AFH 33-337; AFIs 33-115 (vol 1&2); AFMAN 36-2108; 3C2X1 CFETP	*											
1.1. Structure							A			A	-	
1.2. Progression within Air Force Specialty Code (AFSC)							A			A	-	
1.3. Air Force Specialty Code (AFSC)												
1.3.1. Duties							A			A	-	
1.3.2. Responsibilities							A			A	-	
1.3.3. Qualifications							A			A	-	
1.3.4. Customer relations							A			-	-	
1.3.5. Associated Communications & Information (C&I) AFSCs							A			A	-	
1.4. Roles and Mission							A			A	-	
1.5. Aerospace Expeditionary Force (AEF)							A			B	-	
2. SUPERVISION TR: AFI 36-2618; AFQTP 3CXXX-212A												
2.1. Brief Newly Assigned Personnel												
2.1.1. Safety							-			-	-	
2.1.2. Mission							-			-	-	
2.1.3. Responsibilities							-			-	-	
2.1.4. Recognition Programs TR: AFI 36-2845							-			-	-	
2.2. Interpret for Subordinates												
2.2.1. Policies							-			-	-	
2.2.2. Directives							-			-	-	
2.2.3. Procedures							-			-	-	
2.3. Plan and Schedule												

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
2.3.1. Work assignments							-			-	-	
2.3.2. Shifts							-			-	-	
2.3.3. Priorities							-			-	-	
2.4. Establish												
2.4.1. Work methods							-			-	-	
2.4.2. Controls							-			-	-	
2.4.3. Performance standards							-			-	-	
2.5. Brief Subordinates on Local and Standard Procedures							-			-	-	
2.6. Provide Feedback and Evaluate Work Performance TR: AFI 36-2406							-			-	-	
2.7. Initiate Action to Correct Substandard Personnel Performance							-			-	-	
2.8. Rate Personnel Performance							-			-	-	
2.9. Counsel Personnel on Personal and Military Related Problems							-			-	-	
2.10. Identify												
2.10.1. Personnel requirements							-			-	-	
2.10.2. Equipment requirements							-			-	-	
2.11. Resolve Technical Problems Encountered by Subordinates							-			-	-	
2.12. Observe Equipment Operation to Ensure Conformance with Established Standards							-			-	-	
2.13. Demonstrate how to Operate Equipment							-			-	-	
2.14. Facility Maintenance												
2.14.1. Plan							-			-	-	
2.14.2. Schedule							-			-	-	
2.14.3. Supervise							-			-	-	
2.15. Operating Instructions (OI)												

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
2.15.1. Prepare local operating procedures							-			-	-	
2.15.2. Issue							-			-	-	
2.15.3. Review							-			-	-	
2.16. Self-Inspections/ Quality Indicators												
2.16.1. Prepare							-			-	-	
2.16.2. Review							-			-	-	
2.16.3. Issue							-			-	-	
2.16.4. Conduct							-			-	-	
2.16.5. Follow-up							-			-	-	
2.17. Develop Budget Input												
2.17.1. Analyze costs and utilization							-			-	-	
2.17.2. Create budget							-			-	-	
2.18. Equipment Requirements TR: AFI 23-110, V2, part 13, Chap 8; DISAC 310-130-1 https://disa-ca.dtic.mil/pubs/circulars/circular.html												
2.18.1. Acquire							-			A	-	
2.18.2. Upgrade							-			A	-	
2.18.3. Replace							-			A	-	
2.18.4. Discontinue							-			A	-	
2.19. Accountable Records												
2.19.1. Hardware							-			-	-	
2.19.2. Software (e.g. license management)							-			-	-	
3. TRAINING TR: AFIs 36-2201 Vol 3&5, 36-2233; AFMANs 36-2236; AFQTP 3CXXX-212A												
3.1. Evaluate Personnel for Need of Training							-			-	-	
3.2. Enlisted Specialty Training (EST) Management												

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
3.2.1. Prepare job qualification standard (JQS)							-			-	-	
3.2.2. Procure training material							-			-	-	
3.2.3. Motivate trainers and trainees							-			-	-	
3.2.4. Develop training materials							-			-	-	
3.2.5. Counsel trainees on training progress							-			-	-	
3.2.6. Monitor effectiveness of:												
3.2.6.1. Career knowledge upgrade training progress							-			-	-	
3.2.6.2. Job proficiency upgrade training							-			-	-	
3.2.6.3. Qualification training							-			-	-	
3.3. Maintain Training Records							-			-	-	
3.4. Evaluate Effectiveness of Training Programs							-			-	-	
3.5. Recommend Personnel for Training							-			-	-	
4. OPERATIONAL RISK MANAGEMENT (ORM) TR: AFIs 90-901, 91-301, 91-302; AFOSH STDs 48-9, 91-50, 91-64	*											
4.1. Hazards of AFSC 3C2X1 (e.g. high voltages)							A			-	-	
4.2. AFOSH Standards for AFSC							-			-	-	
4.3. Use Consistent Safety Practices												
4.3.1. Radio frequency (RF) hazard TR: TO 31Z-10-4							-			-	-	
4.3.2. Electrostatic discharge (ESD)							b			b	-	
4.4. Clean Work Environment							A			-	-	

