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SCIENTIFIC APPLICATIONS SPECIALIST

CAREER FIELD EDUCATION AND TRAINING PLAN

CAREER FIELD EDUCATION AND TRAINING PLAN (CFETP)
SCIENTIFIC APPLICATIONS SPECIALIST
RI 9S100

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REPORTING IDENTIFIER 9S100
CAREER FIELD EDUCATION AND TRAINING PLAN

Part I

Preface

1. This Career Field Education and Training Plan (CFETP) is a comprehensive education and training document that identifies life-cycle education/training requirements, and training support resources. The CFETP will provide personnel a clear career path to success and will instill rigor in all aspects of career field training. Note: Due to the diversity of the career field no core tasks are identified. Civilians and Senior Noncommissioned Officers occupying associated duty 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 reporting identifier (RI). **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 RI qualifications (knowledge, education, training…); **Section D** indicates resource constraints: some examples are funds, manpower, equipment, facilities; **Section E**, when used, identifies transition training guide requirements.

2.2. **Part II** includes the following: **Section A** identifies the Job Educational Training Standard (JETS) and includes duties, tasks, technical references to support training, Air Education and Training Command (AETC) conducted training, wartime course, and correspondence course requirements; **Section B** contains the course objective list and training standards supervisors will use to determine if airmen satisfied training requirements; **Section C** identifies available support materials. **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 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 RI 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 the 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

9S100 RI Manager. An individual on the Headquarters US Air Force (HAF) staff responsible for daily management of RI 9S100 training, force development, and management programs as delegated by the AFCFM. Responsibilities include coordination with command functional managers, technical training center personnel, and Air Force personnel resource managers. This includes identifying the task requirements and training for an Air Force specialty or occupational series.

Advanced Training (AT). Formal course which provides individuals, qualified in one or more positions of their Air Force specialty (AFS) or RI, with additional skills/knowledge to enhance their expertise; training is for selected career Airmen at the advanced level of the AFS/RI.

Air Force Career Field Manager (AFCFM). An individual on the HAF staff who has overall responsibility for all training, development, and management of a career field family (ex. 1NXXX). Responsibilities include coordination with command functional managers, technical training center personnel, and Air Force personnel resource managers. This includes approving task requirements and training for an Air Force specialty or occupational series.

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

Air Force Institute of Technology (AFIT). Located at Wright-Patterson AFB, Ohio, AFIT is the Air Force's graduate school of engineering and management as well as its institution for technical professional continuing education. A component of Air University, AFIT is committed to providing defense-focused graduate and professional continuing education and research to sustain the technological supremacy of America's air and space forces. AFIT provides advanced education opportunities for both officer and enlisted personnel.

Air Force Specialty (AFS). A group of duty positions that require common qualifications identified by a title and code. Each AFS is assigned an AFS code (AFSC), to identify a specific career field and qualification level for Air Force officers and enlisted personnel.

Air Force Specialty Code (AFSC)/Reporting Identifier (RI). A combination of alpha-numeric characters which are used to identify a specific career field and qualification level for Air Force officers and enlisted personnel.

Air Force Specialty Manager (AFSM). An individual on the HQ USAF staff responsible for daily management of a respective Air Force specialty (AFS), special duty identifier (SDI), or reporting identifier (RI) training, force development, and management programs as delegated by the AFCFM. Responsibilities include coordination with command functional managers, technical training center personnel, and Air Force personnel resource managers. This includes identifying the task requirements and training for an Air Force specialty or occupational series.

Armed Services Vocational Aptitude Battery (ASVAB). The ASVAB evaluates specific aptitude areas and gives percentile scores that are used for selecting and classifying individuals for the Armed Forces. For Air Force requirements, selected ASVAB subtests yield four broad aptitude scores: mechanical, administrative, general, and electronic.

Career Development Course (CDC). Self-paced, correspondence course published to provide the information necessary to satisfy the career knowledge component of on-the-job training (OJT). These courses are developed from references identified in the CFETP correlating with mandatory knowledge items listed in the Air Force Enlisted Classification Guide. CDCs will contain

information on basic principles, techniques, and procedures common to an AFSC. They do not contain information on specific equipment or tasks unless best illustrating a procedure or technique having utility to the entire AFSC.

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.

Chief Enlisted Manager (CEM) Code. A five-digit code ending in 00 to identify CMSgts and CMSgt-selects as top enlisted managers in both highly technical skills and in broad areas of managerial competence. As a reporting identifier, CEM codes are not available to the RI 9S100 career field.

Continuation Training. Additional training that exceeds requirements with emphasis on present or future duty assignments.

Course Objective List (COL). A publication, derived from initial/advanced skills course training standard, identifying the tasks and knowledge requirements, and respective standards provided to achieve a 3-5-7-skill level in a career field. Supervisors use the COL to assist in conducting graduate evaluations in accordance with AFI 36-2201, *Air Force Training Program.*

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

Field Evaluation Questionnaire (FEQ) / Field Evaluation Questionnaire Summary (FEQs). FEQs are an extensive survey based on the CFETP to determine how well the formal training met the apprentice levels outlined in the CFETP. This survey is sent approximately 6 months after graduation to the Base Education and Training manager, if unclassified, or direct to the unit training manager, if classified. FEQs summarize questionnaire results.

Field Technical Training (FTT). Special or regular on-site training conducted by a field training detachment (FTD) at a Formal Training Unit (FTU) or by a mobile training team (MTT).

Initial Skills Training. A basic, formal, in-residence course leading to the award of a 3-skill level AFSC. For this RI, prepares Airmen for duties based upon the requirements of their specific duty assignment. It is technique-specific modular training.

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

Job Educational Training Standard (JETS). A comprehensive task list describing skills and knowledge that an airman in the RI needs to perform the job. The JETS is used by supervisors to document task qualifications. It further serves as a contract between the Air Education and Training Command and the user to show overall training requirements for RI 9S100 taught in formal schools and correspondence courses.

Job Knowledge Development Course (JKDC). A correspondence course previously used by RI 9S100 supervisors and trainers to fulfill the knowledge portion of On-the-Job Training (OJT) requirements for follow-on and qualification training. JKDC 9S100 was deactivated 15 April 2016.

Job Qualification Standard (JQS). A comprehensive task list that describes a particular job type or duty position. It is used by supervisors to document task qualifications. JQS tasks are common to all persons serving in the described duty position.

MAJCOM Functional Manager (MFM). An individual at the MAJCOM/COCOM activity command-level who is responsible for identifying task and training requirements for an AFS or occupational series and is responsible for validating intelligence, surveillance, and reconnaissance (ISR) requirements, command assignment entitlements, technical school graduate assignments, and matching available manpower resources to meet MAJCOM needs.

Masters of Science and Technology Intelligence (MSTI). The MSTI program confers a graduate degree by completing 600 and 700 level courses, plus a master's thesis on a science and technology intelligence related topic from the National Intelligence University located on the Intelligence Community Campus-Bethesda in Bethesda, Maryland. This program is offered on a full-time or part-time basis. This graduate program is open to Air Force active duty, ANG and reserve in the grades of E-5 through E-9, O-2 through O-4, and civilian counterparts.

