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Headquarters US Air Force
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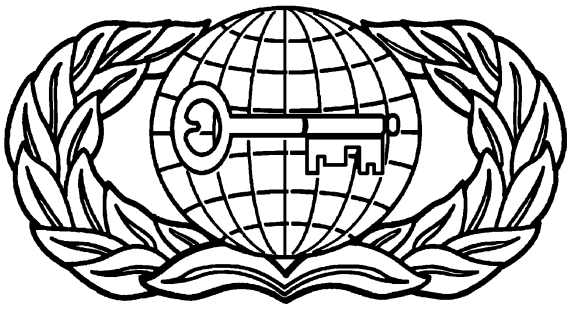
CFETP 1N5X1
Parts I and II
March 2002

AFSC 1N5X1

ELECTRONIC SIGNALS INTELLIGENCE EXPLOITATION



CAREER FIELD EDUCATION

AND TRAINING PLAN

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CAREER FIELD EDUCATION AND TRAINING PLAN
ELECTRONIC SIGNALS INTELLIGENCE EXPLOITATION
AFSC 1N5X1

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Part II

ELECTRONIC SIGNALS INTELLIGENCE EXPLOITATION SPECIALTY

AFSC 1N5X1

CAREER FIELD EDUCATION AND TRAINING PLAN

Part I

Preface

1. This Career Field Education and Training Plan (CFETP) is a comprehensive educati on and training document that identifies life-cycle education/training requirements, training support resources, and minimum core task requirements for this specialty. The CFETP will provide personnel a clear career path to success and will instill rigor in all aspects of career field training. ***NOTE:*** Civilians occupying associated positions will use Part II to support duty position qualification training.

2. The CFETP consists of two parts; both parts of the plan are used by supervisors to plan, manage, and control training within the career field.

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

2.2. **Part II** includes the following: **Section A** identifies the Specialty Training Standard (STS) and includes duties, tasks, technical references to support training, Air Education and Training Command (AETC) conducted training, wartime course, core task, and correspondence course requirements; **Section B** contains the course objective list (COL) and training standards supervisors will use to determine if airmen satisfied training requirements; **Section C** identifies available support materials. An example is a qualification training package which may be developed to support proficiency training. These packages are identified in Air Force Index 8, *Numerical Index of Specialized Educational Training Publications*; **Section D** identifies a training course index supervisors can use to determine resources available to support training. Included here are both mandatory and optional courses; **Section E** identifies Major Command (MAJCOM) unique training requirements supervisors can use to determine additional training required for the associated qualification needs.

3. Using guidance provided in the CFETP will ensure individuals in this specialty receive effective and efficient training at the appropriate point in their career. This plan will enable us to train today's work force for tomorrow's jobs. At unit level, supervisors and trainers will use Part II to identify, plan, and conduct training commensurate with the overall goals of this plan.

ABBREVIATIONS/TERMS EXPLAINED

Advanced Training (AT). Formal course which provides individuals who are qualified in one or more positions of their AFS with additional skills/knowledge to enhance their expertise in the career field. Training is for selected career airmen at the advanced level of the AFS.

Air Force Career Field Manager (AFCFM). An individual on the Headquarters United States AF staff who is responsible for developing career development programs and managing the career field in coordination with using commands' functional managers, technical training center personnel, and AF personnel resource managers. This includes identifying the task requirements and training for an AF specialty (AFS) or occupational series.

Career Field Education and Training Plan (CFETP). A CFETP is a comprehensive, multipurpose document encapsulating the entire spectrum of education and training for a career field. It outlines a logical growth plan that includes training resources and is designed to make career field training identifiable, to eliminate duplication, and to ensure this training is budget defensible.

Continuation Training. Additional training, emphasizing present or future duty assignments, that exceeds requirements.

Core Task. A task AFCFM identifies as a minimum qualification requirement within an Air Force specialty or duty position.

Course Objective List. A publication, derived from initial/advanced skills course training standard, that identifies the tasks and knowledge requirements, and respective standards provided to achieve a 3- to 7-skill level in this career field. Supervisors use the COL to assist in conducting graduate evaluations in accordance with Air Force Instruction (AFI) 36-2201, Developing, Managing and Conducting Military Training Programs.

Exportable Training. Additional, supplementary training via computer assisted, paper text, interactive video, or other media.

Initial Skills Training. A basic, formal, in-residence course that leads to the award of a 3-skill level Air Force specialty code.

Instructional System Development. A deliberate and orderly, but flexible process used to plan, develop, implement, and manage instructional systems. It ensures personnel are taught in a cost efficient way the knowledge, skills, and attitudes essential for successful job performance.

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.

Qualification Training. Actual hands-on, task performance training designed to qualify an individual in a specific duty position. This portion of the dual-channel on-the-job training (OJT) program occurs both during and after the upgrade training process. Qualification training provides the performance skills required to do the job.

Qualification Training Package. An instructional package used at the unit to qualify, or aid qualification, in a duty position or program, or on a piece of equipment. It may be printed, computer-based, or in other audiovisual media.

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

Specialty Training Standard. An Air Force publication that describes skills and knowledge that an airman in a particular AFS needs on the job. It further serves as a contract between the Air Education and Training Command and the user to show the overall training requirements for an Air Force specialty code (AFSC) that the formal schools teach.

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

Section A - General Information

1. Purpose. This CFETP provides information necessary for AFCFM, MAJCOM functional managers (MFM), commanders, training managers, supervisors, and trainers to plan, develop, manage, and conduct an effective career field training program. This plan outlines the training that individuals in this AFS should receive in order to develop and progress throughout their career. It also identifies initial skills, upgrade, qualification, advanced, and proficiency training. Initial skills training is the AFS specific training an individual receives upon entry into the Air Force or upon retraining into this specialty for award of the 3-skill level. Normally, this training is conducted by AETC at one of the technical training centers. Upgrade training identifies the mandatory courses, task qualification requirements, and correspondence course completion requirements for award of the 3-, 5-, 7-, 9-skill levels. Qualification training is actual hands-on task performance training designed to qualify an airman in a specific duty position. This training program occurs both during and after the upgrade training process. It provides the performance skills/knowledge required to do the job. Advanced training is formal, specialty training provided for selected airmen. Proficiency training is additional, in-residence, exportable, or on-the-job advanced training, provided to personnel to increase their skills and knowledge beyond the minimum required for upgrade. The CFETP also serves the following purposes:

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

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

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

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

2. Uses. The plan will be used by MFM and supervisors at all levels to ensure comprehensive and cohesive training programs are available for each individual in the specialty.

2.1. AETC training personnel will develop/revise formal resident, non-resident, field and exportable training based on requirements established by the users and documented in Part II of the CFETP. They will also work with the AFCFM to develop acquisition strategies for obtaining resources needed to provide the identified training.

2.2. MFMs will ensure their training programs complement the CFETP mandatory initial, upgrade, and proficiency requirements. Identified requirements can be satisfied by OJT, resident training, contract training, or exportable courses. MAJCOM-developed training used to support this AFSC must be identified for inclusion into plan.

2.3. Each individual will complete the mandatory training requirements specified in this plan. The lists of courses in Part II will be used as a reference to support training.

3. Coordination and Approval. The AFCFM is the approval authority. MAJCOM representatives and AETC training personnel will identify and coordinate on the career field training requirements. The AETC training manager for this specialty will initiate an annual review of this document by AETC and MFM to ensure currency and accuracy. Using the list of courses in Part II, they will eliminate duplicate training.

Section B - Career Progression and Information

4. Specialty Description.

4.1. Specialty Summary. Operates, performs, and manages electronic signals intelligence exploitation activities and functions. Operates electronic analysis, and related equipment. Analyzes, processes, and derives intelligence from electromagnetic transmissions. Related DoD Occupational Subgroup: 556.

4.2. Duties and Responsibilities:

4.2.1. Conducts signals intelligence (SIGINT) activities and operations. Performs operator and analyst duties to exploit electronic intelligence (ELINT), foreign instrumentation signals intelligence (FISINT), and PROFORMA activities. Employs signals exploitation activities to support electronic combat (EC) operations.

4.2.2. Operates electronic search, and related equipment. Searches and exploits signal activity throughout the frequency spectrum. Operates directional, electromagnetic receiving, and recording systems to acquire, collect, and exploit electromagnetic transmissions.

4.2.3. Performs and oversees signals collection and analysis functions. Analyzes electromagnetic transmission characteristics. Determines line of bearing or origin point, external characteristics, and parameters of electromagnetic transmissions. Operates signals analysis and data processing equipment. Extracts data from electromagnetic signals and reports results. Evaluates electromagnetic transmission exploitation to ensure characteristics are accurately determined and reported.

4.2.4. Develops and maintains automated data bases and operational logs. Records equipment status, signals characteristics, and analytical findings.

4.2.5. Prepares and evaluates reports. Assembles operational and technical information. Performs quality control. Inspects and evaluates SIGINT, ELINT, FISINT, PROFORMA, and EC suppor t activities. Performs fusion analysis.

4.2.6. Plans, organizes, and directs electromagnetic signals exploitation activities. Manages allotted resources for SIGINT, ELINT, FISINT, PROFORMA, and EC operations and analysis activities. Identifies respons ibilities for overseeing operations, intelligence analysis, and data reduction functions. Plans operations and analysis functions and devises techniques to improve operations.

5. Skill/Career Progression.

Adequate training and timely progression from the apprentice to the superintendent skill level 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 will ensure individuals receive viable training at appropriate points in their career. The following narrative, and the AFSC 1N5X1 career field path (see paragraph 8), identify the training career path. It defines the training required in an individual's career.

5.1. Apprentice (3) Level. Initial skills training in this specialty consists of the tasks and knowledge provided in the 3-skill level resident course (X3ABR1N531 005) taught at Goodfellow AFB, TX. Initial skills training requirements were identified and validated during the Utilization & Training Workshop (U&TW) held 20 March - 23 March 2001 at Goodfellow AFB. Individuals must complete the initial skills course to be awarded AFSC 1N531.

5.2. Journeyman (5) Level Upgrade Requirements. Upgrade training requires completion of duty position qualification training, the 5-level Career Development Course (CDC), and a minimum of 9 months OJT for retrainees or 15 months OJT for non-prior service trainees.

5.3. Craftsman (7) Level Upgrade Requirements. Upgrade to AFSC 1N571 requires a minimum of 18 months OJT, and be at least a SSgt.

5.4. Superintendent (9) Level Upgrade Requirements. Upgrade to AFSC 1N591 requires promotion to SMSgt and completion of the Senior NCO Academy (SNCOA).