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
5. C-CS ADMINISTRATIVE FUNCTIONS TR: AFINDs 2, 5, 8; AFIs 33-Series; DISAN 210-0-1; http://www.e-publishing.af.mil/afpubs.asp ; Air Force Records Disposition Schedule (RDS) https://webrims.amc.af.mil												
5.1. Publications												
5.1.1. Air Force Manuals (AFMAN)							A			-	-	
5.1.2. Air Force Policy Directives (AFPD)							A			-	-	
5.1.3. Air Force Instructions (AFI)							A			-	-	
5.1.4. Air Force Pamphlets (AFPAM)							A			-	-	
5.1.5. Joint Army Navy Air Force Publications (JANAP)							-			-	-	
5.1.6. Allied Communications Publications (ACP)							-			-	-	
5.1.7. Operating Instructions (OI)							A			-	-	
5.1.8. Commercial/vendor publications							A			-	-	
5.1.9. DISA publications	*						A			A	-	
5.1.10. Technical Orders (TO)							A			-	-	
5.1.11. Military Standard (MIL STD)							A			A	-	
5.2. Publications Handling												
5.2.1. Order documents and changes							-			-	-	
5.2.2. Post changes							-			-	-	
5.3. Publication Numbers and Titles							A			-	-	
5.4. Operating Procedures and Technical Data	*						A			-	-	
5.5. Supply Functions												
5.5.1. Maintain accounts							-			-	-	
5.5.2. Keep records							-			-	-	
5.6. Equipment Records							-			-	-	

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
5.7. Office Records Management							-			-	-	
6. C4I SECURITY TR: ACP 122; AFDIR 33-303; AFIs 33-110, 33-129, 33-206, 33-201, 33-219, 33-332; AFMAN 33-326; AFSSI 5021; DISAC 310-90-1; DOD 5200.1-R												
6.1. Operations Security (OPSEC) TR: AFI 10-1101; AFPD 10-11												
6.1.1. Definition	*						A			A	-	
6.1.2. Background							-			-	-	
6.1.3. Relationship of OPSEC to other security programs							A			A	-	
6.1.4. Vulnerabilities	*						A			-	-	
6.1.5. Critical indicators							A			-	-	
6.2. Information Security TR: AFI 31-401; AFPD 31-4, 33-2												
6.2.1. Classification process							-			-	-	
6.2.2. Declassification process							-			-	-	
6.2.3. Information safeguards	*											
6.2.3.1. Unclassified												
6.2.3.1.1. Privacy Act							A			A	-	
6.2.3.1.2. For Official Use Only (FOUO)							A			A	-	
6.2.3.1.3. Sensitive Unclassified							A			A	-	
6.2.3.2. Classified							A			A	-	
6.3. Communications Security (COMSEC) TR: AFI 33-201, 33-211, 33-212; AFPD 33-2												
6.3.1. Definition	*						A			A	-	
6.3.2. Vulnerabilities	*						A			A	-	
6.3.3. Critical information							-			A	-	

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		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
6.3.4. Safeguarding information	*						A			A	-	
6.3.5. COMSEC equipment security							A			A	-	
6.3.6. COMSEC equipment use												
6.3.6.1. Operate on-line							-			-	-	
6.3.6.2. Operate off-line							-			-	-	
6.3.7. Identify/report insecurities	*						a			b	-	
6.4. Emission Security (EMSEC) TR: AFI 33-203; AFD 33-2												
6.4.1. Definition	*						A			A	-	
6.4.2. Notifications							-			-	-	
6.5. Computer Security (COMPUSEC) TR: AFI, 31-401, 33-202, 33-207; AFD 33-2; AFSSI 5021												
6.5.1. Definition	*						A			-	-	
6.5.2. Vulnerabilities	*						A			-	-	
6.5.3. Processing classified information							-			-	-	
6.5.4. Identify/report security violations	*						a			-	-	
6.5.5. Risk analysis							-			-	-	
6.5.6. Accreditation							-			-	-	
6.5.7. Certification							-			-	-	
6.5.8. Control access							-			-	-	
6.5.9. Conduct audit							-			-	-	
6.6. Physical Security TR: AFI 31-101; AFD 31-1												
6.6.1. Definition	*						A			A	-	
6.6.2. Secure area access management							A			B	-	
6.6.3. Facility security requirements							-			B	-	
6.6.4. Classified material control												

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		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
6.6.4.1. Storage							-			-	-	
6.6.4.2. Shipment							-			-	-	
6.6.4.3. Handling							-			-	-	
6.6.4.4. Destruction							-			-	-	
6.6.4.5. Classified waste							-			-	-	
6.6.5. Identify/report violations procedures							a			b	-	
6.7. Information Assurance Awareness program TR: AFI 33-204												
6.7.1. Information Awareness (IA)							-			-	-	
6.7.2. Threats and vulnerabilities							-			-	-	
6.7.3. Identify/report insecurities							-			-	-	
6.7.4. Protective measures							-			-	-	
6.8. Electronic Warfare (EW) TR: AFIs 10-703, 10-707, 31-101; DISAC 300-50-5												
6.8.1. Background and history							-			A	-	
6.8.2. Terms and definitions												
6.8.2.1. Electronic Attack (EA)							-			A	-	
6.8.2.2. Electronic Protection (EP)							-			A	-	
6.8.2.3. Electronic Warfare Support (ES)							-			A	-	
6.8.3. Interaction between EA, EP, and ES							-			A	-	
6.8.4. Report spectrum interference							-			a	-	
7. INFORMATION PROTECTION (IP) OPERATIONS TR: ACP 122; AFDIR 33-303; AFH 31-602; AFIs, 10-1101, 33-202, 33-203, 33-204, 33-206, 33-207, 33-332; AFD 31-2, DISAC 310-90-1; TO 31S5-4-2987, AFI 33-272(S), 33-115												