Modular Training. Due to diversification, this RI uses a modular training program located at Goodfellow AFB TX. Students entering the RI receive core knowledge at the Fundamentals course, and then enter a module for performance skills/knowledge required for their assigned job. This design ensures up-to-date skills and knowledge training that meets mission needs and reduces excess training time. The RI Manager, MFM, and supervisors should review individual records upon notification of assignment to ensure Airmen receive the appropriate training. An individual who is moving to a new mission area or has not worked in a previously qualified mission area (for four years or more) should be considered for the appropriate modular training.

National Intelligence University (NIU). NIU is an accredited academic institution established by the Department of Defense to prepare intelligence, surveillance, and reconnaissance (ISR) professionals for Joint, Air Staff, and MAJCOM level positions. This is a center of excellence for educating military and civilian professionals and conducting and disseminating ISR-related research. National Intelligence University website: <http://ni-u.edu/wp/>.

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

Proficiency Training. Additional training (in-residence, exportable advanced training courses, or on-the-job training) provided to personnel to increase their skills and knowledge.

Qualification Training (QT). Actual hands-on task performance training designed to qualify an individual in a specific duty position. It is designed to provide the performance skills required to do the job.

Qualification Training Package (QTP). An instructional package designed for use 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 other audio-visual media.

Reporting Identifier (RI). Established primarily to identify conditions or jobs where a specific specialty description is not practical, and are awarded or designated to denote qualification or to report a condition the same way AFSCs are awarded.

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

Special Experience Identifier (SEI). A code used to identify special experience and training not otherwise identified within the military personnel data system (MilPDS). SEIs complement the assignment process but are not substitutes for AFSCs, CEM codes, prefixes, suffixes, SDIs, RIs, personnel processing codes, and professional specialty course codes. They are established when identifying experience or training is critical to the job and person assignment match, and no other identification is appropriate or available.

Specialty Requirements Training Team (STRT)/Utilization and Training Workshop (U&TW). A forum co-chaired by the AFCFM and AF Training Pipeline Manager comprised of MAJCOM Functional Managers, Subject Matter Experts (SMEs), and AETC training personnel that determine education and training requirements and establishes the most effective mix of formal and on-the-job training for each AFSC. The forum will create or revise training standards, and set responsibilities for providing training. As a quality control tool, the STRT/U&TW will be used to ensure the validity and viability of the AFS training that determines career ladder training requirements.

Specialty Training. A mix of formal training (technical school) and informal training (on-the-job) to qualify Airmen in modular qualification and the award of the RI.

Standard. An exact value, or a physical quality, established and defined by authority, custom, or common consent to serve as a reference, model, or rule in measuring quantities or qualities, in order to establish practices or procedures, or to evaluate results.

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

Task-Oriented Training. Advanced training that emphasizes hands-on practice with the applicable equipment and performance of maintenance tasks.

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

Section A - General Information

1. Purpose of the CFETP. This CFETP provides information for the AFCFM, RI Manager, MFMs, commanders, training managers, supervisors and trainers to plan, develop, manage, and conduct an effective career field training program. This plan outlines the training individuals in this RI should receive in order to develop and progress throughout their career. This plan identifies initial skills, qualification, advanced, and proficiency training. **Initial skills training** is the RI specific training an individual receives upon entry into the Air Force or upon retraining into this RI. Normally, this training is conducted by AETC at one of the technical training centers. **Qualification training** is actual hands-on task performance training designed to qualify an Airman in a specific duty position. It is designed to provide the performance skills/knowledge required to do the job. **Advanced training** is formal specialty training used for selected Airmen. **Proficiency training** is additional training, either in-residence or exportable advanced training courses, or on-the-job training, provided to personnel to increase their skills and knowledge beyond the minimum required. The CFETP has several purposes, some are:

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 in the specialty and recommends education/training throughout each phase of an individual's career.

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

1.4. Identifies major resource constraints impacting full implementation of the desired career path training process.

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

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 and RI Manager 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 and proficiency requirements. Identified requirements can be satisfied by OJT, resident training, contract training, or exportable courses. MAJCOM-developed training to support this RI must be identified for inclusion into this 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 of the CFETP. The AFCFM is the approval authority. The RI Manager, MAJCOM representatives, and AETC training personnel will identify and coordinate on the career field training requirements. The AETC training manager for this RI will initiate an annual review of this document by AETC and MFMs to ensure currency and accuracy. Using the list of

courses in Part II, AETC will eliminate duplicate training.

Section B – Information and Career Progression

4. Report Identifier Description

4.1. Reporting Identifier Summary. Enlisted airmen that apply leading edge physical sciences on a variety of systems and platforms. They perform data collection, analysis, observation, acquisition, maintenance, research and development, laboratory functions, and fielding of prototype and operational sensors on (including, but not limited to) specialized geophysical, nuclear radiation, radiochemical, electro-optical, radio frequency, infrared, radar, and rapidly deployable and fixed airborne collection platforms. Airmen also process and analyze scientific data to derive, develop, integrate, and report information to customers. Related DoD Occupational Subgroup: 119100.

4.2. Utilization of the Reporting Identifier. The RI 9S100, Scientific Applications Specialist is used to support many different roles across National, Joint, and Air Force mission areas. These specialists bring unique scientific education, aptitude, and critical perspectives to solving complex technological and analytical problems. 9S100s are typically employed in positions where in-depth knowledge and application of physical science is required to perform analysis, operations, R&D, or maintenance procedures necessary to support systems currently employed or advance current technological systems and techniques.

5. Skill/Career Progression. The 9S100 career field is designated an RI due to the unique requirements for managing it and the diversity of duties associated with it. Therefore, this CFETP does not utilize "skill level" progression. Instead this CFETP uses two categories of training: **Initial training** and **Qualification training.**

5.1. Scientific Applications Specialist Duties and Responsibilities. NOTE: The RI is not limited to performing only these duties, evolving mission requirements and classifications prohibit the listing of all possible duties. This is a guide as to what duties and responsibilities 9S100 personnel should be typically performing at each grade.

5.1.1. A1C
A1Cs are expected to master basic RI activities such as: assisting with installing equipment and systems; perform preventive maintenance routines; maintain, repair, modify, and operate equipment and systems; perform analysis, data interpretation, and reporting of various sensor data formats. Work at becoming skilled in the coordination, planning, management, and utilization of available resources. Acquire the aptitude needed to brief senior government, civilian, and military officials and respond to queries from government officials. Increase competence with data collection and analysis efforts of sensor systems. Identify operational trends and problem areas. Provide support in cause identification and resolution. Assist with developing and enforcing safety standards.

5.1.2. SrA
SrA are expected to perform basic RI activities such as: installing equipment and systems; perform preventive maintenance routines; maintain, repair, modify, and operate equipment and systems; perform analysis, data interpretation, and reporting of various sensor data formats. Be able to coordinate, plan, and manage utilization of available resources. Be able to brief senior government, civilian, and military officials and respond to queries from government officials. Direct data

collection and analysis efforts of sensor systems. Identify operational trends and problem areas. Assist in cause identification and resolution. Develop and enforce safety standards.

5.1.3. SSgt

SSgts are primarily highly skilled technicians with supervisory and training responsibilities. They install, operate, and maintain mission equipment and systems. They also perform and supervise analysis, interpretation, and reporting on a variety of sensor data. SSgts may also identify operational trends and problem areas and assist in cause identification and resolution. SSgts must strive for greater supervisory competence and should be given opportunities to demonstrate leadership. They are responsible for the effective accomplishment of all assigned tasks through the proper and effective use of all personnel and material under their control. SSgts typically control work force activities and are directly responsible for enlisted specialty training programs. They ensure proper assignment and availability of personnel as well as establish work standards, methods, and controls. Finally, SSgts develop and enforce safety standards.