6. Training Decisions. The CFETP uses a building block approach (simple to complex) to encompass the entire spectrum of training requirements for the Electronic Signals Intelligence Exploitation career field. The spectrum includes a strategy for when, where, and how to meet the training requirements. The strategy must be apparent and affordable to reduce duplication of training and eliminate a disjointed approach to training.

6.1. Initial Skills. The initial skills course was revised to provide training necessary to prepare graduates for electronic signals intelligence exploitation specialty requirements and related duty positions.

7. Community College of the Air Force (CCAF). Enrollment in CCAF occurs upon completion of basic military training. CCAF provides the opportunity to obtain an Associate in Applied Sciences Degree. In addition to its associates degree program, CCAF offers the following:

7.1. Occupational Instructor Certification. Upon completion of instructor qualification training, consisting of the instructor methods course and supervised practice teaching, CCAF instructors who possess an associates degree or higher may be nominated by their school commander/commandant for certification as an occupational instructor.

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. All are transcribed on the CCAF transcript.

7.3. Degree Requirements. All airmen are automatically entered into the CCAF program. Prior to completing an associates degree, the 5-level must be awarded and the following requirements must be met:

	Semester Hours
Technical Education	24
Leadership, Management, and Military Studies	6
Physical Education	4
General Education	15
Program Elective Technical Education; Leadership, Management, and Military Studies; or General Education	15
Total	64

7.3.1. Technical Education (24 Semester Hours): A minimum of 12 semester hours of Technical Core subjects/courses must be applied and the remaining semester hours applied from Technical Core/Technical Elective subjects/courses. Refer to the CCAF Catalog for Application of Courses to the Technical Education area.

7.3.2. Leadership, Management, and Military Studies (6 Semester Hours): Professional military education and/or civilian management courses. Refer to the CCAF General Catalog for Application of Courses to the Leadership, Management, and Military Studies area.

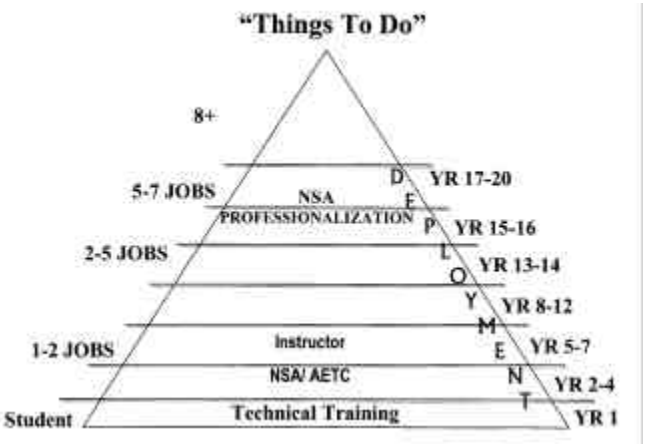
7.3.3. Physical Education (4 Semester Hours): This requirement is satisfied by completion of Basic Military Training.

7.3.4. General Education (15 Semester Hours): Applicable courses must meet the criteria for application of courses to the General Education Requirements (GER) and be in agreement with the definitions of applicable General Education subjects/courses as provided in the CCAF General Catalog.

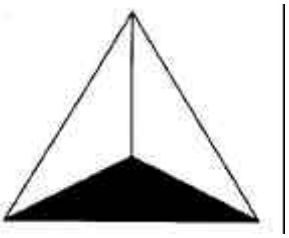
7.3.5. Program Elective (15 Semester Hours): Satisfied with applicable Technical Education; Leadership, Management, and Military Studies; or General Education subjects/courses, including natural science courses meeting GER application criteria. Six semester hours of CCAF degree applicable technical credit otherwise not applicable to this program may be applied. See the CCAF General Catalog for details regarding the Associates of Applied Science for this specialty.

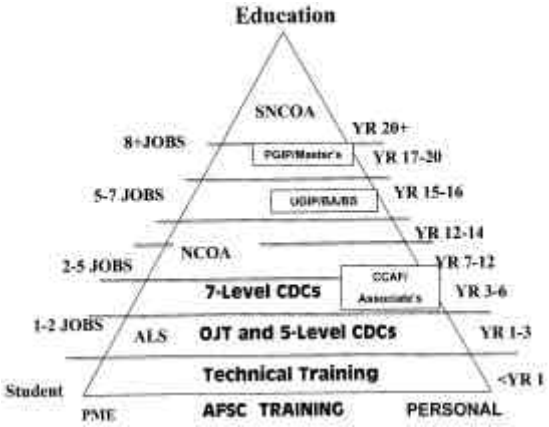
7.4. Additional off-duty education is a personal choice that is encouraged for all. Individuals who desire to become an AETC instructor should be actively pursuing an associates degree. A degreed faculty is necessary to maintain accreditation through the Southern Association of Colleges and Schools.

8. Career Field Path.

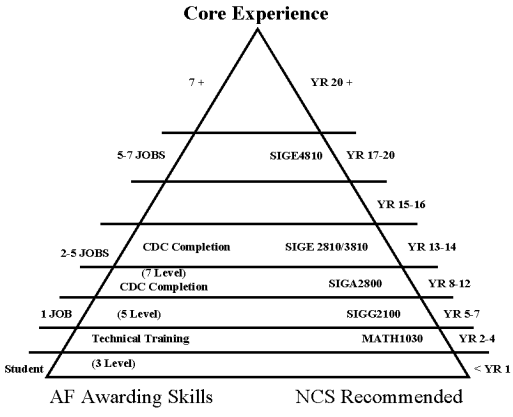


Cradle to Grave AFSC Requirements
What, When, Where, and How
Growth within an AFSC





Managing Career Field Training:
Lifecycle Training
Requirements/Resources



Minimum Training Requirements:
Skill-level/Duty Position Training
Exportable Training
Core Tasks

Section C - Skill Level Training Requirements

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

10. Specialty Qualification:

10.1. Apprentice Level Training:

10.1.1. Specialty Qualification.

10.1.1.1. Knowledge. Knowledge is mandatory of intelligence operations; data reduction and processing; reporting; electronic principles applicable to signals collection and analysis; and missions/functions of SIGINT, ELINT, FISINT, PROFORMA, and EC operations.

10.1.1.2. Education. Completion of high school with courses in basic electronics, physics, algebra, and trigonometry are desirable for entry into this specialty.

10.1.1.3. Training. Completion of a basic electronic signals intelligence exploitation course is mandatory for award of AFSC 1N531.

10.1.1.4. Experience. Qualification in the apprentice AFSC is mandatory for award of the journeyman AFSC.

10.1.1.5. Other.

10.1.1.5.1. For entry into this specialty, no record or history of temporomandibular joint pain or disorder.

10.1.1.5.2. For award and retention of AFSCs 1N531/51/71/91/00, eligibility for a Top Secret security clearance according to AFI 31-501, Personnel Security Management Program, and for sensitive compartmented information access.

10.1.2. Training Sources and Resources. Completion of the Electronic Signals Intelligence Exploitation course, taught at Goodfellow Air Force Base (AFB), satisfies the training requirements for award of the 3-skill level.

10.1.3. Implementation. The 1N531 AFSC is awarded upon completion of technical school.

10.2. Journeyman Level Training:

10.2.1 Specialty Qualification.

10.2.1.1. Knowledge. Knowledge is mandatory of intelligence operations; data reduction and processing; reporting; electronic principles applicable to signals collection and analysis; and missions/functions of SIGINT, ELINT, FISINT, PROFORMA, and EC operations.

10.2.1.2. Education.

10.2.1.3. Training. Completion of the 1N551 CDC is mandatory.

10.2.1.4. Experience. Qualification in and possession of AFSC 1N531. Also, experience performing functions such as collecting, interpreting, analyzing, and reporting electromagnetic transmissions.

10.2.1.5. Other.

10.2.1.5.1. For entry into this specialty, no record or history of temporomandibular joint pain or disorder.

10.2.1.5.2. For award and retention of AFSCs 1N531/51/71/91/00, eligibility for a Top Secret security clearance according to AFI 31-501, Personnel Security Management Program, and for sensitive compartmented information access.

10.2.2. Training Sources and Resources. The unit training manager is responsible for acquisition of the 5-skill level CDC.

10.2.3. Implementation. The 1N551 AFSC is awarded upon completion of all of the above requirements.

10.3. Craftsman Level Training:

10.3.1 Specialty Qualification.

10.3.1.1. Knowledge. Knowledge is mandatory of intelligence operations; data reduction and processing; reporting; electronic principles applicable to signals collection and analysis; and missions/functions of SIGINT, ELINT, FISINT, PROFORMA, and EC operations.

10.3.1.2. Education.

10.3.1.3. Training. Completion of the 1N571 CDC (when available) is mandatory

10.3.1.4. Experience. Qualification in and possession of AFSC 1N551. Also, experience performing or supervising functions such as collecting, interpreting, analyzing, and reporting electromagnetic transmissions.

10.3.1.5. Other.

10.3.1.5.1. For entry into this specialty, no record or history of temporomandibular joint pain or disorder.

10.3.1.5.2. For award and retention of AFSCs 1N531/51/71/91/00, eligibility for a Top Secret security clearan ce according to AFI 31-501, Personnel Security Management Program, and for sensitive compartmented information access.

10.3.2. Training Sources and Resources. The unit training manager is responsible for acquisition of the 7-skill level CDC.

10.3.3. Implementation. The 1N571 AFSC is awarded upon completion of all of the above requirements.

10.4. Superintendent Level Training:

10.4.1 Specialty Qualification.

10.4.1.1. Knowledge. Knowledge is mandatory of intelligence operations; data reduction and processing; reporting; electronic principles applicable to signals collection and analysis; and missions/functions of SIGINT, ELINT, FISINT, PROFORMA, and EC operations.

10.4.1.2. Education.

10.4.1.3. Training. Completion of the SNCOA is mandatory.

10.4.1.4. Experience. Qualification in and possession of AFSC 1N571. Also, completion of the Senior NCO Academy.

10.4.1.5. Other.

10.4.1.5.1. For entry into this specialty, no record or history of temporomandibular joint pain or disorder.

10.4.1.5.2. For award and retention of AFSCs 1N531/51/71/91/00, eligibility for a Top Secret security clearance according to AFI 31-501, Personnel Security Management Program, and for sensitive compartmented information access.