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
7.1. Identification and Authentication							A			A	-	
7.2. Remanence Security							A			A	-	
7.3. Certification and Accreditation							-			A	-	
7.4. Event Response												
7.4.1. Reporting hierarchy							-			A	A	
7.4.2. INFOCON							-			A	A	
7.5. Implement Security Patches							-			-	-	
7.6. Configure malicious logic protection devices (e.g. anti virus, SMTP relay, MIME filters)							-			-	-	
7.7. Defense in-depth TR: CJCSM 6510.01 enclosure b												
7.7.1. Concept							A			-	-	
7.7.2. Steps							A			-	-	
7.8. Base Information Protection (BIP)												
7.8.1. Boundary protection							A			A	-	
7.8.2. Intrusion/misuse detection							A			A	-	
7.8.3. Internal control							A			A	-	
7.8.4. Access preservation							A			A	-	
7.8.5. Authentication/ encryption							A			A	-	
7.8.6. Security tools (e.g. firewalls, TCP Wrappers)							A			A	-	
8. C-CS FUNDAMENTALS TR: AFDIR 33-303; TOs 31-1-141-1, 31-1-141-2, 31-1-141-5; DISAC 300-175-9; EIA/TIA 568A/B; MIL STD 188-154A												
8.1. Electronic Principles (EP)												
8.1.1. Basic terms												
8.1.1.1. Scientific and metric notation							2b			B	-	

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
8.1.1.2. DC terms							B			B	-	
8.1.1.3. AC terms							B			B	-	
8.1.1.4. Signal wire color codes							A			B	-	
8.1.2. Logarithmic units of measurement such as VU, dB, and dBm	*						B			B	-	
8.1.3. Resistors							B			B	-	
8.1.4. Inductors							B			B	-	
8.1.5. Capacitors							B			B	-	
8.1.6. Relays							-			-	-	
8.1.7. Transformers							-			-	-	
8.1.8. Power supply circuits TR: TO 31-1-141-3 and 31-1-141-4												
8.1.8.1. Half wave							-			-	-	
8.1.8.2. Full wave							-			-	-	
8.1.8.3. Full wave bridge							-			-	-	
8.1.8.4. Safety considerations							-			-	-	
8.1.9. Frequency sensitive filters												
8.1.9.1. Low pass							A			B	-	
8.1.9.2. High pass							A			B	-	
8.1.9.3. Band pass							A			B	-	
8.1.9.4. Band reject							A			B	-	
8.2. Network Operating Theory Principles												
8.2.1. Network management functions	*											
8.2.1.1. Fault							A			B	-	
8.2.1.2. Configuration							A			B	-	
8.2.1.3. Performance							A			B	-	
8.2.1.4. Accounting							A			B	-	
8.2.1.5. Security							A			B	-	

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		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
8.2.2. Topologies	*											
8.2.2.1. Ring							A			B	-	
8.2.2.2. Bus							A			B	-	
8.2.2.3. Star							A			B	-	
8.2.2.4. Hybrid							A			B	-	
8.2.3. Protocols	*											
8.2.3.1. Data communications							B			B	-	
8.2.3.2. Networking							B			B	-	
8.2.4. Standards	*											
8.2.4.1. Commercial (e.g. IEEE, EIA, NIST)							A			A	-	
8.2.4.2. Military							A			A	-	
8.2.4.3. International (e.g. ITU, ISO (7498-4), CEPT, ETSI)							A			A	-	
8.2.5. Concepts	*											
8.2.5.1. Data network (host-to-host, client/server, peer-to-peer)							A			B	-	
8.2.5.2. Internet naming and addressing considerations							A			B	-	
8.2.5.3. Red-black concept							A			B	-	
8.2.5.4. Signal flow end to end concept							B			B	-	
8.2.6. OSI Reference Model	*						B			B	B	
8.2.7. Design Network							-			B	2b	
8.2.8. DII common operating environment							-			-	-	
8.3. Computer Hardware							A			A	-	
8.4. Network Hardware												
8.4.1. Data Terminal Equipment (DTE)	*						A			B	-	
8.4.2. Data Communications Equipment (DCE) (e.g. modems, line drivers)	*						A			B	-	

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		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
8.4.3. Converters (10 Base T to 10 Base FL, DB 25 to RJ45...)							A			B	-	
8.4.4. Switching devices												
8.4.4.1. SONET							A			B	B	
8.4.4.2. ATM							A			B	B	
8.4.5. Concentrators							-			-	-	
8.4.6. Hubbing devices							A			B	-	
8.4.7. Encryption or masking devices	*						A			B	-	
8.4.8. Multiplexers												
8.4.8.1. Low speed time division multiplexer (LSTDM)							A			B	-	
8.4.8.2. 1 st Level							A			B	-	
8.4.8.3. 2 nd Level							A			B	-	
8.4.8.4. 3 rd Level							A			B	-	
8.4.8.5. Statistical multiplexers							A			B	-	
8.4.9. Optical isolators							-			-	-	
8.4.10. CODEC (coder-decoder)							-			-	-	
8.4.11. Front end processors							-			-	-	
8.4.12. Packet assembler/disassembler							-			-	-	
8.4.13. Transceivers							B			B	-	
8.4.14. Network Interface Card (NIC)							B			B	-	
8.4.15. Bridges	*						B			B	-	
8.4.16. Repeaters	*						B			B	-	
8.4.17. Routers	*						B			B	-	
8.4.18. Gateway	*						B			B	-	
8.4.19. Timing devices (e.g. GPS, CDS-10/20, Rubidium, Cesium)	*						A			B	-	
8.5. Computer Operations												