5.1.4. TSgt

TSgts are often the technical experts within their mission area and are relied upon for sound supervision and training. TSgts are responsible for achieving maximum performance from each subordinate and ensure the mission is efficiently and effectively accomplished. They are often first line supervisors and direct work center activities including maintenance, data collection, and analysis efforts of sensor systems. TSgts must continue to perfect their technical skills and supervisory techniques. They typically perform and supervise equipment and systems installations, preventive maintenance routines, system maintenance, repairs, modifications, and frequently operate equipment and systems. TSgts supervise analysis, interpretation, and reporting of sensor data and are responsible for directing work force activities. They manage enlisted specialty training programs and ensure proper assignment and availability of personnel. TSgts establish work standards, methods, and controls. Develops and enforces safety standards.

5.1.5. MSgt

MSgts have significantly increased responsibilities which requires a broad technical and managerial perspective. Performs and supervises RI activities. Installs and supervises equipment and systems. Performs and supervises preventive maintenance routines. Maintains, repairs, modifies, and operates equipment and systems. Supervises analysis, interpretation, and reporting of sensor data. Manages RI activities. Coordinates, plans, and manages utilization of available resources. Develops and implements internal guidance, instructions, and policy. Administers and manages support agreements. Coordinates and advises on mission directives and requirements. Directs work force activities. Briefs senior government, civilian, and military officials. Responds to queries from government officials. Directs data collection and analysis efforts of sensor systems. Coordinates between US national-level agencies, cabinet-level/host-government officials, Joint, and HQ USAF for sustaining personnel support, financial management, administration, operations, maintenance, communications, and logistics. Identifies operational trends and problem areas and assists in cause identification and resolution. Manages enlisted specialty training programs. Ensures proper assignment and availability of personnel. Establishes work standards, methods, and controls. Develops and enforces safety standards.

5.1.6. SMSgt

SMSgts bring key institutional, operational, and functional expertise as well as strong leadership skills to their organizations and all assigned tasks. They lead and manage teams to accomplish a wide variety of missions. SMSgts are expected to translate leader's direction into specific tasks and

responsibilities so their teams can understand and execute. They serve in key leadership roles, such as a superintendent where they actively develop their Airmen, NCOs, and SNCOs into the enlisted leaders of the future. SMSgts coordinate, plan, and manage efficient and effective utilization of available resources as well as develop and implement clear, concise guidance, instructions, and policy in addition to administering and managing support agreements. They coordinate and advise senior leadership on mission directives and requirements. 9S100 SMSgts interface with and brief senior government, civilian, and military officials and act on queries from those and other officials. They direct and plan data collection and analysis efforts of platforms and sensor systems. Finally SMSgts coordinate between US national-level agencies, cabinet-level/host-government officials, Joint, and HQ USAF for sustaining personnel support, financial management, administration, operations, maintenance, communications, and logistics.

5.1.7. CMSgt
Chief enlisted manager for RI activities. Chiefs bring substantial institutional, operational, and functional expertise as well as strong leadership skills to their organizations and all assigned tasks. Chiefs lead and manage teams to accomplish a wide variety of missions. Chiefs are expected to quickly translate leader's direction into specific tasks and responsibilities so their teams can understand and execute. They serve in key leadership roles, namely as a superintendent where they actively develop their Airmen, NCOs, and SNCOs into the enlisted leaders of the future. Chiefs coordinate, plan, and manage efficient and effective utilization of available resources as well as develop and implement clear, concise guidance, instructions, and policy in addition to administering and managing support agreements. They coordinate and advise senior leadership on mission directives and requirements. 9S100 CMSgts typically interface with and brief senior government, civilian, and military officials and act on queries from those and other officials. They direct and plan data collection and analysis efforts of platforms and sensor systems. Finally CMSgts coordinate between US national-level agencies, cabinet-level/host-government officials, Joint, and HQ USAF for sustaining personnel support, financial management, administration, operations, maintenance, communications, and logistics.

5.2. Scientific Applications Specialist Occupational Badge.

5.2.1. Heraldry. Since the dawn of the nuclear age the atomic symbol has represented the application of science and technology to both the military and the public. To Scientific Applications Specialists the atomic symbol portrays the fundamental interest in basic elemental science and nuclear/electronic technology that has formed the foundation of the RI since its inception. The gear wheel is an historic symbol of the engineering profession. Engineering is a primary element of the Scientific Applications Specialist RI as it unites interest in science with the development and sustainment of unique Air Force scientific mission equipment. Finally, the lightning flashes symbolize the power obtained when science, technology, and engineering principles are brought together and applied by Scientific Applications Specialists through operations and analysis that serve to execute the Air Force mission.

5.2.2. Eligibility. All Airmen, to include retired and separated members, awarded RI 9S100 (or associated identifiers 99125, 99104, 99105, 99106, 9S000, and 9S200) are eligible to wear the Scientific Applications Specialist occupational badge IAW paragraph 5.2.3.

5.2.3. Awarding. Wear the basic badge after completing technical school and being awarded the 9S100 RI. Wear the senior badge after having met all of the basic badge requirements, served in the 9S100 RI for a minimum of 12 months (9 months if a retrainee), and attained the rank of Staff

Sergeant or above. Wear the master badge after attaining the rank of Master Sergeant and having served five years in the 9S100 RI from award of the senior badge. For retrainees, credit towards new badge starts upon entry into the 9S100 RI.

6. Training Decisions. This CFETP was developed to reflect changes to the RI and to outline the mandatory and recommended educational and training responsibilities members of this RI are to focus upon. The following training decisions were made during the February 2016 STRT and the January 2017 U&TW and reflect the training necessities associated with changes in force utilization.

6.1. Job Knowledge Development Course. The RI 9S100 JKDC was eliminated. Official deactivation date was 15 April 2016. The STRT determined that the broad nature of the RI precluded the JKDC from achieving its purpose which was to provide the information necessary to satisfy the career knowledge component of OJT.

6.2. UNIX and Advanced Networking. Course was restructured and name was changed to "Networking and Systems Administration" to more appropriately reflect with the course content.

6.3. Laboratory Training Tasks. Radiation detection and measurement tasks were added to the Fundamentals and Special Equipment Maintenance JETS to meet the training needs of 9S100 personnel assigned to laboratory positions.

7. Community College of the Air Force (CCAF). CCAF is one of several federally charted degree-granting institutions; however, it is the only 2-year institution exclusively serving military enlisted personnel. The college is regionally accredited through Air University by the Commission on Colleges of the Southern Association of Colleges and Schools to award Associate in Applied Science (AAS) degrees designed for specific Air Force occupational specialties and is the largest multi-campus community college in the world. Upon completion of basic military training and assignment to an AF career field, all enlisted personnel are registered in a CCAF degree program and are afforded the opportunity to obtain an AAS degree. In order to be awarded, degree requirements must be successfully completed before the student separates from the AF, retires, or is commissioned as an officer. See the CCAF website for details regarding the AAS degree programs.

7.1. Degree Requirements. Prior to completing an associate's degree, the 5-level must be awarded and the following requirements must be met:

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

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. Requests to substitute comparable courses or to exceed specified semester hour values in any subject or course must be approved in advance by Air University. Semester hours for skill level completion are applied as follows: 14 hours for 3-skill level, eight hours for 5-skill level, and four hours for 7-skill level. The two remaining semester hours may be rolled over into

program electives.