10.4.2. Training Sources/Resources. The SNCOA is located at Maxwell AFB, AL.

10.4.3. Implementation. The 1N591 AFSC is awarded upon completion of the SNCOA.

Section D - Resource Constraints

11. Purpose. This section identifies known resource constraints, which preclude developing or conducting of optimal/desired training, including factors such as cost and manpower. Narrative explanations of each resource constraint and an impact statement describing its effect on training are included. Actions required, office of primary responsibility, and target completion dates are included. Resource constraints will be reviewed and updated at least annually.

12. Apprentice Level Training.

NOTE: There are currently no resource constraints. This area reserved.

Section E - Transitional Training Guide

NOTE: There are currently no transitional 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 classes beginning 030122 and graduating on 030516.

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

2.1. Lists in the 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. Number task statements sequentially; i.e., 1.1, 1.2, 2.1. Column 2 (Core Tasks) identifies, by asterisk (*), specialty-wide training requirements.

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/completed date. (***As a minimum, use the following column designators: Tng Comp, Certifier Initials***.)

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 CADRE/AFSC/CDC listing maintained by the unit training manager 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 OJT when placed in AF Form 623, **On-The-Job Training Record**, and used according to AFI 36-2201. When used as a JQS, the following requirements apply:

2.5.1. Documentation. Document and certify completion of training. Identify duty position requirements by circling the subparagraph number (in pencil) next to the task statement. As a minimum, complete the following columns in Part II of the CFETP: Training Completed, Trainee Initials, Trainer Initials, Ceritfier Initials. An AFJQS may be used in lieu of Part II of the CFETP only upon approval of the AFCFM. ***NOTE:*** The AFCFM may supplement these minimum documentation procedures as needed or deemed necessary for their career field.

2.5.1.1. Converting to New CFETP. Use the new CFETP to identify and certify all past and current qualifications. For those core and critical tasks previously certified and required in the current duty position, evaluate current qualifications and, when verified, re-certify using current date as completion date and enter trainee's initials and certifier's initials. Remember, during the transcription process no training is taking place, Therefore, the trainer's initials are not required. For non-core and non-critical tasks previously certified and required in the current duty position, evaluate current qualifications and when verified, re-certify using current date as completion date and enter trainee's and trainer's initials. When transcribing previous certification for tasks not required in the current duty position, carry forward only the previous completion date of certification (not the initials of another person). If and when transcribed tasks become duty position requirements, re-certify using standard certification procedures. The person whose initials appear in the trainer or certifier block during the transcription process must meet the requirements of their respective roles. Upon completion of the transcription process, give the old CFETP to the member.

2.5.1.2. Documenting Career Knowledge. When a CDC is not available: The supervisor identifies STS training references that the trainee requires for career knowledge and ensures, as a minimum, that trainees cover the mandatory items in AFI 36-2108. For two-time CDC course exam failures: Supervisors identify all STS items corresponding to the areas covered by the CDC. The trainee completes a study of STS references, undergoes evaluation by the task certifier, and receives certification on the STS. ***NOTE***: Career knowledge must be documented prior to submitting a CDC waiver.

2.5.1.3. Decertification and Re-certification. When an airman is found to be unqualified on a task previously certified for his or her position, the supervisor lines through the previous certification or deletes previous certification

when using automated system. Appropriate remarks are entered on the AF Form 623a, On-The-Job Training Record Continuation Sheet, as to the reason for decertification. The individual is re-certified (if required) either by erasing the old entries and writing in the new or by using correction fluid (if the entries were made in ink) over the previously certified entry. ***NOTE:*** Entry should always be in pencil.

2.5.2. Training Standard. Tasks are trained and qualified to the go/no go level. Go means the individual can perform the task without assistance and meet local demands for accuracy, timeliness, and correct use of procedures.

2.6. Is a guide for **development of promotion tests** used in the Weighted Airman Promotion System (WAPS). A team of senior NCOs with extensive practical experience in their career field develops Specialty Knowledge Tests (SKT) at the USAF Occupational Measurement Squadron. 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 in chapter 14 of AFI 36-2606, *US Air Force Reenlistment, Retention, and NCO Status Programs* (formerly AFR 35-16, volume 1). WAPS is not applicable to the Air National Guard.

3. Recommendations. Report unsatisfactory performance of individual course graduates. Reference this STS and address unclassified correspondence to: 17th Training Group, ATTN: CCME, 170 Griffin Street, Goodfellow AFB, Texas 76908-4211. Address classified correspondence to SSO GDFLW//17TRG/CCME//. A 24-hour Customer Service Information Line (CSIL) has been installed for the supervisor's convenience to identify demonstrated over- or under-training on performance/knowledge items listed in this training standard. For quick response to any training concerns, call the CSIL, DSN 477-3350, any time day or night. For classified correspondence, call DSN 477-3693 (STU III). Reference specific STS paragraphs.

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

GLEN D. SHAFFER, Brig Gen, USAF
Director of Intelligence, Surveillance, and Reconnaissance
DCS Air and Space Operations

2 Attachments
1. Trainee Identification and Proficiency Code Key
2. 1N5X1 Specialty Training Standard

This Block Is For Identification Purposes Only		
Name Of Trainee		
Printed Name (*Last, First, Middle Initial*)	Initials (Written*)*	SSAN
Printed Name Of Certifying Official And Written Initials		
N/I	***N/I***	
N/I	***N/I***	
N/I	***N/I***	
N/I	***N/I***	
N/I	***N/I***	
N/I	***N/I***	
N/I	***N/I***	
N/I	***N/I***	

QUALITATIVE REQUIREMENTS

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

EXPLANATIONS

HQ AETC/DOOC memorandum dated 23 Dec 98 allows the use of Cryptologic Training System-developed proficiency codes for course training standards. Task knowledge/performance is indicated by a number only since task knowledge is inherent to task performance.

*** A subject knowledge scale value is used alone to define a level of knowledge for a subject not directly related to any specific task, or for a subject common to several tasks.**

- This mark is used alone instead of a scale value to show that no proficiency training is provided in the course or CDC.

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

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

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1. Tasks, Knowledge And Technical References	2. Core/ War-time Tasks	3. Certification For OJT					4. Proficiency Codes Used To Indicate Training/Information Provided (See Note)					
		A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC

NOTE 1: Users are responsible for annotating training references to identify current references pending STS revision.

NOTE 2: Procedures to acquire TRs. TRs not available through the Publication Distribution Office (PDO) system can be requisitioned from the following sources:

- USSID - NSACSS/SIGINT Policy
- SEDSCAF - NSACSS/PIW2
- KILTING/ EWIR - NSACSS/PIW33
- CPL - NSACSS/PE
- EPL - NSACSS/PIW33
- RASIN Manual and Catalog - NSACSS/PES43
- TEXSIG Catalog - NSACSS/PES
- TEBAG - NSACSS/PES14
- High Altitude Communications Satellite Handbook - NSACSS/PIW
- Handbook of Existing and Planned Satellite Networks (Volume I and II) - NSACSS/PIW
- DEFT Working Aids - NSACSS/PES
  * NSA Mailing Address: NSACSS/(office) 9800 Savage Rd., Fort George G. Meade, MD. 20755
- For the *Naval Ship Characteristics – USSR*, order through the Naval Intelligence Center, 4301 Suitland Road, Washington DC (ATTN: D WINN NSSC-33).
- For DIA publications, see AFI 0-15 and 5-3.
- For NSRL, inquire through your command validation authority.

These TRs, if applicable to your organization's mission, are considered essential to the proper conduct of OJT.

NOTE 3: Items in column 2 marked with an asterisk (*) are the core tasks.