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
8.5.1. Digital numbering systems (binary, octal, hexadecimal)							2b			B	-	
8.5.2. Data representation												
8.5.2.1. Bit							A			B	-	
8.5.2.2. Byte							A			B	-	
8.6. Transmission Media												
8.6.1. Radio TR: DISAC 310-70-1, 31Z-10-10; TOs 31-1-141-3, 31-1-141-2												
8.6.1.1. Propagation (e.g. TROPOS, LOS, HF)							A			B	-	
8.6.1.2. Equipment (e.g. TROPOS, LOS, HF) Line of sight (LOS)							A			B	-	
8.6.1.3. Antenna types (e.g. TROPOS, LOS, HF)							-			A	-	
8.6.2. Satellite systems TR: DISAC 800-70-1												
8.6.2.1. Propagation							A			B	-	
8.6.2.2. Equipment												
8.6.2.2.1. Earth terminal							A			B	-	
8.6.2.2.2. Space segment							A			B	-	
8.6.2.2.3. Antenna types							A			B	-	
8.6.2.2.4. Access techniques							A			B	-	
8.6.2.2.5. System control							A			B	-	
8.6.3. Cable	*											
8.6.3.1. Metallic							A			B	-	
8.6.3.2. Fiber optic							A			B	-	
8.7. Modulation, Multiplexing and Signaling TR: DISAC 310-70-1; TOs 31-1-141 series, 31Z-10-20	*											
8.7.1. Modulation techniques												
8.7.1.1. Amplitude							A			B	-	
8.7.1.2. Frequency							A			B	-	

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		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
8.7.1.3. Phase												
8.7.1.3.1. Bi-Phase Shift Keying (BPSK)							A			B	-	
8.7.1.3.2. Quadrature-Phase Shift Keying (QPSK)							A			B	-	
8.7.1.4. Conditioned Diphase Interface (CDI)							A			B	-	
8.7.1.5. Pulse							A			B	-	
8.7.1.6. Continuous Variable Slope Delta (CVSD)							A			B	-	
8.7.2. Multiplexing techniques												
8.7.2.1. Time-division							B			B	-	
8.7.2.2. Frequency division							-			A	-	
8.7.2.3. Hybrid systems							-			A	-	
8.7.3. Imagery techniques												
8.7.3.1. Digital facsimile							-			A	-	
8.7.3.2. Video (VTC)							A			A	-	
8.7.4. Signaling techniques TR: TOs 31-1-141-3, 31W-3-5; MIL-STD 188-154												
8.7.4.1. Analog							A			B	-	
8.7.4.2. Digital							A			B	-	
8.7.5. Timing							B			B	B	
8.7.6. Synchronization							B			B	B	
8.8. Digital Communications												
8.8.1. Signal characteristics	*											
8.8.1.1. Synchronous							A			B	-	
8.8.1.2. Isochronous							A			B	-	
8.8.1.3. Asynchronous							A			B	-	
8.8.2. Types of codes (e.g. ASCII, LAP-A, LAP-B)							A			B	-	
8.8.3. Signal rate							A			B	-	
8.8.4. Bit count integrity							A			B	-	

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		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
8.8.5. Signal formats (e.g. NRZ, AMI, Bipolar)	*						B			B	-	
8.8.6. Broadband technology (e.g. ATM, Frame relay, ISDN, Fractional T1, etc.)	*						A			B	B	
8.9. C-CS Networks TR: DISAC 370-175-13; AFI 33-115 (Vol 1)												
8.9.1. Defense Switched Network (DSN)							A			B	-	
8.9.2. Defense Red Switch Network (DRSN)							A			B	-	
8.9.3. Integrated Services Digital Network (ISDN)							A			B	-	
8.9.4. Automated Digital Network (AUTODIN) TR: DISAC 310-D70-30							-			B	-	
8.9.5. Internet (e.g. www)							A			B	-	
8.9.6. Non-secure Internet Protocol Router Network (NIPRNET) TR: DISACs 370-P120-3, 310-P70-73, 310-P70-74, 310-P70-75							A			B	-	
8.9.7. Secret Internet Protocol Router Network (SIPRNET)							A			B	-	
8.9.8. Intranet							A			B	-	
8.9.9. Defense Information System Network (DISN) TR: DISAC 310-50-5							A			B	-	
8.10. Test Equipment												
8.10.1. Oscilloscope	*						B			B	-	
8.10.2. Transmission/communication test set							B			-	-	
8.10.3. Bit error rate test set	*						B			B	-	
8.10.4. Built-in test equipment							-			-	-	
8.10.5. Protocol analyzer (e.g. sniffer)	*						B			B	2b	
8.10.6. Breakout box	*						B			B	-	
8.10.7. Multimeter	*						B			B	-	