7.1.1. Leadership, Management, and Military Studies (6 Semester Hours): Professional military education and/or civilian management courses.

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

7.1.3. General Education (15 Semester Hours): Applicable courses must meet the Criteria for Application of Courses to the General Education Requirement (GER) and be in agreement with the definitions of applicable General Education subjects/courses as provided in the CCAF General Catalog.

7.1.4. 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 AAS degree program for this specialty. CLEP and DANTES credits can be applied within the program elective block.

7.2. Professional Certifications. Certifications assist the professional development of Airmen by broadening their knowledge and skills. Additionally, specific certifications may be awarded collegiate credit by CCAF and civilian colleges. To learn more about professional certifications and certification programs offered by CCAF, visit the CCAF website. In addition to its associate degree program, CCAF offers the following certification programs and resources:

7.2.1 CCAF Instructor Certification (CIC) Program. CCAF offers the CIC Program for qualified instructors who teach CCAF collegiate-level credit awarding courses at a CCAF affiliated school. The CIC is a professional credential recognizing the instructor's extensive faculty development training, education and qualification required to teach a CCAF collegiate course and formally acknowledges the instructor's practical teaching experience. The program is a three-level program (CIC-I, CIC-II, CIC-III). The CIC program replaced the CCAF Occupational Instructor Certification (OIC) Program, which officially closed on 1 January 2011. To obtain more information concerning the CIC Program and program procedures, refer to the CCAF Campus Affiliations Policies and Procedures Guidelines.

7.2.3. Instructor System Development (ISD) Certification Program. CCAF offers the ISD Certification Program for qualified curriculum writers and managers who are formally assigned to an affiliated school to develop/write and /or manage CCAF collegiate-level credit awarding courses. The ISD certification is professional credential recognizing the curriculum writer's or manager's extensive training, education, qualifications, and experience required to develop/write and manage CCAF collegiate courses.

7.2.4. CCAF Professional Manager Certification (PMC). CCAF offers the PMC Program for qualified AF NCOs. The PMC is a professional credential awarded by CCAF formally recognizing an individual's advanced level of education and experience in leadership and management, as well as, professional accomplishments. The program provides a structures professional development track supplementing Enlisted Professional Military Education and CFETP.

7.3. Air Force Credentialing Opportunities On-Line (AF COOL). AF COOL replaced the CCAF Credentialing and Education Research Tool. The AF COOL program provides a research tool designed to increase an Airman's awareness of national professional credentialing and CCAF education opportunities available for all AF occupational specialties. AF COOL also provides information on specific

occupational specialties, civilian occupational equivalencies, CCAF degree programs, AFSC-related national professional credentials, credentialing agencies, and professional organizations. AF COOL contains a variety of information about credentialing and licensing and can be used to:

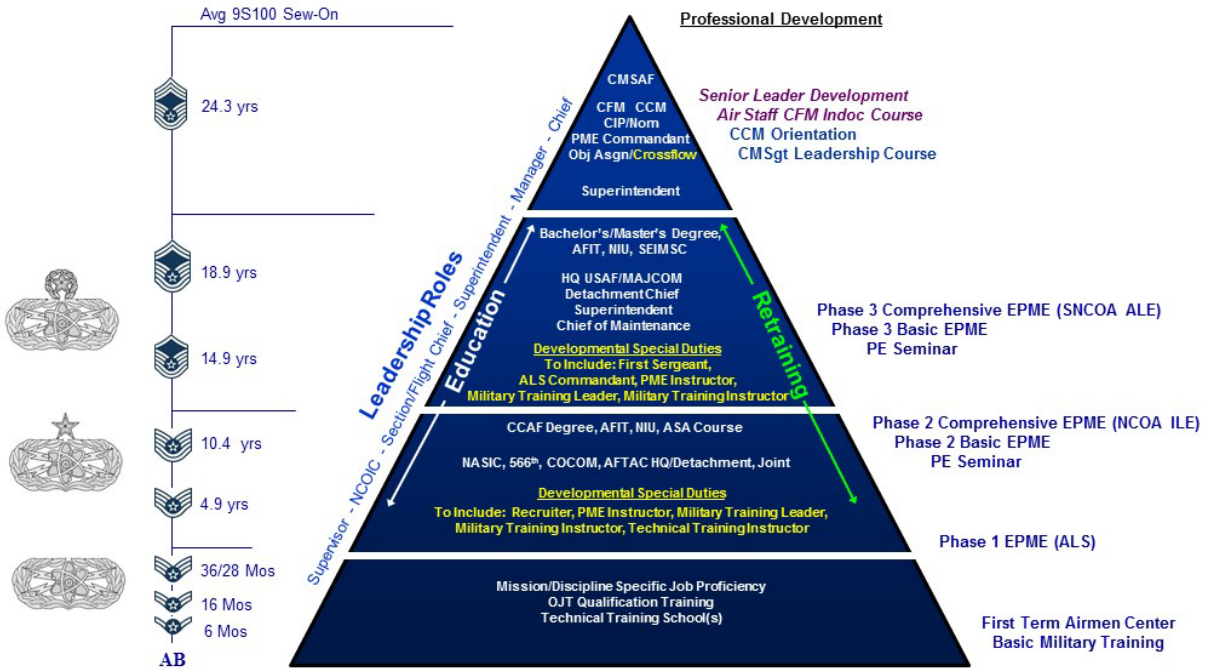
- Get background information about civilian licensure and certification in general and specific information on individual credentials including eligibility requirements and resources to prepare for an exam.
- Identify licenses and certifications relevant to an AFSC.
- Learn how to fill gaps between AF training and experience and civilian credentialing requirements.
- Get information on funding opportunities to pay for credentialing exams and associated fees.
- Learn about resources available to Airmen that can help them gain civilian job credentials.

7.4. Air University Associate to Baccalaureate Cooperative Program (AU ABC Program). Directs Airmen with Associate in Applied Science Degrees from the CCAF to a collection of accredited military friendly colleges and universities to consider when completing a four-year degree. The program maximizes the application of military career education and training, and provides a multitude of online academic and support services for the enlisted member.

7.5. Additional Off-Duty Education. Off-Duty education is a personal choice that is encouraged for all. Individuals desiring to become an Air Education and Training Command Instructor should be actively pursuing an associate degree. A degreed faculty is necessary to maintain accreditation through the Southern Association of Colleges and Schools.

8. Career Field Path

8.1. 9S100 Enlisted Career Path.



8.2. Force Development. Throughout their career, members of RI 9S100 are subject to a wide variety of taskings to support dynamic missions utilizing technologically advanced systems. These systems and the science and technology behind each of them are, individually, complete fields of study in the academic world. Expanding diversity of these mission tasks and the ever-changing technologies needed to meet them impact our most valuable resource - people. Over the course of a career a 9S100 personnel may stay completely within one discipline, maintain one system, or work in multiple highly technical areas with a variety of related systems. There are opportunities for advancement whether a 9S100 chooses to remain in one area of expertise or learns multiple systems. It is essential we effectively and efficiently train our people to succeed in this challenging environment with modular (or just-in-time) training, advanced certificate and degree programs, and robust in-depth OJT. Adequate training and timely progression combined with experience as airmen progress in their career play an important role in the Air Force's ability to accomplish its missions. It is also essential everyone involved in training do their part to plan, manage, and conduct an effective training program. Each 9S100 should continue technical development through a variety of means, such as technical manuals, advanced courses, off-duty education, seminars, etc. Technical development, just like professional growth, never ends. Enlisted personnel with a Bachelor's Degree may be eligible to compete for a position in several Air Force master's degree programs.