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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
1. SAFETY Demonstrate an understanding of proper safety and first aid procedures associated with the use of electronic equipment TR: AFI 91-202, 91-301							1			-		-
2. SECURITY												
2.1 Information security (INFOSEC) TR: USAFINTEL 201-1, DOD 5200.1R, AFI 31-401, and AFPD 9-3							A			-		-
2.2 Communications security (COMSEC) TR: DOD 5200.1R; AFI 31-401; AFI 33-201; AFI 33-211; AFPD 33-2, Atch 2.3 and 2.4							A			-		-
2.3 Operational security (OPSEC) TR: AFI 10-1101							A			-		-
2.4 Computer security (COMPUSEC) TR: AFSSI 5100, AFI 33-202, AFI 33-212, AFI 700-10, and AFPD 33-2							A			-		-
2.5 Intelligence OVERSIGHT Program TR: USSID 18, AFI 14-104							A			-		-
2.6 SCI indoctrination TR: DOD 5200.1R, AFI 31-401, and AFI 14-302							A			-		-
3. ORGANIZATION												
3.1 Identify the mission, function, and responsibility of the following national organizations within the intelligence cycle:												
3.1.1 National Security Council (NSC) TR: E.O. 12333							A			-		B
3.1.2 Director of Central Intelligence (DCI) TR: CIA Factbook							A			-		B
3.1.3. National SIGINT Committee TR: DCID 2/10							A			-		B
3.2 Identify the mission, function and responsibility of the following defense organizations within the intelligence cycle:												
3.2.1 Defense Intelligence Agency (DIA) TR: DoD DIR 5105.21; DIAM 49-1; DIAM 58-1, Vol 1; and DIA Capability Handbook							A			A		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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
3.2.2 Central Intelligence Agency (CIA) TR: CIA Factbook							A			A		B
3.2.3 National Security Agency/Central Security Service (NSA/CSS) TR: USSID 1							A			A		B
3.2.4 Service Cryptologic Elements (SCE), including direct support to tactical units TR: USSID 1							A			A		B
3.2.5 National Security Operations Center (NSOC) and ELINT Watch Officer (EWO) TR: NSOC Homepage							A			A		-
3.2.6 Tasking Authority TR: USSID 4							A			A		B
3.3 Describe the roles, responsibilities, products, and missions of S&T centers supporting the national SIGINT mission TR: Analysis Handbook, Vol I							A			A		B
3.4 Describe ELINT support to Electronic Warfare (EW) reprogramming TR: AFI 10-703							A			B		C
3.5 Describe ELINT community organizations, missions, and functions TR: ELINT Business Plan (EBP)–Baseline ELINT Architecture							A			B		B
3.6 Describe the purpose of the following intellgence functions:												
3.6.1 SIGINT TR: USSID 1 and USSID 4							A			B		B
3.6.2. COMINT TR: JTENS							A			B		B
3.6.3 ELINT TR: JTENS							B			B		C
3.6.4 FISINT TR: JTENS							A			B		B
3.6.5 PROFORMA TR: Joint PROFORMA Center Homepage							A			B		B
3.6.6 HUMINT TR: DCID 3/7(1)							A			B		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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
3.6.7 IMINT TR: DCID 2/9(1)							A			B		B
3.6.8 MASINT TR: DCID 2/11							A			B		B
3.6.9 Digital Network Intelligence (DNI) TR: NAVEDTRA 10250, NSACSS/ES-GNI Video, and NCSTA106							A			B		B
3.6.10 Foreign Materiel Exploitation (FME) and Open Source Intelligence (OSINT) TR: NAIC-0016-3093-01, OSRMS CONOPS, and FBIS							-			A		A
3.7 Describe the difference between strategic and tactical intelligence as derived from:												
3.7.1 OPELINT TR: Tactical Data Processing System (TDPS) Users Guide							B			B		-
3.7.2 TECHELINT TR: EA-279							B			B		-
3.8 Identify elements of Information Operations (IO), to include: TR: AFDD 2-5, AFDD 2-5.1, and AFI 10-706												
3.8.1 Computer Network Initiatives							A			A		B
3.8.2 ISR, collection, and dissemination activities							A			A		B
3.9 Describe basic Information Warfare (IW) concepts, with emphasis on Electronic Warfare (EW), to include: TR: AFDD 2-5, AFDD 2-5.1, and AFI 10-706												
3.9.1 Purpose and function of EW Support (ES)							B			B		C
3.9.2 Electronic Attack (EA) methods and techniques.							A			B		C
3.9.3. Identify the role of Electronic Protection (EP) as applied to Defensive Counterinformation (DCI)							A			A		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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
4. MATH Solve problems using mathematical formulas and radar parameters TR: EA-183							2			-		-
5. PRINCIPLES OF ELECTROMAGNETIC (EM) ENERGY TR: EA-279, EA-100, EA-161, and EA-162												
5.1 Define relationships, properties, characteristics and aspects of EM energy, waveforms, and modulation							B			-		-
5.2 Define terms associated with EM energy, such as:												
5.2.1 EM energy							B			B		-
5.2.2 EM spectrum							B			B		-
5.2.3 Radio frequency (RF)							B			B		-
5.2.4 RF spectrum							B			B		-
5.3 Define/describe aspects of waveforms, terms, concepts, characteristics, and display techniques associated with electromagnetic energy, to include:												
5.3.1 Sine Wave												
5.3.1.1 Cycle							B			B		-
5.3.1.2 Period (time)							B			B		-
5.3.1.3 Wavelength							B			B		-
5.3.1.4 Frequency (rate)							B			B		-
5.3.1.5 Phase (angle/frequency)							B			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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
5.3.2 Complex waveforms												
5.3.2.1 Linear/non-linear mixing							B			B		-
5.3.2.2 Fourier Components (Fourier series)							A			B		-
5.3.2.3 Bandwidth							B			B		-
5.3.2.4 Pulse characteristics							B			B		-
5.3.3 Signal-to-noise ratio							A			B		-
5.4. Describe aspects of modulation associated with EM energy, such as:												
5.4.1 Amplitude Modulation (AM)							B			B		-
5.4.2 Angle Modulation												
5.4.2.1 Frequency Modulation (FM)							B			B		-
5.4.2.2 Phase Modulation (PM)							B			B		-
5.4.3 Pulse Modulation												
5.4.3.1 Pulse Amplitude Modulation (PAM)							B			B		-
5.4.3.2 Pulse Frequency Modulation (PFM)							B			B		-
5.4.3.3 Pulse Code Modulation (PCM)							B			B		-
5.4.3.4 Pulse Duration Modulation (PDM)							A			A		-
5.4.3.5 Pulse Position Modulation (PPM)							B			B		-
5.4.3.6 Pulse Group Modulation (PGM)							B			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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
5.4.4 RF agile radar signals												
5.4.4.1 Multiple (simultaneous) RF							A			B		-
5.4.4.2 Spread spectrum							A			B		-
5.4.4.3 RF hopping							A			B		-
5.5 Describe antenna characteristics, such as:												
5.5.1 Type							A			B		-
5.5.2 Impedance							A			A		-
5.5.3 Radiation pattern							A			B		-
5.5.4 Bandwidth							A			B		-
5.5.5 Beamwidth							A			B		-
5.5.6 Gain							A			B		-
5.5.7 Polarization							A			B		-
5.5.8 Reciprocity							A			B		-
5.5.9 Directivity							A			B		-
5.5.10 Transmission line							A			-		-
5.5.11 Arrays							A			B		-
5.5.12 Functions							A			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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
5.6 Describe aspects of radio wave propagation, such as:												
5.6.1 Characteristics (absorption, reflection, scatter, refraction, noise, diffraction)							A			B		-
5.6.2 Atmospheric layers							A			B		-
6. ANALOG AND DIGITAL SIGNAL PROCESSING TR: Joint Tactical Exploitation of National Systems (JTENS); Dynamic ELINT Feedback Team (DEFT) WA; EA-279, EA-280, EA-100, EA-161, EA-162, Analysis Handbook												
6.1 Measure or describe frequency and time domain attributes of a pulsed waveform by operating the following signal display equipment (or applying appropriate analysis software) to determine signal characteristics:												
6.1.1 Analog equipment TR: EA-279, EA-280												
6.1.1.1 Oscilloscope TR: ATH, Vol. II-IV; DEFT WA 16							2			B		-
6.1.1.2 Spectrum analyzer TR: ATH Vol. II, III, and V							2			B		-
6.1.1.3. Counter TR: EA-279 and EA-280							2			-		-
6.1.1.4 PLO/PRF synthesizer TR: DEFT WA 06 & 12 and ATH Vol. VIII							2			-		-
6.1.1.5 Signal modifiers TR: DEFT WA 07							2			-		-
6.1.1.6 Measure or calculate the following emitter parameters (analog analysis): TR: EA-279 and EA-280												
6.1.1.6.1 Bandwidth							2			-		-
6.1.1.6.2 Pulse Repetition Frequency (PRF) and Pulse Recurrence Interval (PRI)							2			-		-
6.1.1.6.3 Pulse duration/width (PD/PW)							2			-		-

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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
6.1.1.6.4 Duty cycle							2			-		-
6.1.1.6.5 Scan type							2			-		-
6.1.1.6.6 Frequency spectrum							2			-		-
6.1.1.6.7 Pulse train characteristics (e.g., stagger, dwell/switch, sliding, etc.)							2			-		-
6.1.1.6.8 Intrapulse modulation characteristics							2			-		-
6.1.1.6.9 Pulse Doppler pulse train characteristics							2			-		-
6.1.1.6.10 Document descriptive and measurable characteristics (analysis logs) TR: USSID 350							2			-		-
6.1.2 Measure or calculate the following emitter parameters (digital analysis): TR: EA-281												
6.1.2.1 Determine Intrapulsed modulation based on CAD/BAD digitized data							2			-		-
6.1.2.2 Determine Interpulse parameters based on TBD digitized data							2			-		-
6.1.2.3 Perform digital signal analysis to measure or calculate:												
6.1.2.3.1 Bandwidth							2			-		-
6.1.2.3.2 PRF/PRI							2			-		-
6.1.2.3.3 PD/PW							2			-		-
6.1.2.3.4 Duty cycle							2			-		-
6.1.2.3.5 Scan type							2			-		-

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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
6.1.2.3.6 Appropriate scan measurement (e.g., time/ rate, lobe duration, beamwidth, etc.)							2			-		-
6.1.2.3.7 Frequency spectrum characteristics							2			-		-
6.1.2.3.8 Pulse train characteristics (e.g., stagger, dwell/switch, sliding, etc.)							2			-		-
6.1.2.3.9 Pulse Doppler pulse train characteristics							2			-		-
6.1.2.3.10 Intrapulse modulation characteristics							2			-		-
6.1.2.3.11 Document descriptive and measurable characteristics TR: USSID 350							2			-		-
6.1.3 Describe the principles of analog signal processing TR: EA-279 and EA-280							A			B		-
6.1.4 Describe the principles of digital signal processing TR: EA-281							A			B		-
7. RADAR FUNDAMENTALS TR: JTENS, DEFT WA 27, EA-100, EA-161, EA-279, and EPL												
7.1 Define radar component functions and their limitations							B			C		-
7.2 Describe the fundamentals of radar operation to include:												
7.2.1 Radar definition							A			A		-
7.2.2 Principles of operation							B			C		-
7.2.3 Radar range equation							A			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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
7.3 Describe radar signal processing fundamentals, to include:												
7.3.1 Measurable characteristics							B			C		-
7.3.2 Descriptive characteristics							B			C		-
7.3.3 Additional intercept parameters							B			C		-
7.3.4 Resolution cell							B			C		-
7.3.5 Velocity resolution							B			C		-
7.3.6 Simple pulsed radar block diagram							B			C		-
7.3.7 Radar presentation systems							B			C		-
7.4 Describe radar modulation types, to include:												
7.4.1 Continuous Wave (CW) and FM-CW							B			C		-
7.4.2 Intrapulse modulation												
7.4.2.1 Amplitude Modulation on Pulse (AMOP)							B			C		-
7.4.2.2 Frequency Modulation on Pulse (FMOP)							B			C		-
7.4.2.3 Phase Modulation on Pulse (PMOP)							B			C		-
7.4.2.4 Low Frequency Modulation on Pulse (LFMOP)							B			C		-
7.4.3 Interpulse modulation												
7.4.3.1 Pulse sliding, pulse stepping, dwell and switch							B			C		-
7.4.3.2 Pulse jitter							B			C		-