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		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
8.10.8. Frequency select voltage meter							-			-	-	
8.10.9. Cable tester (e.g. OTDR, Pentascanner, TDR)	*						B			B	2b	
9. DEPLOYABLE C-CS TR: AFI 33-116; TO 31R2-2TSC107-1; CJCSM 6231.01B												
9.1. Initial Communications Support (e.g., ICE, SNAP, TDC, NCC-D)												
9.1.1. Mission							A			B	-	
9.1.2. Employment concepts							A			B	-	
9.1.3. Capabilities							A			B	-	
9.1.4. Interfacing considerations (e.g. TRI-TAC, Pinouts, signal format)							A			B	-	
9.2. Sustained Communications Support (e.g. TRI-TAC, TDC)												
9.2.1. Mission							A			B	-	
9.2.2. Employment concepts							A			B	-	
9.2.3. Capabilities							A			B	-	
9.2.4. Interfacing considerations							A			B	-	
9.3. Mobile/Transportable C-CS												
9.3.1. Air Control System (ACS)							A			B	-	
9.3.2. TRI-TAC							A			B	-	
9.3.3. Systems control elements												
9.3.3.1. Communications Nodal Control Element (CNCE)							-			-	-	
9.3.3.2. Quick Reaction Package (QRP)							-			-	-	
9.3.3.3. Initial Communications Package (ICE, SNAP)							A			-	-	
9.3.3.4. Tactical Secure Data Communications (TASDAC)							-			-	-	

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
9.3.3.5. Theater Deployable Communications (TDC) (e.g. ICAP, LMST)							A			B	-	
9.3.4. Tactical multiplexers (e.g. LRM, LGM, RMC, TGM, LSTDM)							A			A	-	
9.4. Unit Type Code (UTC)	*											
9.4.1. Equipment							A			B	-	
9.4.2. Personnel							A			B	-	
10. C-CS/NETWORK MANAGEMENT TR: AFI 33-115 (Vol 1), 33-103; Applicable DISAC 300 and 310 series												
10.1. Configuration Management												
10.1.1. Contingency plans (e.g. backup, restoral, recovery)												
10.1.1.1. Develop							-			b	2b	
10.1.1.2. Implement							A			b	-	
10.1.2. Addressing schema (e.g. MAC, Internet Protocol)												
10.1.2.1. Develop							2b			b	2b	
10.1.2.2. Implement							2b			b	-	
10.1.3. Assess impact of requirements (e.g. RFS, CSRD, Project Support Agreement (PSA), Service Level Agreement (SLA))							-			b	2b	
10.1.4. Operate network management system (e.g. NMS, HP OpenView, Transmission Control (TRAMCON), Joint Defense Information Infrastructure Control System (JDIICS))												
10.1.4.1. Implement Simple Network Management Protocol (SNMP)							2b			b	2b	
10.1.4.2. Set thresholds							2b			b	2b	
10.1.4.3. Implement Remote Monitor (RMON)							2b			b	2b	
10.1.4.4. Use Management Information Base (MIB)							2b			b	2b	

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
10.1.5. Generate configuration reports							-			b	2b	
10.1.6. Manage scheduled outages							A			b	-	
10.1.7. Circuit actions												
10.1.7.1. Correspondence												
10.1.7.1.1. Telecommunications Request (TR)/ Telecommunications Service Order (TSO)	*						A			B	-	
10.1.7.1.2. Status Acquisition Message (SAM)							A			B	-	
10.1.7.1.3. Completion reports							A			B	-	
10.1.7.1.4. Communication systems							-			A	B	
10.1.7.1.5. Requirement documents							-			A	B	
10.1.7.1.6. CSR/PSA/SLA							A			A	B	
10.1.7.2. Direct actions to support circuit requirements							-			-	-	
10.1.7.3. Update circuit and system records							-			b	-	
10.1.7.4. Facility and link data							-			A	-	
10.1.7.5. Circuit history folders							A			B	-	
10.1.7.6. Station reporting guides							-			A	-	
10.1.7.7. Document circuit test results							2b			b	-	
10.2. Fault Management												
10.2.1. LAN Fault Isolation												
10.2.1.1. Process trouble calls							2b			b	-	
10.2.1.2. Troubleshoot hardware, software and media							2b			b	-	
10.2.1.3. Coordinate maintenance actions							2b			b	-	
10.2.1.4. Repair and restore hardware, software and media							2b			b	-	

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		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
10.2.2. WAN Fault Isolation												
10.2.2.1. Process trouble calls							2b			b	-	
10.2.2.2. Troubleshoot hardware, software and media							2b			b	-	
10.2.2.3. Coordinate maintenance actions							2b			b	-	
10.2.2.4. Repair and restore hardware, software and media							2b			b	-	
10.3. Performance Management												
10.3.1. Evaluate Network Performance												
10.3.1.1. Gather data							A			b	-	
10.3.1.2. Analyze data							A			b	-	
10.3.1.3. Generate reports							A			b	-	
10.3.2. Evaluate component performance												
10.3.2.1. Gather data							A			b	-	
10.3.2.2. Analyze data							A			b	-	
10.3.2.3. Generate reports							A			b	-	
10.3.3. Trend analysis	*											
10.3.3.1. Identify							A			b	-	
10.3.3.2. Analyze							A			b	-	
10.3.3.3. Recommend solutions							A			b	-	
10.3.4. Establish quality control test schedules							-			b	-	
10.3.5. Quality assurance												
10.3.5.1. Programs												
10.3.5.1.1. Technical evaluation							-			-	-	
10.3.5.1.2. Performance monitoring							-			-	-	
10.3.5.1.3. Performance evaluation							-			B	-	