8.2.1. AB – Amn

Airmen are primarily at a learning competency level, adapting to the requirements of the military profession, acquiring knowledge of military customs, courtesies, and Air Force standards, as well as striving to attain technical proficiency. Formal technical training for entry level Airmen consists of the task and knowledge training provided by AETC and consists of several courses. The first course, Scientific Applications Fundamentals, is currently taught at Goodfellow AFB TX. This course provides the student with a basic understanding of general duty topics, electronic components, circuits, test equipment, computers, technical knowledge (math, science, and phenomenology), community mission and organization. More importantly, it provides a technical foundation for analytical thinking, vital to all 9S100 jobs. It is a prerequisite for entry into one of the four initial skills courses also taught at Goodfellow AFB TX. These courses cover technical skills training and task-oriented training that prepares airmen for duties based upon the requirements of their specific assignment. This training is intended to provide assignment-specific technical training immediately prior to using the required skills. Selection for any specific initial skills course is contingent upon the requirements of the assignment. Task and knowledge training requirements are identified in the JETS. Individuals must complete the fundamentals course and one of the initial skills courses in order to be awarded RI 9S100.

8.2.2. A1C

A1Cs fully comply with Air Force standards and are expected to devote their efforts to the mastery of technical skills and knowledge required in this RI while becoming effective team members. The requirements for completion of training are: (1) qualification in and possession of RI 9S100; (2) complete qualification training requirements for current duty position; (3) satisfactorily perform in current duty position for a minimum of 12 months (a minimum of 9 months if a retrainee); and (4) recommendation of immediate supervisor. Individuals moving to new duty assignments or positions may require advanced training to acquire the assignment-specific information and skills required for the new position. The task and knowledge training requirements for these courses are identified in the JETS.

8.2.3. SrA

SrA must begin developing supervisory and leadership skills through progressively challenging responsibilities on the job, professional military education, individual study, and mentoring by their supervisors. The requirements for completion of training are: (1) qualification in and possession of RI 9S100; (2) complete qualification training requirements for current duty position; (3) satisfactorily perform in current duty position for a minimum of 12 months (a minimum of 9 months if a retrainee); and (4) recommendation of immediate supervisor. Individuals moving to new duty assignments or positions may require advanced training to acquire the assignment-specific information and skills required for the new position. The task and knowledge training requirements for these courses are identified in the JETS. SrA will typically attend the Airman Leadership School (ALS) after serving 48 months in the Air Force or upon selection for promotion to SSgt.

8.2.4. SSgt

SSgts are primarily highly skilled technicians with supervisory and training responsibilities. They must also continuously strive to further their technical development. SSgts must complete all duty position requirements. Individuals moving to a new duty assignment or position may also require advanced training through additional 9S100 training modules, certificate programs, or advanced coursework to acquire the information and skills required for the new position. Retraining members must complete Scientific Applications Fundamentals course and one of the four follow-on initial skills courses to fulfill the initial technical training requirements. To become position qualified, retrainees will complete local duty position qualification training and must be assigned in the position for 9 months. Commanders are expected to ensure that all 9S100 SSgts are enrolled in the ASA course as soon as possible. This course, currently taught at Goodfellow AFB, TX, is a capstone to the technical training and is crucial to the SSgt understanding the important role that the 9S100 fills in the strategic posture of the DoD and the United States. All SSgts are highly encouraged to complete the ASA course prior to sewing on TSgt. 9S100 SSgts should strive to complete the academic requirements for a CCAF Associate Degree in Scientific Analysis Technology. Additionally, TSgt-selects and select SSgts, will be eligible to attend Phase 2 Comprehensive EPME (NCO Academy Intermediate Leadership Experience). SSgt are utilized as leaders in training, standardization/evaluation, and shift supervisors. SSgts are encouraged to explore developmental special duty opportunities such as AETC instructor, Military Training Instructor, Recruiter, etc.

8.2.5. TSgt

TSgts are often their organizations' technical experts in addition to providing sound supervision and training. They are responsible for the development of all assigned enlisted personnel within their span of control. TSgts must complete all duty position requirements. Individuals moving to a new duty assignment or position may also require advanced training through additional 9S100 training modules, certificate programs, or advanced coursework to acquire the information and skills required for the new position. Retraining members must complete Scientific Applications Fundamentals course and one of the four follow-on initial skills courses to fulfill the initial technical training requirements. To become position qualified, retrainees will complete local duty position qualification training and must be assigned in the position for 9 months. Completion of the ASA is highly encouraged prior to 9S100s sewing on TSgt to include TSgt retrainees as soon as feasible. TSgts must continuously strive to broaden and perfect their technical expertise and supervisory techniques. TSgts are eligible to attend Phase 2 Comprehensive EPME (NCOA ILE). 9S100 TSgts are also expected to complete the academic requirements for a CCAF Associate Degree in Scientific Analysis Technology and are highly encouraged to continue academic education through civilian institutions. 9S100 TSgts should explore developmental special duty opportunities such as AETC instructor, Military Training Instructor, Recruiter, etc. to better prepare them for SNCO

responsibilities.

8.2.6. MSgt
MSgts are transitioning from being technical experts and first line supervisors to operational leaders who merge their personnel's talents, skills, and resources with other teams' functions to most effectively accomplish the mission. MSgts must complete all duty position requirements. Individuals moving to a new duty assignment or position may also require advanced training through additional 9S100 training modules, certificate programs, or advanced coursework to acquire the assignment-specific training required for the new position. MSgts are continuing to develop their leadership and management skills, so individuals should take courses or obtain added knowledge on specific disciplines and techniques as well as management of resources and personnel. SMSgt-selects and select MSgts, will be eligible to attend Phase 3 Comprehensive EPME (SNCO Academy Advanced Leadership Experience). 9S100 MSgts should have already completed the CCAF associate degree and are strongly encouraged to pursue off-duty educational opportunities such as completing an undergraduate or graduate degree program. 9S100 MSgts desiring promotion to SMSgt typically need to have served as a directorate/squadron superintendent, detachment chief/superintendent, functional manager (HQ USAF, Joint, National agency, or MAJCOM), or in another leadership position indicative of increased responsibility, in order to be competitive for the promotion.

8.2.7. SMSgt
SMSgts are key, experienced, operational leaders who merge their personnel's talents, skills, and resources with other teams' functions to most effectively accomplish the mission. SMSgts continue to develop their leadership and management skills in preparation for expanded responsibilities and higher leadership positions. By this point in their career, they should be serving as a detachment chief/superintendent, directorate/squadron superintendent, functional manager (HQ USAF, Joint, National agency, or MAJCOM), etc., as well as be experienced in First Sergeant-related matters and staff functions commensurate with senior leadership roles. This broad-base of experience is vital to effective 9S100 leadership and valued by unit commanders. There are no career-field-specific knowledge/training requirements for SMSgt. Individuals moving to a new duty assignment or position generally will not require advanced training to assume the new position, although certain duty positions may require qualification training. Additional training in the areas of budget, manpower, resources, and personnel management should be pursued through continuing education to include the Senior Enlisted ISR Master Skills Course. SMSgts are eligible to attend Phase 3 Comprehensive EPME (SNCOA ALE). 9S100 SMSgts should have completed an undergraduate degree program (and considered a graduate program) to enhance technical, managerial, or leadership capabilities.