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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
7.4.3.3 Pulse stagger							B			C		-
7.4.3.4 Pulse group modulation							B			C		-
7.4.4 Pulse code modulation							A			C		-
7.4.5 Pulse Doppler							A			B		-
7.5 Describe radar signal characteristics and parametric values, such as:												
7.5.1 Radio Frequency (RF)							B			C		-
7.5.2 Modulation Type and Pulses per Group (MT/PG)							B			C		-
7.5.3 PRF							B			C		-
7.5.4 PRI							B			C		-
7.5.5 Pulse Group Repetition Frequency (PGRF)							B			C		-
7.5.6 Pulse Group Recurrence Interval (PGRI)							B			C		-
7.5.7 Pulse Duration/Width (PD/PW)							B			C		-
7.5.8 Scan Type (ST)							B			C		-
7.5.9 Scan Period (SP)							B			C		-
7.5.10 Illumination Rate (IR)							B			C		-
7.5.11 Lobe Duration (LD)							A			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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
7.5.12 Beamwidth (BW)							A			B		-
7.5.13 Frame/Channel Rate							A			B		-
7.5.14 Wideband (bandwidth)							A			B		-
7.6 Describe radar system functions, such as: TR: ATTP 3-1, Vol. 2												
7.6.1 Airborne systems												
7.6.1.1 Air Bombing							B			B		-
7.6.1.2 Air Mapping							B			B		-
7.6.1.3 Fire Control							B			B		-
7.6.2. Landbased systems												
7.6.2.1 Early Warning							B			B		-
7.6.2.2 Battlefield Surveillance							B			B		-
7.6.2.3 Antiaircraft Artillery							B			B		-
7.6.2.4 Fire Control							B			B		
7.6.2.5 Missile Control							B			B		
7.6.2.6 Controlled Intercept							B			B		-
7.6.2.7 Coastal Surveillance							B			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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
7.6.3 Shipborne systems												
7.6.3.1 Early Warning, Surface Search, and Navigation							B			B		-
7.6.3.2. Fire Control							B			B		
7.6.4 Integrated Air Defense Systems (IADS) TR: JTENS							B			C		-
7.6.5 Space and Range Instrumentation (RI) Systems							B			B		-
7.6.6 Moving Target Indicator (MTI) and Moving Target Detection (MTD)							B			B		-
7.6.7 Multifunction							B			B		-
7.6.8 Jammers (active/passive)							B			B		-
7.7 Define the characteristics associated with Wartime Reserve Mode (WARM) operation TR: ONI-TA-014-97, USSID 52, and EWIR							A			B		-
7.8 Operational ELINT Analysis and Application TR: EPL												
7.8.1 Identify probable radar function or purpose based on operational parameters	*						2			B		-
7.8.2 Associate emitters to threat system and/or platform TR: AFTTP 3-1, Vol. 2; DIA Factbook; Janes; and Electronic Weapons Fit	*						2			B		-
7.8.3 Identify emanating site or platform using national databases, such as: TR: MIDB												
7.8.3.1 Electronic Order of Battle (EOB)	*						2			B		-
7.8.3.2 Electronic Weapon Fit (EWF)							2			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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
7.8.4 Identify resources, tools, and procedures used to correlate ELINT intercepts with EOB site/set, platform, and weapon system TR: AFTTP 3-1, Vol. 2; DIA Factbook; MIDB Users Manual; and GALE Lite Users Guide							A			B		C
7.9 Describe Specific Emitter Identification (SEI) and platform correlation techniques associated with: TR: SEIPO Manuals												
7.9.1 Crystal controlled emitters							A			B		-
7.9.2 Non-cyrstal controlled emitters							A			B		-
7.9.3 Unintentional Modulation On Pulse (UMOP)							A			B		-
7.9.4 SEI analysis							-			-		-
8. ORBITAL MECHANICS TR: AU-18; JTENS; EA-164; and Space Handbook Analysts Guide, Vol 1 & 2												
8.1 Define relationships, properties, characteristics, and aspects of oribiting bodies							A			B		-
8.2 General laws							A			B		-
8.3 Define orbital parameters							A			B		-
8.4 Describe orbits used by SIGINT collectors							A			B		-
8.5 Explain characteristics and factors affecting satellite orbits							A			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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
9. COLLECTION SYSTEMS TR: JTENS, EA-107, EA-164, EA-264, Space handbook analysts guide, Vol. 1 & 2; AU-18, Air University Press												
9.1 National systems												
9.1.1 Describe national SIGINT collection platforms							A			B		C
9.1.2 Describe other national sensors							-			A		B
9.2 Airborne systems												
9.2.1 Describe airborne SIGINT collection platforms							A			B		C
9.2.2 Describe other airborne sensors							-			A		B
9.3 Terrestrial systems												
9.3.1 Describe terrestrial SIGINT collection platforms							A			B		C
9.3.2 Describe other terrestrial sensors							-			A		B
10. ELINT COLLECTION TR: JTENS, DIAM 58-17, DIAM 58-18, EA-279, and DIA Capabilities Handbook												
10.1 Describe the signal collection process using theoretical terms and definitions							A			B		-
10.2 Describe collection system components							A			B		-
10.3 Describe collection techniques							A			B		-
10.4 Define manual collection systems							A			-		-
10.5 Define automatic collection systems							A			B		-
10.6 Define semiautomatic collection systems							A			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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
10.7 Describe storage media and methods to include upstream and downstream monitoring. TR: DEFT WA 4							A			B		-
10.8 Describe down conversion TR: DEFT WA 11 and ATH Vol. V							A			-		-
10.9 Describe demodulation							A			-		-
10.10 Describe pre-detection TR: DEFT WA 11 and ATH Vol. V							A			-		-
10.11 Describe AM/FM detection TR: DEFT WA 11 and ATH Vol. V							A			-		-
10.12 Describe center tuning TR: DEFT WA 11; ATH Vol. V							A			-		-
10.13 Describe the ELINT/SIGINT collection management cycle, to include:												
10.13.1 Collection requirements TR: TM-101 and USSID 110							-			A		B
10.13.2 Collection operations (tasking requirements)							-			A		B
10.13.3 Dissemination process TR: ATH Vol. VII							-			A		B
10.13.4 Collection satisfaction TR: USSID 125							-			A		B
11. ELINT TOOLS AND REFERENCES												
11.1 Perform data processing using mapping tools, algorithms, ELINT and other intelligence reports, and display tools TR: GALE User Support System (GUSS), GALE Lite Users Manual, GCCS User Manual, TBMCS User Manual							2			-		-
11.2 Extract data from ELINT reports TR: USSID 350							2			-		-
11.3 Manipulate and correlate ELINT data							2			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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
11.4 Map/correlate activity level to:												
11.4.1 Location							2			B		-
11.4.2 Level (command) TR: AFTTP 3-1, Vol. 2							2			B		-
11.5 Describe computer applications and analysis tools, to include:												
11.5.1 INTELINK TR: INTELINK Project Homepage							A			B		-
11.5.2 GALE-Lite TR: GALE User Support System (GUSS) and GALE-Lite Users Manual							A			B		-
11.5.3 MARTES TR: MARTES Users Manual and Electronic Performance Support System (EPSS)							A			B		-
11.5.4 K2000 Signal Visualization TR: K2000 Homepage							A			A		-
11.5.5 Theater Battle Management Core System (TBMCS) TR: TBMCS Users Guide							-			A		B
11.5.6 Global Command and Control System (GCCS) TR: GCCS Users Manual							-			A		B
11.5.7 X-MIDAS Applications TR: X-MIDAS Basics CBT							-			-		-
11.6 Define function/purpose of ELINT databases, such as:												
11.6.1 KILTING/EWIRDB TR: AFI 10-703							A			B		-
11.6.2 WRANGLER Emitter Intercept Data Base (EIDB) TR: Wrangler Users Guide							A			B		-
11.6.3 National ELINT Database (NEDB) TR: Wrangler Users Guide							A			B		-
11.6.4 National SIGINT Requirements List (NSRL) TR: NSRL Handbook							A			B		C
11.6.5 TECHELINT Collection Guidance (TECGM) TR: TECGM							A			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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
11.6.6 Modernized Integrated Data Base (MIDB) with emphasis on Electronic Order of Battle (EOB) TR: MIDB Fundamentals and Applications Homepage							A			A		-
11.6.7 STAR SAPPHIRE TR: STAR SAPPHIRE Homepage							A			A		-
11.7 Identify ELINT signals using reference documents, tools, and databases. TR: EPL, GALE-LITE Users Guide, and EWIRDB							2			C		C
11.8 Identify, categorize, or describe emitters using Arbitrary ELINT Notation (AEN) or Parametrically Ordered ELINT Notation (PEN) system TR: TRAP & TADIXS-B Users Guide and EPL							2			B		-
11.9 Determine collection, processing, analysis, and/or reporting requirements and procedures using the USSID system TR: USSID 115, USSID 140, USSID 240, USSID 305, USSID 315, USSID 340, USSID 341, USSID 350, USSID 351, and USSID 369							1			A		B
12. INTELLIGENCE PREPARATION OF THE BATTLESPACE (IPB) TR: IPB AMNS Introduction Homepage and FM 34-103							A			B		-
13. REPORTING TR: USSID 115, USSID 140, USSID 240, USSID 305, USSID 315, USSID 340, USSID 342, USSID 350, USSID 351, and USSID 369												
13.1 Perform/describe plotting techniques, to include:												
13.1.1 Measure distance on a map/chart							2			A		-
13.1.2 Determine UTM grid coordinates							2			A		-
13.1.3 Determine latitude and longitude							2			A		-
13.2 Identify topographic symbols on a military map/chart							2			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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
13.3 Describe how all-source collected data is used to create a finished intelligence product TR: AFM 14-210, Chap 2							A			B		-
13.4 Identify ELINT reporting processes and standards, to include:												
13.4.1 Tactical ELINT Reporting (JINTACCS) TR: USSID 340							B			B		-
13.4.2 Universal Reporting Format for National Sensors and Cross-Programs (UNIFORM) TR: USSID 350							B			B		-
13.4.3 Universal Reporting Format for Conventional Sensors (UNIFORM-C) TR: USSID 351							B			B		-
13.4.4 Product Verification Request (PVR) TR: PVR Homepage							A			B		-
13.5 Describe dissemination mechanisms, such as:												
13.5.1 TDDS/TRE TR: TADIX B User Guide							B			B		-
13.5.2 TADIXS B TR: TADIX B User Guide							A			B		-
13.5.3 CRITICOM TR: USSID 301												
13.5.4 Tactical Information Broadcast System (TIBS) TR: USSID 340							A			B		-
13.5.5 Integrated Broadcast System (IBS) TR: TIBS Producers Guide and TIBS Users Guide							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	COMPLETION DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFYING OFFICIAL	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
14. SUPERVISION TR: AFI 36-2101, 36-2103, 36-2403, 36-901; AFMAN 36-2108												
14.1 Orient new personnel							-			-		-
14.2 Assign duties							-			-		-
14.3 Coordinate work with other people							-			-		-
14.4 Establish priorities							-			-		-
14.5 Schedule work performance							-			-		-
14.6 Evaluate work performance of subordinate personnel							-			-		-
15. TRAINING TR: AFI 36-2201												
15.1 Evaluate personnel to determine need for training							-			-		-
15.2 Plan and supervise OJT							-			-		-
15.2.1 Prepare job qualification standards							-			-		-
15.2.2 Conduct training							-			-		-
15.2.3 Counsel trainees on their progress							-			-		-
15.2.4 Monitor effectiveness of training												
15.2.4.1 Career knowledge upgrade							-			-		-
15.2.4.2 Job proficiency upgrade							-			-		-
15.2.4.3 Qualification							-			-		-
15.3 Maintain training records							-			-		-
15.4 Evaluate effectiveness of training programs							-			-		-
15.5 Recommend personnel for formal training TR: AFI 36-2101, 36-2201; AFMAN 36-2108							-			-		-

SUMMARY OF REVISED, DELETED OR ADDED MATERIAL

This STS constitutes a major change from the December 1999 STS due to the findings of the 1N5X1 Utilization and Training Workshop (U&TW) held at Goodfellow AFB, 20-22 March 2001. This STS meets the ELINT Entry-Level Training Executive Agent (EA) Course Training Standard (CTS) which was revised during the CTAG held at NSA (FANX II), Linthicum, MD, November 2000. Although the US Navy is the executive agent for entry-level ELINT training, the Air Force provides decentralized execution of this training as designated in ASD (C3I) Memo, Executive Agent Designation for ELINT Training, 19 Sep 95.