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		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
10.3.5.2. Use test equipment to perform wideband systems evaluation												
10.3.5.2.1. Idle channel noise							-			-	-	
10.3.5.2.2. Impulse noise							-			-	-	
10.3.5.2.3. Digital parameters							-			-	-	
10.4. Conduct Customer Training							-			-	-	
10.5. Station Power (e.g. generators, UPS)	*						A			B	-	
10.6. Systems Control												
10.6.1. Monitor alarm and fault indicator systems (e.g. TRAMCON, major and minor panels)	*						A			B	-	
10.6.2. Use patching logic to:	*											
10.6.2.1. Connect test equipment to network system, circuit and equipment test points							2b			b	-	
10.6.2.2. Substitute lines and equipment							2b			b	-	
10.6.2.3. Establish on call patch							2b			b	-	
10.6.3. Use intercommunication and orderwire devices							-			-	-	
10.6.4. Forms and reports	*						A			B	-	
10.6.5. Priorities (TSP)	*						A			-	-	
10.6.6. Command communications service designator and trunk identifiers	*						A			B	-	
10.7. Measure Circuit and System Characteristics/ Impairments TR: TO 31-1-141-9												
10.7.1. Amplitude-versus-frequency distortion							A			b	-	
10.7.2. Envelope delay							A			b	-	
10.7.3. Non-linear distortion							-			-	-	

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		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
10.7.4. Impulse noise							A			b	-	
10.7.5. Phase jitter							-			-	-	
10.7.6. Maximum change in audio frequency							-			-	-	
10.7.7. Net loss parameter (test tone level)	*						2b			b	-	
10.7.8. Terminal impedance							-			-	-	
10.7.9. Composite data transmission level							A			b	-	
10.7.10. Net loss variation							-			-	-	
10.7.11. Gains, hits and dropouts							-			-	-	
10.7.12. Signaling							-			-	-	
10.7.13. C-notched noise							A			b	-	
10.7.14. Compression and expansion linearity							-			a	-	
10.7.15. Timing jitter							2b			b	-	
10.7.16. Bit/block error rate	*						2b			b	-	
10.7.17. Data signal level							2b			b	-	
10.7.18. Signal-to-notched noise							A			b	-	
10.7.19. Bipolar violation							2b			b	-	
10.7.20. All 1's detection							2b			b	-	
10.7.21. Excess zero detection							2b			b	-	
10.7.22. Frame loss detection							2b			b	-	
10.7.23. Timing slip detection							2b			b	-	
10.7.24. Percent error free seconds							2b			b	-	
10.7.25. Frame error rate							2b			b	-	
10.7.26. T1-T3 signal level							2b			b	-	
10.7.27. T1-T3 frequency							2b			b	-	
10.7.28. Data signaling rate							2b			b	-	
10.7.29. Terminal impedance for digital							-			b	-	

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		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
10.7.30. Round trip delay							2b			b	-	
10.7.31. Cable shorts	*						2b			b	-	
10.7.32. Cable grounds							2b			b	-	
10.7.33. Cable shunts							2b			b	-	
10.7.34. Foreign battery							-			b	-	
10.7.35. Cable opens	*						2b			b	-	
10.7.36. Transient voltages							2b			b	-	
10.7.37. Loop resistance							-			b	-	
10.7.38. Collisions							2b			b	2b	
10.7.39. Fragmentation							2b			b	2b	
10.7.40. Oversize packets							2b			b	2b	
10.7.41. Undersize packets							2b			b	2b	
10.7.42. Utilization (e.g. bandwidth, traffic)	*						2b			b	2b	
10.7.43. Octets							2b			b	2b	
10.7.44. Packets							2b			b	2b	
10.7.45. Cyclic Redundancy Checks (CRC)							2b			b	2b	
10.7.46. Jabbers							2b			b	-	
11. C-CS HARDWARE AND SOFTWARE TR: AFIs 33-112, 33-113, 33-114, 33-202; IEEE/EIAs 122207, 122207.0, 122207.1; MIL STD 188-154A												
11.1. Install Hardware												
11.1.1. Peripheral/ component cards (e.g. Promina)							b			b	-	
11.1.2. Line drivers							-			-	-	
11.1.3. Interface converters							-			-	-	
11.1.4. Switching devices							-			-	-	
11.1.5. Concentrators							-			-	-	
11.1.6. Hubbing devices							-			-	-	

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		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
11.1.7. Encryption/masking devices							-			-	-	
11.1.8. Multiplexers							-			-	-	
11.1.9. Network transceivers							-			-	-	
11.1.10. Bridges							-			-	-	
11.1.11. Repeaters							-			-	-	
11.1.12. Routers							-			-	-	
11.1.13. Power supply							-			-	-	
11.2. Connect Conditioning Equipment to Circuits												
11.2.1. Equalizers							-			-	-	
11.2.2. Pads							-			-	-	
11.2.3. Amplifiers							-			-	-	
11.2.4. Companders							-			-	-	
11.2.5. Suppressors/cancellers							-			-	-	
11.2.6. Signaling units							-			-	-	
11.2.7. Line isolation units (LIU)							-			-	-	
11.2.8. Repeat coil or transformer							-			-	-	
11.3. Make Connections TR: TO 00-25-234, 31-1-141-15												
11.3.1. Frame	*											
11.3.1.1. Wire wrap							2b			b	-	
11.3.1.2. Punch down							2b			b	-	
11.3.2. Cable fabrication												
11.3.2.1. Multipin							A			b	-	
11.3.2.2. Modular	*						2b			b	-	
11.3.2.3. Coaxial							A			b	-	
11.3.2.4. Fiber							A			b	-	
11.4. Configure												