8.2.8. CMSgt
CMSgts are expected to excel in all duty positions. CMSgts must have a broad base of experience with and knowledge of most, if not all, 9S100 missions/duties. By this point in their career, they should have served as a detachment superintendent/chief or MAJCOM or higher level position as well as be experienced in First Sergeant-related matters and staff functions commensurate with senior leadership roles. There are no career-field-specific knowledge/training requirements for CMSgt. Chiefs moving to a new duty assignment or position generally will not require advanced training to assume the new position, although certain duty positions may require qualification training. Additional training in the areas of budget, manpower, resources, and personnel management should be pursued through continuing education. 9S100 Chiefs should have completed an undergraduate degree program (and considered a graduate program) to enhance technical, managerial, or leadership

capabilities. CEM codes are not available to the RI 9S100 career field.

Section C – Reporting Identifier Training Requirements

9. Purpose. This CFETP encompasses the entire spectrum of training requirements for RI 9S100. The spectrum includes a strategy for when, where, and how to meet the training requirements. This strategy is designed to be apparent and affordable to reduce duplication, eliminate a disjointed approach, and ensure universal availability of training for all.

9.1. Modular training. RI 9S100 uses modular training to effectively meet mission requirements and train airmen "just-in-time." Non-prior service (NPS) students from Basic Military Training and retraining students attend initial skills training. Initial skills training is task-oriented training that prepares airmen for specific duty assignment requirements using training modules developed for specific systems operated and maintained by RI 9S100 personnel. Each of the four initial skills training courses will deliver training and assignment-specific requirements tailored to the first duty assignment. Personnel currently holding RI 9S100 I and being assigned to new duty positions will attend advanced training modules that will provide just-in-time skills and knowledge tailored to the new position. In most cases, this training will consist of one or more courses taught at Goodfellow AFB. The aim of both the initial skills and advanced training is to deliver current, relevant knowledge and skills training for use at the next duty assignment. Modular training does not replace or alleviate the need for OJT. Every unit and supervisor must carefully consider what additional core knowledge and critical tasks are required and build a training and evaluation program to meet unit mission requirements. The MAJCOM formal training section will schedule advanced training for RI 9S100 personnel reassigned to new duties on an as required basis.

9.2. Classification and Tracking of Training. As an RI, 9S100 personnel face unique difficulties in tracking and administering training. 9S100s do not have skill-levels and because of this the standard Training Status Codes (TSC) utilized by AFSCs do not match the RI upgrade training architecture. Because of this, 9S100 personnel will be entered into TSC "Q" while completing qualification training (refer to paragraph 10.2.1.). TSC "Q" indicates that an Airman is in qualification training for a specific position and will not restrict them from promotion testing. Following the completion of qualification training 9S100s will be entered into TSC "R" (fully qualified). Units will use a locally developed process to track 9S100 OJT. In addition, if not already accomplished, a skill level waiver will be completed as soon as the individual arrives on station.

10. Training Categories. The RI 9S100 CFETP uses two categories of training: **Initial training** and **Qualification training** rather than skill levels.

10.1. Initial Skills Training Requirements

10.1.1. Knowledge. Must possess fundamental knowledge of the following:

10.1.1.1. Electronic Principles including: circuits, terms and calculations, circuit components, motors, logic functions, transmitters, receivers, antennas, computer theory, soldering, and the use of various test measurements and diagnostics equipment.

10.1.1.2. Mathematics including: basic and exponential algebraic equations and standard deviation calculations.

10.1.1.3. Sciences including: atomic structure and properties of matter, dynamics and force, conservation of energy, fluid and thermodynamics, electromagnetic radiation, characteristics of wave propagation through various mediums (earth, water, atmosphere, and space), radioactivity, and nuclear reactions.

10.1.1.4. Phenomenology including: geophysical, electro-optic, material, nuclear radiation, radar, and radio frequency.

10.1.1.5. Computer Technology including: computer communications and networks; workstation operation, troubleshooting methods, and procedures; theory, operation, installation, and maintenance of electronic data processing equipment and their operating systems.

10.1.1.6. Logistics and Maintenance including: maintenance practices and logistics management procedures.

10.1.1.7. Missions and organizations including: community structure, roles and responsibilities, general principles, national and theater assets, and operational applications.

10.1.2. Education. Completion of high school or high school equivalency is mandatory for entry into this RI. Courses in physics, mathematics, and computer science are desirable.

10.1.3. Training. Completion of the Scientific Applications Specialist Fundamentals qualification course (X3AQR9S100 00AE) and one RI 9S100 awarding follow-on modular training course (Subsurface Analysis, X3AZR9S100 0A0B; Subsurface Systems Maintenance, X3AZR9S100 0A1B; Remote Systems System Analyst, X3AZR9S100 0A2B; or Special Equipment Maintenance, X3AZR9S100 0A3B) are mandatory for award of the RI.

10.1.4. Experience. None required

10.1.5. ASVAB. Required minimum aptitude scores: mechanical – 88, electronic – 85.

10.1.5. Other. Normal color vision, open to United States Nationals only, and individual must be eligible for a Top Secret security clearance in accordance with AFI 31-501. A minimum score of 57 on the Electronic Data Processing Test (EDPT) and a minimum Strength Aptitude Code – K (70 lbs.) is required to enter the initial skills course. Additional requirements are listed in the Air Force Enlisted Classification Directory.

10.1.6. Training Sources and Resources. The initial skills courses will provide the required knowledge and qualifications. Initial skills training is accomplished through a fundamentals "prerequisite" course and a follow-on modular course at Goodfellow AFB TX. The current JETS identify all tasks trained through these formal courses, initial skills requirements are identified in the Initial column.

10.1.7. Implementation. Upon completion of Basic Military Training, Airmen are assigned (PCS) to Goodfellow AFB to attend the fundamentals "prerequisite" course and a follow-on modular course. Initial skills training for RI 9S100 personnel are satisfied upon successful completion of both courses. Training status code "K" (Attending Technical School) is to be used for NPS and retrainees while in the required formal courses (Technical School).

10.2. Qualification Training Requirements

10.2.1. Qualification Training. Qualification training begins at the first duty station when the individual enters OJT. The requirements for completion of "qualification training" are: (1) completion of initial skills training and subsequent possession of RI 9S100; (2) complete qualification training requirements for current duty position; (3) satisfactorily perform in current duty position for a minimum of 12 months (a minimum of 9 months if a retrainee); and (4) recommendation of the immediate supervisor.

10.2.1.1. Implementation. Upon arrival at first duty assignment, unit training managers will verify NPS and retrainees are entered into TSC "Q" and a skill level waiver has been accomplished. The OJT progress evaluation time frame requirement of 12 to 24 months as listed in AFI 36-2201 is waived and is replaced with the requirements in 10.2.1. above. Units will use a locally developed process to track OJT requirements.

10.2.1.2. Completing OJT. Units will use a Master Training Plan and associated Master Task Listing to establish the position qualification criteria for upgrade to qualified status. Once the individual has met the qualification training requirements of 10.2.1. above, the supervisor recommends the unit training manager to remove them from the OJT process.

10.3. Modular Training Requirements

10.3.1. Modular Training. 9S100s utilize modular training matched to their projected assignment. Therefore, when a 9S100 is assigned to a mission area they are not qualified for, they will require an additional advanced course.