Section B - Course Objective List

1. Purpose. This COL contains the training objectives supported by AETC in the 3-level resident course. These objectives, derived from the STS, are provided to aid supervisors in evaluating adequacy of technical school graduates.

2. Objectives. To aid the supervisor, the objectives are listed by the respective STS line item. In addition to the objective, the measurement device (Meas) for each is also listed.

2.1. Measurement. The adequacy of training is measured using written or performance tests. These are indicated in the COL as follows: **W** indicates task or subject knowledge, which is measured using a written test; **P** indicates required task performance, which is measured with a performance test or progress check.

2.2. Standard. The standard is 70% on written examinations. Standards for performance measurement are indicated on the individual performance checklist.

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

4. Course Objective List

4.1. Initial Skills Course:

STS LINE ITEM	**OBJECTIVE**
1	- Identify basic facts and terms about proper safety and first aid procedures associated with the use of electronic equipment and in compliance with applicable requirements. Meas W
2.1	- Identify basic facts and terms about information security (INFOSEC). Meas W
2.2	- Identify basic facts and terms about communications security (COMSEC). Meas W
2.3	- Identify basic facts and terms about operational security (OPSEC). Meas W
2.4	- Identify basic facts and terms about computer security (COMPUSEC). Meas W
2.5	- Identify basic facts and terms about intelligence OVERSIGHT program. Meas W
2.6	- Identify basic facts and terms about SCI indoctrination. Meas W

3.1.1 - Identify basic facts and terms about the mission, function, and responsibility of the National Security Council (NSC) in the intelligence cycle. Meas W

3.1.2 - Identify basic facts and terms about the mission, function, and responsibility of the Director of Central Intelligence (DCI) in the intelligence cycle. Meas W

3.1.3 - Identify basic facts and terms about the mission, function, and responsibility of the National SIGINT Committee in the intelligence cycle. Meas W

3.2.1 - Identify basic facts and terms about the mission, function, and responsibility of the Defense Intelligence Agency (DIA) in the intelligence cycle. Meas W

3.2.2 - Identify basic facts and terms about the mission, function, and responsibility of the Central Intelligence Agency (CIA) in the intelligence cycle. Meas W

3.2.3 - Identify basic facts and terms about the mission, function, and responsibility of the National Security Agency/Central Security Service (NSA/CSS) in the intelligence cycle. Meas W

3.2.4 - Identify basic facts and terms about the mission, function, and responsibility of the Service Cryptologic Elements (SCE) in the intelligence cycle. Meas W

3.2.5 - Identify basic facts and terms about the mission, function, and responsibility of the National Security Operations Center/ELINT Watch Officer (NSOC/EWO) in the intelligence cycle. Meas W

3.2.6 - Identify basic facts and terms about the mission, function, and responsibility of the Tasking Authority in the intelligence cycle. Meas W

3.3 - Identify basic facts and terms about the roles, responsibilities, products, and missions of S&T Centers and how they support the national SIGINT mission. Meas W

3.4 - Identify basic facts and terms about ELINT support to Electronic Warfare Reprogramming in the intelligence cycle. Meas W

3.5 - Identify basic facts and terms about the mission, function, and organization of the ELINT Community in the intelligence cycle. Meas W

3.6.1 - Identify basic facts and terms about the purpose of SIGINT as an intelligence function. Meas W

3.6.2 - Identify basic facts and terms about the purpose of COMINT as an intelligence function. Meas W

3.6.3 - Identify relationships of basic facts and state principles about the purpose of ELINT as an intelligence function. Meas W

3.6.4 - Identify basic facts and terms about the purpose of FISINT as an intelligence function. Meas W

3.6.5 - Identify basic facts and terms about the purpose of PROFORMA as an intelligence function. Meas W

3.6.6 - Identify basic facts and terms about the purpose of HUMINT as an intelligence function. Meas W

3.6.7 - Identify basic facts and terms about the purpose of IMINT as an intelligence function. Meas W

3.6.8 - Identify basic facts and terms about the purpose of MASINT as an intelligence function. Meas W

3.6.9 - Identify basic facts and terms about the purpose of Digital Network Intelligence as an intelligence function. Meas W

3.6.10 - Identify basic facts and terms about the purpose of Open Source Intelligence (OSINT) and Foreign Materiel Exploitation (FME). Meas W

3.7.1 - Identify relationships of basic facts and state principles about the difference between strategic and tactical intelligence as found in OPELINT. Meas W

3.7.2 - Identify relationships of basic facts and state principles about the difference between strategic and tactical intelligence as found in TECHELINT. Meas W

3.8.1 - Identify basic facts and terms about Computer Network Initiatives associated with Information Operations (IO) construct. Meas W

3.8.2 - Identify basic facts and terms about ISR, collection and dissemination activities associated with Information Operations (IO) construct. Meas W

3.9.1 - Identify relationships of basic facts and state principles about the purpose and function of Electronic Warfare Support (ES). Meas W

3.9.2 - Identify basic facts and terms about the methods and techniques of Electronic Attack (EA). Meas W

3.9.3 - Identify basic facts and terms about the role of Electronic Protection as applied to Defensive Counterinformation operations. Meas W

4 - Provided lecture/demonstration, solve problems using mathematical formulas and radar parameters. Meas P

5.1 - Identify relationships of basic facts and state principles about relationships, properties, characteristics, and aspects of EM energy, waveforms, and modulation. Meas W

5.2.1 - Identify relationships of basic facts and state principles about electromagnetic energy. Meas W

5.2.2 - Identify relationships of basic facts and state principles about electromagnetic spectrum. Meas W

5.2.3 - Identify relationships of basic facts and state principles about radio frequency (RF). Meas W

5.2.4 - Identify relationships of basic facts and state principles about RF spectrum. Meas W

5.3.1.1 - Identify relationships of basic facts and state principles about a cycle. Meas W

5.3.1.2 - Identify relationships of basic facts and state principles about a period. Meas W

5.3.1.3 - Identify relationships of basic facts and state principles about wavelength. Meas W

5.3.1.4 - Identify relationships of basic facts and state principles about frequency. Meas W

5.3.1.5 - Identify relationships of basic facts and state principles about phase (angle/frequency). Meas W

5.3.2.1 - Identify relationships of basic facts and state principles about linear/non-linear mixing. Meas W

5.3.2.2 - Identify basic facts and terms about Fourier components/series. Meas W

5.3.2.3 - Identify relationships of basic facts and state principles about bandwidth. Meas W

5.3.2.4 - Identify relationships of basic facts and state principles about pulse characteristics. Meas W

5.3.3 - Identify basic facts and terms about signal-to-noise ratio. Meas W

5.4.1 - Identify relationships of basic facts and state principles about aspects of amplitude modulation associated with electromagnetic energy. Meas W

5.4.2.1 - Identify relationships of basic facts and state principles about aspects of frequency related to angle modulation and associated with electromagnetic energy. Meas W

5.4.2.2 - Identify relationships of basic facts and state principles about aspects of phase related to angle modulation and associated with electromagnetic energy. Meas W

5.4.3.1 - Identify relationships of basic facts and state principles about aspects of pulse amplitude modulation associated with electromagnetic energy. Meas W

5.4.3.2 - Identify relationships of basic facts and state principles about aspects of pulse frequency modulation associated with electromagnetic energy. Meas W

5.4.3.3 - Identify relationships of basic facts and state principles about aspects of pulse code modulation associated with electromagnetic energy. Meas W

5.4.3.4 - Identify relationships of basic facts and state principles about aspects of pulse duration modulation associated with electromagnetic energy. Meas W

5.4.3.5 - Identify relationships of basic facts and state principles about aspects of pulse position modulation associated with electromagnetic energy. Meas W

5.4.3.6 - Identify relationships of basic facts and state principles about aspects of pulse group modulation associated with electromagnetic energy. Meas W

5.4.4.1 - Identify basic facts and terms about multiple (simultaneous) RF relating to RF agile radar signals. Meas W

5.4.4.2 - Identify basic facts and terms about spread spectrum relating to RF agile radar signals. Meas W

5.4.4.3 - Identify basic facts and terms about RF hopping relating to RF agile radar signals. Meas W

5.5.1 - Identify basic facts and terms about the characteristics of antenna types. Meas W

5.5.2 - Identify basic facts and terms about the characteristics of antenna impedance. Meas W

5.5.3 - Identify basic facts and terms about the characteristics of antenna patterns. Meas W

5.5.4 - Identify basic facts and terms about the characteristics of antenna bandwidth. Meas W

5.5.5 - Identify basic facts and terms about the characteristics of antenna beamwidth. Meas W

5.5.6 - Identify basic facts and terms about the characteristics of antenna gain. Meas W

5.5.7 - Identify basic facts and terms about the characteristics of antenna polarization. Meas W

5.5.8 - Identify basic facts and terms about the characteristics of antenna reciprocity. Meas W

5.5.9 - Identify basic facts and terms about the characteristics of antenna directivity. Meas W

5.5.10 - Identify basic facts and terms about the characteristics of antenna transmission lines. Meas W

5.5.11 - Identify basic facts and terms about the characteristics of antenna arrays. Meas W

5.5.12 - Identify basic facts and terms about the characteristics of antenna functions. Meas W

5.6.1 - Identify basic facts and terms about the aspects of radio wave propagation characteristics (absorption, reflection, refraction, scatter, noise, and diffraction). Meas W

5.6.2 - Identify basic facts and terms about the aspects of radio wave propagation by atmospheric layers. Meas W

6.1.1.1 - Provided lecture/demonstration, measure time and frequency domain characteristics of a pulsed waveform operating an oscilloscope and determine signal characteristics. Meas P