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		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
11.4.1. Modem CSU/DSU	*						2b			b	-	
11.4.2. Peripheral/ component cards (e.g. Promina)							2b			b	-	
11.4.3. Line drivers (e.g. ethernet and other non-modern terminal circuit drivers)							-			-	-	
11.4.4. Converter							-			-	-	
11.4.5. Switches							2b			b	2b	
11.4.6. Concentrators							-			-	-	
11.4.7. Hubbing devices							b			b	-	
11.4.8. Encryption/masking devices							-			-	-	
11.4.9. Multiplexers												
11.4.9.1. Low speed time division multiplexer (LSTDM)							2b			b	-	
11.4.9.2. 1 st Level							2b			b	-	
11.4.9.3. 2 nd Level							-			-	-	
11.4.9.4. 3 rd Level							-			-	-	
11.4.9.5. Statistical multiplexers							-			-	-	
11.4.9.6. Configure Promina TR: Promina Operations and Maintenance Manuals							2b			-	-	
11.4.9.7. Optical carrier devices							-			-	-	
11.4.10. Asynchronous Transfer Mode (ATM)							2b			B	2b	
11.4.11. Front end processor							-			-	-	
11.4.12. Transceivers							-			-	-	
11.4.13. Bridges							-			-	-	
11.4.14. Routers							2b			b	2b	
11.4.15. Gateway							-			-	-	
11.5. Adjust												
11.5.1. Equalizers							-			-	-	

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
11.5.2. Pads							-			-	-	
11.5.3. Amplifiers							-			-	-	
11.5.4. Companders							-			-	-	
11.5.5. Echo suppressors or cancellers							-			-	-	
11.5.6. Signaling units							-			-	-	
11.5.7. LIUs							-			-	-	
11.5.8. Repeat coil or transformer							-			-	-	
11.6. Configure Application Software (e.g. HP OpenView, Cabletron, Remote Access Service (RAS), Remedy, Accugraph, etc.)							2b			-	2b	
12. DIGITAL SWITCHING SYSTEMS TR: Operators manuals												
12.1. Digital Subscriber Line (DSL)							A			-	B	
12.2. Digital Patch and Access System (DPAS)												
12.2.1. Functions							-			B	-	
12.2.2. Hardware							-			B	-	
12.2.3. Operate							-			-	-	
12.3. Promina												
12.3.1. Functions							B			B	B	
12.3.2. Hardware							B			B	B	
12.3.3. Operate							2b			b	2b	
13. Information Operations TR: USC Title 10, 18 and 50												
13.1. Definitions							-			-	A	
13.2. Policies and Doctrine							-			-	A	
13.3. Functions							-			-	A	
13.4. Oversight of Information												
13.4.1. Policy							A			-	A	

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		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
13.4.2. Security tools							A			-	A	
13.4.3. Network management components							A			-	A	
13.4.4. System Monitoring							A			-	A	
200. AIR FORCE JOB QUALIFICATION STANDARDS APPLICABLE TO AFSC 3C2X1. TR: AFI 36-2233, CFETP 3C2X1 (See Note 2)												
200.3. AFJQS 3CXXX-200C, Position Certification for Network Professionals												
206.16. Communications Central												
206.16.1. AFQTP XXXXX-206P, AN/TSC-107 Communications Central (Quick Reaction Package) Familiarization Handbook												
212.1. Work Center												
212.1.1. AFQTP 3CXXX-212A, Work Center Supervisor's Handbook (See Note 3)												
212.2. C4 Systems Technology												
212.2.1. AFQTP 3CXXX-212B, C4 Systems Technology Handbook												
212.3. C4 Information Systems												
212.3.1. AFQTP XXXXX-212C, C4 Information Systems Familiarization Handbook												
212.25. AFJQS3CXXX-212Y, Weapons of Mass Destruction, Unified Command Suite												
230.3. AFJQS 3CXXX-230C, Sidewinder												
230.5. AFJQS 3CXXX-230E, HP OpenView												
230.18.2. AFJQS XXXXX-230RB, TDC ICAP Large Voice Module												

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		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
230.18.3. AFJQS XXXXX-230RC, TDC ICAP Red Data Module												
230.18.4. AFJQS XXXXX-230RD, TDC ICAP Radio Frequency and Crypto Module												
230.18.5. AFJQS XXXXX-230RE, Promina 400 Module												

Section B - Course Objective List

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

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

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

7. Course Objectives. These objectives are listed in the sequence taught by Block of Instruction. Because the communications career field is ever changing, we are providing a website with a "living" course objective list (COL). As changes are made to the courses they will also be made to the website. Use the following link to get started, and then navigate to the COL by selecting the 81 TRW, 81 TRG, and finally the 336 TRS to locate the COL for the C-CS Systems Control courses.
<https://wwwmil.keesler.af.mil/>.

Section C - Support Materials

8. 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://wwwmil.keesler.af.mil/81trss/qflight/index.htm>. These training products are also listed in AFIND 8, though not as current. Procedures for requesting product development are found in AFI 36-2233.