10.3.1.1. Implementation. Training status code "K" (Attending Technical School) is to be used while attending the advanced module at the technical school at Goodfellow AFB. Upon graduation the TSC is changed to "Q". OJT begins upon arrival at the new duty station.

10.3.1.2. Completing OJT. Once the individual has met the gaining unit's qualification training requirements the supervisor recommends the unit training manager to remove them from the OJT process.

11. Training Status Codes. The training status codes are derived from AFI 36-2201.

12. Training Requirements by Rank

12.1. AB – Amn
Training encompasses those items required to provide essential knowledge and skills used throughout the RI, such as electronics principles, AF indoctrination, basic mathematics, scientific principles, community mission and organization, and an introduction to computers and workstations. It also provides assignment-specific training to introduce specialized skills and knowledge to be used at the trainee's first duty assignment. The goal of the initial skills course is to provide airmen with a broad-based technical education they can build upon and apply to all missions and systems combined with specialization tailored to their first duty assignment.

12.2. A1C – SrA
Training begins at the first duty station after initial skills training and consists of qualification

training on all tasks required for the assigned duty position. Additionally, knowledge on the specific technique/mission and experience should be provided as required through a variety of means such as OJT.

12.3. SSgt – MSgt
Training consists of qualification training on all tasks required for the assigned duty position. Personnel in these training tracks may require advanced training through modular training, certificate, and/or higher education programs in conjunction with a move to a new duty position or assignment. Members that have not performed duties related to an advanced module that they had previously attended (more than four years ago) are highly encouraged to attend the appropriate modular course again, due to currency and proficiency.

13. On-the-Job Training (OJT)

13.1. General Responsibilities. The duties and responsibilities of the AFCFM, 9S100 RI Manager, unit commanders, unit training managers, supervisors, trainers, and trainees are specified in AFI 36-2201, AFI 37-138, and this plan.

13.2 Documentation. Training records will be accomplished using the current AFCFM authorized standard for 9S100 OJT documentation (Training Business Area is the authorized standard on the publication date of this CFETP). If the standard for OJT documentation is not available, a waiver can be granted by the AFCFM. In addition all training will be accomplished IAW AFI 36-2201.

14. Special Experience Identifier Requirements

14.1. SEIs. SEIs identify special experience and training not otherwise identified within the personnel data system. SEIs complement the assignment process but are not substitutes for AFSCs, prefixes, or suffixes. They are established when identifying experience or training is critical to the job and assignment match, and no other identification is appropriate or available. SEIs permit identification of a resource already experienced to meet unique circumstances, contingency requirements, or management needs. They provide a means to track individuals and identify positions requiring or providing unique experience or training that otherwise would be lost. Refer to the Air Force Enlisted Classification Directory, for a more detailed explanation and list of SEIs.

14.2. SEI award and removal. Each site should ensure SEIs are awarded as appropriate for proper personnel tracking. Each unit loads their individuals via the appropriate personnel data system. Requirements for the award of the SEI are:

14.2.1. SEI 058, Advanced Atmospheric Research Equipment. Award of the SEI requires position qualification in Advanced Atmospheric Research Equipment maintenance, 9 months experience, and supervisor recommendation.

14.2.2. SEI 950, Subsurface Analysis. Award of the SEI requires completion of Subsurface Analysis course, Subsurface Operations Monitor position qualification in Subsurface Analysis, 9 months of experience, and supervisor’s recommendation.

14.2.3. SEI 962, Subsurface Maintenance. Award of the SEI requires completion of Subsurface Maintenance course, position qualification in subsurface maintenance, 9 months of experience, and

supervisor's recommendation.

14.2.4. SEI 963, Materials Maintenance. Award of the SEI requires completion of Special Equipment Maintenance course, position qualification in materials maintenance, 9 months of experience, and supervisor's recommendation.

14.2.5. SEI 964, Laboratory Specialist. Award of the SEI requires completion of Laboratory Specialist course, position qualification in laboratory, 9 months of experience, and supervisor's recommendation.

Section D - Resource Constraints

15. Purpose. As prescribed in AFI 36-2201, *Air Force Training Program*, this section identifies known resource constraints which preclude optimal/desired training from being developed or conducted, including information such as cost and manpower. Narrative explanations of each resource constraint and an impact statement describing what effect each constraint has on training are included. Also included in this section are actions required, office of primary responsibility, and target completion dates. Resource constraints will be, as a minimum, reviewed and updated annually.

16. Initial Training:

16.1. Constraints. N/A

16.1.1. Impact. N/A

16.1.2. Resources Required. N/A

16.1.3. Action Required. N/A

16.2. OPR/Target Completion Date. N/A

Section E - Transitional Training Guide

This area is reserved for future use.

Part II

Section A - Job Education Training Standard (JETS)

1. Implementation. This JETS will be used to identify technical training provided by AETC for the Scientific Applications Fundamentals course with class beginning 20 April 2017. Training for the follow-on ABR courses will start with classes beginning on 28 August 2017.

2. Purpose. As prescribed in AFI 36-2201, *AIR FORCE TRAINING PROGRAM,* this JETS:

2.1. Lists in Column 1 (*Tasks, Knowledge, and Technical Reference*) the most common tasks, knowledge, and technical references (TR) necessary for airmen to perform duties in the RI.

2.2. As a minimum, trainees must complete all critical tasks for upgrade to qualified status. Critical tasks will be determined by the supervisor relative to the individual's assigned duty position.

2.3. Wartime tasks. In response to a wartime scenario, RI 9S100 does not require accelerated training in accordance with AFI 36-2201, *AIR FORCE TRAINING PROGRAM*.

2.4. This JETS provides certification for OJT. Columns 3A, B, C, D, and E are used to record completion of tasks and knowledge training requirements. Use Training Business Area (TBA) to document technician qualifications IAW paragraph 13.2, if available. Task certification must show a certification or completed date.

2.5. This JETS shows formal training and correspondence course requirements. Columns 4 A, and B show the proficiency to be demonstrated on the job by the graduate as a result of training on the task/knowledge.

2.6. 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.

2.7. The JETS becomes a JQS for on-the-job training when utilized with an Individual Training Record, and used according to AFI 36-2201. When used as a JQS, the following requirements apply:

2.7.1. Documentation. Document and certify completion of training in accordance with AFI 36-2201. OJT documentation will use the current AFCFM authorized standard to document training (refer to paragraph 13.2.).

2.7.1.1. Converting from old CFETP to new CFETP. Use the new CFETP to identify and certify all past and current qualifications. Document according to current Air Force instructions.

2.7.1.4. Decertification and Recertification. When an airman is found to be unqualified on a task, the supervisor shall remove previous certification and enter airman into qualification training. Appropriate remarks are entered in the Individual Training Record as to the reason for decertification. The individual is recertified using the normal certification process.

2.7.2. Training Standard. Tasks are trained and certified to the "go" level. "Go" means the individual can perform the task without assistance and meets the local requirements for accuracy,

timeliness, and correct use of procedures. This equates to a "3c" in the proficiency code key. AFQTPs, when available, shall be used to identify Air Force standardized procedures. Local requirements for accuracy, timeliness, and use of procedures shall be applied accordingly.

2.7.3. Task Numbering. All tasks have been numbered relative to the attachment number. This allows greater flexibility, enabling future modifications to be made without affecting the entire document.