6.1.1.2 - Provided lecture/demonstration, measure time and frequency domain characteristics of a pulsed waveform operating a spectrum analyzer and determine signal characteristics. Meas P

6.1.1.3 - Provided lecture/demonstration, measure time and frequency domain characteristics of a pulsed waveform operating a counter and determine signal characteristics. Meas P

6.1.1.4 - Provided lecture/demonstration, measure time and frequency domain characteristics of a pulsed waveform operating a PLO/PRF synthesizer and determine signal characteristics. Meas P

6.1.1.5 - Provided lecture/demonstration, measure time and frequency domain characteristics of a pulsed waveform operating a signal modifier and determine signal characteristics. Meas P

6.1.1.6.1 - Provided lecture/demonstration, calculate the bandwidth of an analog signal using measured parameters using analog equipment. Meas P

6.1.1.6.2 - Provided lecture/demonstration, measure the PRI/PRF of an analog signal using analog equipment. Meas P

6.1.1.6.3 - Provided lecture/demonstration, measure the PD/PW of an analog signal using analog equipment. Meas P

6.1.1.6.4 - Provided lecture/demonstration, calculate the duty cycle of an analog signal using measured parameters using analog equipment. Meas P

6.1.1.6.5 - Provided lecture/demonstration, determine the scan type of an analog signal using analog equipment. Meas P

6.1.1.6.6 - Provided lecture/demonstration, measure the appropriate frequency spectrum parameters of an analog signal using analog equipment. Meas P

6.1.1.6.7 - Provided lecture/demonstration, determine the pulse train characteristics of an analog signal using analog equipment. Meas P

6.1.1.6.8 - Provided lecture/demonstration, measure the intrapulse modulation parameters of an analog signal using analog equipment. Meas P

6.1.1.6.9 - Provided lecture/demonstration, measure the pulse Doppler pulse train parameters of an analog signal using analog equipment. Meas P

6.1.1.6.10 - Provided lecture/demonstration, document descriptive and measurable signal characteristics for an analog signal. Meas P

6.1.2.1 - Provided lecture/demonstration, determine intrapulse modulation of a signal using Continuous Analog to Digital (CAD) and Burst Analog to Digital (BAD) digitized data. Meas P

6.1.2.2 - Provided lecture/demonstration, determine intrapulse modulation of a signal using Time Based Data (TBD) digitized data. Meas P

6.1.2.3.1 - Provided lecture/demonstration, calculate the bandwidth of a digitized signal using measured parameters. Meas P

6.1.2.3.2 - Provided lecture/demonstration, measure the PRI/PRF of a signal using digitized signal data. Meas P

6.1.2.3.3 - Provided lecture/demonstration, measure the PD/PW of a signal using digitized signal data. Meas P

6.1.2.3.4 - Provided lecture/demonstration, calculate the duty cycle of a digitized signal using measured parameters. Meas P

6.1.2.3.5 - Provided lecture/demonstration, determine the scan type of a signal using digitized data. Meas P

6.1.2.3.6 - Provided lecture/demonstration, measure the appropriate scan parameters (time/rate, lobe duration, beamwidth, etc.) of a signal using digitized data. Meas P

6.1.2.3.7 - Provided lecture/demonstration, measure the frequency spectrum parameters of a signal using digitized data. Meas P

6.1.2.3.8 - Provided lecture/demonstration, measure the pulse train characteristics of a signal using digitized data. Meas P

6.1.2.3.9 - Provided lecture/demonstration, measure the pulse Doppler pulse train parameters of a signal using digitized data. Meas P

6.1.2.3.10 - Provided lecture/demonstration, measure the intrapulse modulation parameters of a signal using digitized data. Meas P

6.1.2.3.11 - Provided lecture/demonstration, document descriptive and measurable characteristics of a signal. Meas P

6.1.3 - Identify basic facts and terms about principles of analog signal processing. Meas W

6.1.4 - Identify basic facts and terms about principles of digital signal processing. Meas W

7.1 - Identify relationships of basic facts and state general principles about radar component functions and their limitations. Meas W

7.2.1 - Identify basic facts and terms about the definition of radar. Meas W

7.2.2 - Identify relationships of basic facts and state general principles about radar operation. Meas W

7.2.3 - Identify basic facts and terms about the radar range equation. Meas W

7.3.1 - Identify relationships of basic facts and state general principles about radar signal processing measurable characteristics. Meas W

7.3.2 - Identify relationships of basic facts and state general principles about radar signal processing descriptive characteristics. Meas W

7.3.3 - Identify relationships of basic facts and state general principles about additional radar signal processing intercept parameters. Meas W

7.3.4 - Identify relationships of basic facts and state general principles about the radar resolution cell. Meas W

7.3.5 - Identify relationships of basic facts and state general principles about radar velocity resolution. Meas W

7.3.6 - Identify relationships of basic facts and state general principles about a simple pulsed radar block diagram. Meas W

7.3.7 - Identify relationships of basic facts and state general principles about a radar presentation system. Meas W

7.4.1 - Identify relationships of basic facts and state general principles about CW/FM-CW modulation. Meas W

7.4.2.1 - Identify relationships of basic facts and state general principles about AMOP. Meas W

7.4.2.2 - Identify relationships of basic facts and state general principles about FMOP. Meas W

7.4.2.3 - Identify relationships of basic facts and state general principles about PMOP. Meas W

7.4.2.4 - Identify relationships of basic facts and state general principles about LFMOP. Meas W

7.4.3.1 - Identify relationships of basic facts and state principles about pulse sliding, stepping, and dwell/switch modulation. Meas W

7.4.3.2 - Identify relationships of basic facts and state principles about pulse jitter modulation. Meas W

7.4.3.3 - Identify relationships of basic facts and state principles about pulse stagger modulation. Meas W

7.4.3.4 - Identify relationships of basic facts and state principles about pulse group modulation. Meas W

7.4.4 - Identify basic facts and terms about principles of pulse code modulation. Meas W

7.4.5 - Identify basic facts and terms about principles of pulse Doppler modulation. Meas W

7.5.1 - Identify relationships of basic facts and state principles about radar radio frequency characteristics and parameters. Meas W

7.5.2 - Identify relationships of basic facts and state principles about radar modulation type, pulses per group characteristics and parameters. Meas W

7.5.3 - Identify relationships of basic facts and state principles about radar pulse repetition frequency characteristics and parameters. Meas W

7.5.4 - Identify relationships of basic facts and state principles about radar pulse recurrence interval characteristics and parameters. Meas W

7.5.5 - Identify relationships of basic facts and state principles about radar pulse group repetition frequency characteristics and parameters. Meas W

7.5.6 - Identify relationships of basic facts and state principles about radar pulse group recurrence interval characteristics and parameters. Meas W

7.5.7 - Identify relationships of basic facts and state principles about radar pulse duration/width characteristics and parameters. Meas W

7.5.8 - Identify relationships of basic facts and state principles about radar scan type characteristics and parameters. Meas W

7.5.9 - Identify relationships of basic facts and state principles about radar scan period characteristics and parameters. Meas W

7.5.10 - Identify relationships of basic facts and state principles about radar illumination rate characteristics and parameters. Meas W

7.5.11 - Identify relationships of basic facts and state principles about radar lobe duration characteristics and parameters. Meas W

7.5.12 - Identify basic facts and terms about principles of radar beamwidth characteristics and parameters. Meas W

7.5.13 - Identify basic facts and terms about principles of radar frame/channel rate characteristics and parameters. Meas W

7.5.14 - Identify basic facts and terms about principles of radar bandwidth characteristics and parameters. Meas W

7.6.1.1 - Identify relationships of basic facts and state principles about air bombing radar system functions. Meas W

7.6.1.2 - Identify relationships of basic facts and state principles about air mapping radar system functions. Meas W

7.6.1.3 - Identify relationships of basic facts and state principles about airborne fire control radar system functions. Meas W

7.6.2.1 - Identify relationships of basic facts and state principles about landbased early warning radar system functions. Meas W

7.6.2.2 - Identify relationships of basic facts and state principles about landbased battlefield surveillance radar system functions. Meas W

7.6.2.3 - Identify relationships of basic facts and state principles about landbased antiaircraft artillery radar system functions. Meas W

7.6.2.4 - Identify relationships of basic facts and state principles about landbased fire control radar system functions. Meas W

7.6.2.5 - Identify relationships of basic facts and state principles about landbased missile control radar system functions. Meas W

7.6.2.6 - Identify relationships of basic facts and state principles about landbased controlled intercept radar system functions. Meas W

7.6.2.7 - Identify relationships of basic facts and state principles about landbased coastal surveillance radar system functions. Meas W

7.6.3.1 - Identify relationships of basic facts and state principles about shipborne early warning, surface search, and navigation radar system functions. Meas W

7.6.3.2 - Identify relationships of basic facts and state principles about shipborne fire control radar system functions. Meas W

7.6.4 - Identify relationships of basic facts and state principles about Integrated Air Defense Systems (IADS) functions. Meas W

7.6.5 - Identify relationships of basic facts and state principles about space and range instrumentation system functions. Meas W

7.6.6 - Identify relationships of basic facts and state principles about moving target indicator/moving target detection radar systems functions. Meas W

7.6.7 - Identify relationships of basic facts and state principles about multifunction radar systems functions. Meas W

7.6.8 - Identify relationships of basic facts and state principles about jammer (active/passive) systems functions. Meas W

7.7 - Identify basic facts and terms about characteristics associated with Wartime Reserve Mode (WARM). Meas W

7.8.1 - Provided lecture/demonstration, identify probable (typical) function or purpose of a radar based on operational parameters. Meas P

7.8.2 - Provided lecture/demonstration, associate emitters to a threat system and/or platform. Meas P

7.8.3.1 - Provided lecture/demonstration, identify emanating site by using the Electronic Order of Battle (EOB). Meas P

7.8.3.2 - Provided lecture/demonstration, identify emanating platform by using the Electronic Weapons Fit (EWF). Meas P

7.8.4 - Identify basic facts and terms about resources, tools, and procedures used to correlate emitter intercept reports with EOB site/set, platform, and weapon system. Meas W

7.9.1 - Identify basic facts and terms about crystal controlled emitters correlated to associated landbased, airborne, and/or shipborne hostile platforms. Meas W

7.9.2 - Identify basic facts and terms about non-crystal controlled emitters correlated to associated landbased, airborne, and/or shipborne hostile platforms. Meas W

7.9.3 - Identify basic facts and terms about Unintentional Modulation on the Pulse (UMOP) correlated to associated landbased, airborne, and/or shipborne hostile platforms. Meas W