8.1. AFJQs/AFQTPs applicable to AFSC 3C2X1:

<u>Publication No.</u>	<u>Pseudo File Code</u>	<u>Publication Title</u>
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8.2. Additional AFJQs/AFQTP generic training products applicable to this specialty:

<u>Publication No.</u>	<u>Pseudo File Code</u>	<u>Publication Title</u>
AFJQS 3CXXX-200C	3CXXX-200.3	Position Certification for Network Professionals
AFJQS XXXXX-201B	XXXXX-201.2	Promina 800, 400 and 200 Multi-service Access Platform
AFJQS XXXXX-201W	XXXXX-201.23	Integrated Digital Network Exchange (IDNX) 90
AFQTP XXXXX-206P	N/A	AN/TSC-107 Communications Central (Quick Reaction Package) Familiarization Handbook
AFQTP 3CXXX-212A	N/A	Work Center Supervisor's Handbook
AFQTP 3CXXX-212B	N/A	C4 Systems Technology Handbook
AFQTP XXXXX-212C	N/A	C4 Information Systems Familiarization Handbook
AFJQS 3CXXX-212Y	3CXXX-212.25	Weapons of Mass Destruction, Unified Command Suite
AFJQS 3CXXX-230C	3CXXX-230.3	Sidewinder
AFJQS 3CXXX-230E	3CXXX-230.5	HP OpenView
AFJQS XXXXX-230RB	XXXXX-230.18.2	TDC ICAP Large Voice Module
AFJQS XXXXX-230RC	XXXXX-230.18.3	TDC ICAP Red Data Module
AFJQS XXXXX-230RD	XXXXX-230.18.4	TDC ICAP Radio Frequency and Crypto Module
AFJQS XXXXX-230RE	XXXXX-230.18.5	TDC ICAP Promina 400 Module
AFJQS 3CXXX-230H	3CXXX-230.8	Cisco Works

<u>Publication No.</u>	<u>Pseudo File Code</u>	<u>Publication Title</u>
AFJQS 3CXXX-230U	3CXXX-230.21	Network Sniffers
AFJQS 3CXXX-230W	3CXXX-230.23	Windows 2000

8.3. AFJQSs/AFQTPs currently in/scheduled for development:

<u>Publication No.</u>	<u>Publication Title</u>
AFJQS XXXXX-230GE	Position Certification for Network Controllers

8.4. Contact 460CS/SCF (AFETS), Buckley AFB, CO: DSN 877-5825/5830 for scheduling information, current catalog of courses, course availability and course content.

<u>Course Code</u>	<u>Title</u>	<u>Delivery Method</u>	<u>Length</u>
COM-6	Timeplex T1 Multiplexer O&M (limited to channel programming)	Instructor	5 days
Unk	Digital Techniques (6tapes)	Video	Unk
Unk	Introducing-HP 54501A	Video	Unk
Unk	AC/DC Electronics (3-tapes)	Video	Unk
Unk	2445B O-scope Operation	Video	Unk
Unk	Amplifiers	Video	Unk
Unk	Solid Logic Memory	Slide	Unk
COM-08	Promina T1 Multiplexer O&M (limited Promina access)	Instructor	3 days
COM-07	Multi-Channel Crypto Controller O&M	Instructor	2 days
COM-02	Telephone Switch (ROLM) O&M		4 days
COM-12	SONET Multiplexer (Alcatel) O&M (limited multiplexer access)		5 days
NOC 06	Networking Essentials	Instructor	10 days
NOC-11	Cisco Router Basics	Instructor	5 days

8.5. Courses under development.

COM-XX	FCC-100 Multiplexer (DNE)	Instructor	2 days
COM-XX	Telephone Switch Admin (AVAYA G3x)	Instructor	8 days
COM-XX	Telephone Switch Maint (AVAYA G3x)/	Instructor	5 days
COM-XX	Firebird Ops & Test (TTC)/	Instructor	5 days
COM-XX/	Protocol Analyzer Ops & Test	Instructor	3 days
NOC-XX	Cisco Router Advanced	Instructor	5 days

Section D - Training Course Index

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

10. Air Force In-Residence Courses.

<u>Course Number</u>	<u>Course Title</u>	<u>Location</u>
E3ABR3C231 006	Communications-Computer Systems Control Apprentice	336 TRS/Keesler
E3ACR3C271 003	Communications-Computer Systems Control Craftsman	336 TRS/Keesler
E3AZR3C051 035	TDC/ICAP Data Network	333 TRS/Keesler
E3AZR3C051 036	TDC/ICAP Transmission Networking	333 TRS/Keesler
E3AZR3C051 037	TDC/ICAP Voice Networking	333 TRS/Keesler
E3AZR3C051 039	CITS Base Information Protection (BIP 200)	333 TRS/Keesler
E3AZR3C051 043	CITS Infrastructure Technology Systems (ITS 300)	333 TRS/Keesler
E3AZR3C051 048	TDC/ICAP System Planning	333 TRS/Keesler

11. Air Force Institute for Advanced Distributed Learning (AFIADL) Courses.

For a current listing of AFIADL courses, go to <http://www.maxwell.af.mil/au/afiadl>.

12. Exportable Courses.

12.1. For a current list of the available CBT courses, refer to https://www.smartforce.com/learning_community/Custom/USAF/login.asp.

12.2. For a list of audiovisual productions and how to order them, go to the Defense Automated Visual Information System/Defense Instructional Technology Information System (DAVIS/DITIS): <http://dodimagery.afis.osd.mil/dodimagery/davis>.

Section E - MAJCOM Unique Requirements

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