8.1 - Identify basic facts and terms about relationships, properties, characteristics and aspects of orbiting bodies. Meas W

8.2 - Identify basic facts and terms about general laws pertaining to orbital mechanics. Meas W

8.3 - Identify basic facts and terms about orbital parameters. Meas W

8.4 - Identify basic facts and terms about orbits used by SIGINT collectors. Meas W

8.5 - Identify basic facts and terms about characteristics and factors that effect satellite orbits. Meas W

9.1.1 - Identify basic facts and terms about national SIGINT collection systems/platforms. Meas W

9.2.1 - Identify basic facts and terms about airborne SIGINT collection systems/platforms. Meas W

9.3.1 - Identify basic facts and terms about terrestrial SIGINT collection systems/platforms. Meas W

10.1 - Identify basic facts and terms about the ELINT collection process. Meas W

10.2 - Identify basic facts and terms about the ELINT signal collection system components. Meas W

10.3 - Identify basic facts and terms about the ELINT signal collection techniques. Meas W

10.4 - Identify basic facts and terms about manual ELINT signal collection systems. Meas W

10.5 - Identify basic facts and terms about automatic ELINT signal collection systems. Meas W

10.6 - Identify basic facts and terms about semiautomatic ELINT signal collection systems. Meas W

10.7 - Identify basic facts and terms about storage media and methods to include upstream and downstream monitoring. Meas W

10.8 - Identify basic facts and terms about down conversion. Meas W

10.9 - Identify basic facts and terms about demodulation. Meas W

10.10 - Identify basic facts and terms about pre-detection. Meas W

10.11 - Identify basic facts and terms about AM/FM detection. Meas W

10.12 - Identify basic facts and terms about center tuning. Meas W

11.1 - Provided lecture/demonstration, perform data processing using mapping tools, algorithms, ELINT and other intelligence reports, and display tools. Meas P

11.2 - Provided lecture/demonstration, extract data from ELINT reports. Meas P

11.3 - Provided lecture/demonstration, perform data manipulation and correlation. Meas P

11.4.1 - Provided lecture/demonstration, map/correlate activity level to a location. Meas P

11.4.2 - Provided lecture/demonstration, correlate activity to a command level. Meas P

11.5.1 - Identify basic facts and terms about INTELINK. Meas W

11.5.2 - Identify basic facts and terms about GALE-LITE. Meas W

11.5.3 - Identify basic facts and terms about MARTES. Meas W

11.5.4 - Identify basic facts and terms about K2000 Signal Visualization. Meas W

11.6.1 - Identify basic facts and terms about KILTING/EWIRDB. Meas W

11.6.2 - Identify basic facts and terms about WRANGLER EIDB. Meas W

11.6.3 - Identify basic facts and terms about NEDB. Meas W

11.6.4 - Identify basic facts and terms about NSRL. Meas W

11.6.5 - Identify basic facts and terms about TECGM. Meas W

11.6.6 - Identify basic facts and terms about MIDB and EOB. Meas W

11.6.7 - Identify basic facts and terms about STAR SAPPHIRE. Meas W

11.7 - Provided lecture/demonstration, identify ELINT signals using appropriate reference documents, tools and databases. Meas P

11.8 - Provided lecture/demonstration, identify Arbitrary ELINT Notation or Parametrically Ordered ELINT Notation signals using the TRAP and TADIXS-B User's Guide. Meas P

11.9 - Provided lecture/demonstration, with assistance, determine collection, processing, analysis and/or reporting requirements, and/or procedures using the USSID system. Meas P

12 - Identify basic facts and terms about Intelligence Preparation of the Battlespace (IPB). Meas W

13.1.1 - Provided lecture/demonstration, measure distance on a map/chart using plotting techniques. Meas P

13.1.2 - Provided lecture/demonstration, determine UTM grid coordinates using plotting techniques. Meas P

13.1.3 - Provided lecture/demonstration, determine latitude and longitude using plotting techniques. Meas P

13.2 - Provided lecture/demonstration, identify topographic symbols on a military chart. Meas P

13.3 - Identify basic facts and terms about the creation of a finished intelligence product from all-source data. Meas W

13.4.1 - Identify relationships of basic facts and state principles about the JINTACCS reporting system. Meas W

13.4.2 - Identify relationships of basic facts and state principles about the UNIFORM reporting system. Meas W

13.4.3 - Identify relationships of basic facts and state principles about the UNIFORM-C reporting system. Meas W

13.4.4 - Identify relationships of basic facts and state principles about Product Verification Requests (PVR). Meas W

13.5.1 - Identify relationships of basic facts and state principles about the TDDS/TRE reporting mechanism. Meas W

13.5.2 - Identify basic facts and terms about the TADIXS-B reporting mechanism. Meas W

13.5.3 - Identify basic facts and terms about the CRITICOM reporting mechanism. Meas W

13.5.4 - Identify basic facts and terms about the TIBS reporting mechanism. Meas W

13.5.2 - Identify basic facts and terms about the IBS reporting mechanism. Meas W

Section C – Support Material

NOTE: There are currently no support material requirements. This area is reserved.

Section D - Training Course Index

1. Purpose. This section of the CFETP identifies training courses available for the specialty.

2. Air Force Courses. The following table is not all-inclusive. Refer to Air Force Education and Training Course Announcements (ETCA) located at http://hq2af.keesler.af.mil/etca.htm for a complete listing of courses available to the 1N5X1 AFS.

COURSE NUMBER	TITLE	LOCATION	USER
X3ABR1N531 005 [1]	Electronic Signals Intelligence Exploitation Apprentice	Goodfellow AFB	USAF
X5AZA1N551 007	Telemetry Collection Operations	Ft. Huachuca	US AF
1	Airman Leadership School		USAF
1	USAF NCOA		USAF
MAFSNCOA 100 [1]	USAF SNCOA	Gunter AFS	USAF
X5AZN1N551 002	National Operational ELINT Course	Corry Station	USAF
X3OZR14N3 001	CONSTANT SOURCE Operations	Goodfellow AFB	USAF
1N551 Career Development Course [1,2]	Electronic Signals Intelligence Exploitation Journeyman (5-Skill Level Career Development Course)	Goodfellow AFB	USAF
1N571 Career Development Course [3]	Electronic Signals Intelligence Exploitation Craftsman (7-Skill Level Career Development Course) (When available)	Goodfellow AFB	US AF

NOTES: [1] - Air Force courses that are **MANDATORY**.
[2] - Available through the unit Training Manager.
[3] - Course will be mandatory when available.

3. National Cryptologic School (NCS) In-Residence Courses: The following table is not all-inclusive. Refer to the NCS Catalog for a complete listing of available NCS courses. While most of these courses are taught at the NCS, many are available through the Adjunct Faculty Program.

FORMER COURSE NUMBER	NEW NCS DESIGNATOR	TITLE
CY-200	CROR3200	Senior Enlisted Cryptologic Course
EA-003	None Available	Short Duration Signals Recognition
EA-005	SIGF1000	FISINT Orientation
EA-050	SIGF2020	Introduction to Telemetry Analysis
EA-99/100	SIGA2800	Basic Signals Technology
EA-106	None Available	Introduction to Digital Signals Analysis

EA-161	SIGC3201	Fundamentals of Spread Spectrum
EA-163	SIGA2400	Shift Register Generated Sequences
EA-166	SIGA2110	Spectrum Analysis
EA-168	None Available	Multiplexing Technology
EA-171	SIGG2160	Antenna Fundamentals
EA-176	SIGF3300	Introduction to Spacecraft Analysis
EA-178	None Available	Satellite Communications Systems
EA-181	None Available	Fundamentals of Digital Signal Processing
EA-186	SIGA3100	Concepts in Modulation and Demodulation
EA-220	None Available	Telemetry Internals Analysis
EA-221	SIGF3400	FIS Externals Analysis
EA-264	None Available	Satellite Seminar
EA-265	None Available	The National SIGINT System
EA-280	SIGE3810	Intermediate Technical ELINT Analysis
EA-281	SIGE3820	ELINT Digital Analysis Training
EA-301	SIGE4820	Interpretive ELINT Analysis
EA-305	None Available	Signals Analysis: Contemporary Issues
EA-380	SIGE4810	Advanced ELINT Collection/Analysis
ED-101	EDUC2501	Training Methods for Cryptologic Instructors
EG-55	None Available	Effective Agency Writing I
EG-155	None Available	Effective Agency Writing II
EG-243	None Available	Briefing Skills
IR-100	RSCH1201	Information Resources
IS-180	RPTG2180	Introduction to SIGINT Reporting
IS-231	None Available	Information Operations Analysis and Reporting
TA-274	None Available	OILSTOCK Introductory Training
TM-201	NETC2002	Principles of Collection and Collection Management

4. NCS Self-Paced Exportable Courses:

FORMER COURSE NUMBER	**NEW NCS DESIGNATOR**	**TITLE**
EA-009	None Available	Introduction to Signals Technology
EA-010	None Available	Introduction to SIGINT Technology
EA-011	None Available	Survey of Earth Satellites and Space Probes
EA-012	None Available	Survey of Missile and Space Launch Vehicles
EA-030	None Available	Introduction of Multichannel Technology
EA-162	SIGG2100	Modulation Methods

EA-164	None Available	Introduction to Satellites
EA-183	MATH1030	Mathematics for SIGINT
EA-190	None Available	Digital Communications
EA-279	SIGE2810	Fundamentals of TECHELINT
EC-124	NETC1201	Introduction to COMSAT
MA-Z10	MATH1011	Mini-Course in Statistics
MP-102	None Available	Computers at Work: Concepts and Applications
MP-119	COMP1119	Introduction to UNIX
TM-101	NETC2101	Introduction to Collection Management

5. Agency Education Programs:

COURSE NUMBER	TITLE
MESAP	Military ELINT Signals Analyst Program (MESAP): This program is an advanced level program. Upon completion, individuals are NSA-certified signals analysis and ELINT specialist.

DEFENSE INTELLIGENCE AGENCY JOINT MILITARY INTELLIGENCE COLLEGE

UGIP	Under-Graduate Intelligence Program (UGIP): The UGIP prepares selected military intelligence professionals for national- and joint-level assignments through study of strategic intelligence.
PGIP	Post-Graduate Intelligence Program (PGIP): The PGIP is a professional post-baccalaureate program in strategic intelligence which prepares military intelligence professionals for national- and joint-level assignments.

NOTE: AFI 14-106, Intelligence Research, Education and Training Programs, provides information on advanced education programs listed above and other higher education programs.

Section E - MAJCOM Unique Requirements

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