2.8. This JETS contains the following attachments:

2.8.1. Attachment 1. Qualitative Requirements. Used to indicate the level of training and knowledge provided by resident training.

2.8.2. Attachment 2. RI 9S100 Scientific Applications Fundamentals JETS. Covers Air Force indoctrination, electronics principles, community mission and organization, and technical knowledge and skill requirements applicable to all RI 9S100 members.

2.8.3. Attachment 3. RI 9S100 Subsurface Maintenance JETS. Use as required.

2.8.4. Attachment 4. RI 9S100 Remote Sensing JETS. Use as required.

2.8.5. Attachment 5. RI 9S100 Special Equipment Maintenance JETS. Use as required.

2.8.6. Attachment 6. RI 9S100 Subsurface Analysis JETS. Use as required.

2.8.7. Attachment 7. RI 9S100 Networking and Systems Administration JETS. Used to identify training line items for the Networking and Systems Administration course.

2.8.8. Attachment 8. RI 9S100 Advanced Scientific Applications JETS. Used to identify training line items for the 9S100 Advanced Scientific Applications course.

3. Recommendations. Report JETS inadequacies and/or unsatisfactory performance of individual course graduates to 312TRS/DOE, 170 Griffin Street, Suite 21, Goodfellow AFB TX 76908-4213, referencing specific JETS paragraphs. 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 the training standard. For a quick response to any training concerns, call the CSIL, DSN 477-3350, anytime day or night.

Section B - Course Objective List

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

5. Standard. The standard is 70% on written examinations. Standards for performance measurement are indicated in the objectives and delineated on the individual progress checklist. Instructor assistance is provided as needed during the progress check, and students may be required

to repeat all or parts of the behavior until satisfactory performance is attained.

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

7. Course Objective List. These objectives are listed in the sequence taught by Block of Instruction.

7.1. Initial Skills Course. A detailed listing of the initial skills course objectives may be obtained by written request to 312 TRS/DOE, Goodfellow AFB TX 76908-4213.

7.2. 7-Skill Level Course. N/A. RI 9S100 does not use skill levels.

Section C - Support Material

8. Air Force Qualification Training Packages (AFQTP)

8.1. The current listing of AFQTPs can be obtained at <http://www.e-publishing.af.mil/>. Many of the products can be downloaded directly from the web. These are not mandatory for this career field but may be of use for those individuals needing qualification in areas that are covered by an AFQTP.

8.2. Computer Based Training Products

8.2.1. Air Force computer based training products can be found at https://usafprod.skillport.com/skillportfe/main.action.

Section D - Training Course Index

9. Purpose. The purpose of this section is to aid commanders, supervisors, and trainers, by providing a list of training courses available to personnel within RI 9S100. Many of the courses listed in this section are often required to satisfy command/organizational/positional unique training requirements that are not part of formal initial skills or upgrade training. Supervisors should refer questions concerning specialized training, not available at the unit, to their respective unit/base training manager or to their command/joint activity functional manager. Refer to the Education and Training Course Announcements located at <https://www.my.af.mil/etcacourses/> for a complete list of USAF Formal Schools. NOTE: Although not all inclusive, the courses listed represent much of the formal training recognized by the functional community as applicable to RI 9S100.

10. Air Force In-Residence Courses.

COURSE ID	TITLE	LOCATION
E3AZR1C8XX 00DA	High Reliability Soldering and Connections	Keesler AFB, MS
J3AZR3D157 0C0B	Tower Climbing and Tower Certifier Training Course	Sheppard AFB, TX
SOC	Space Operations Course	Peterson AFB, CO
SOED-ATSOF	AFRICOM Theatre Course	Hurlburt Field, FL
SOED-CTSOF	CENTCOM Theatre Course	Hurlburt Field, FL
SOED-DIT	Dynamics of International Terrorism (DIT)	Hurlburt Field, FL
SOED-ETSOF	EUCOM Theatre Course	Hurlburt Field, FL
SOED-PTSOF	PACOM Theatre Course	Hurlburt Field, FL
SP200	Space 200	Peterson AFB, CO
SP300	Space 300	Peterson AFB, CO
S-V80-A	SERE Training	Fairchild AFB, WA
S-V83-A	Special Survival Training	Fairchild AFB, WA
S-V87-A	Arctic Survival Training	Eielson AFB, AK
S-V88-AL	Evasion and Conduct After Capture	Lackland AFB, TX
S-V90-A	Water Survival Training	Fairchild AFB, WA
X3AZR1NXXX 0B1A	Senior Enlisted ISR Master Skills Course	Goodfellow AFB, TX
X3AZR9S100 0A0B	Subsurface Analysis	Goodfellow AFB
X3AZR9S100 0A1B	Subsurface Systems Maintenance	Goodfellow AFB
X3AZR9S100 0A2B	Remote Sensing Systems Analyst	Goodfellow AFB
X3AZR9S100 0A3B	Special Equipment Maintenance	Goodfellow AFB
X3AZR9S100 0A4B	Networking and Systems Administration	Goodfellow AFB
X3AZR9S100 0A5B	Advanced Scientific Applications	Goodfellow AFB
X3OZR14NX 00AA	AF Critical Thinking and Structured Analysis Course	Goodfellow AFB, TX
X5OZD14N3 0X3A	Intelligence Collection Managers Course (ICMC)	Joint Base Anacostia-Bolling, DC

11. Extension Course Programs.

This area is reserved for future use.

12. Exportable Courses.

This area is reserved for future use.

13. Courses under Development/Revision.

This area is reserved for future use.

Section E – MAJCOM Unique Requirements

This area is reserved for future use.

NOTE: There are currently no MAJCOM unique requirements.

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

DASH JAMIESON, Lt Gen, USAF
Deputy Chief of Staff, Intelligence,
Surveillance and Reconnaissance

Attachments:
1. Qualitative Requirements
2. RI 9S100 Scientific Applications Fundamentals JETS
3. RI 9S100 Subsurface Maintenance JETS
4. RI 9S100 Remote Sensing JETS
5. RI 9S100 Special Equipment Maintenance JETS
6. RI 9S100 Subsurface Analysis JETS
7. RI 9S100 Networking and Systems Administration JETS
8. RI 9S100 Advanced Scientific Applications JETS

ATTACHMENT 1. QUALITATIVE REQUIREMENTS

THIS BLOCK IS FOR IDENTIFICATION PURPOSES ONLY		
NAME OF TRAINEE		
PRINTED NAME (*Last, First, Middle Initial*)	**INITIALS *(Written)***	**SSAN (Last 4)**
PRINTED NAME OF CERTIFYING OFFICIAL AND WRITTEN INITIALS		
N/I	*N/I*	
N/I	*N/I*	
N/I	*N/I*	
N/I	*N/I*	

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

EXPLANATIONS

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

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

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

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

ATTACHMENT 2. RI 9S100 SCIENTIFIC APPLICATIONS FUNDAMENTALS JETS

1. Tasks, Knowledge and Technical References	2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
		A	B	C	D	E	A Initial	B Qual
		Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
ELECTRONIC PRINCIPLES								
2.1	**ELECTRONICS SUPPORT SUBJECTS** TR: TO 31-1-141-1, 00-25-234							
2.1.1	Safety						B	
2.1.2	First Aid						A	
2.1.3	Electrostatic Discharge Control						B	
2.1.4	Electromagnetic Effects						B	
2.1.5	**Metric Notation** TR: TO 31-1-141-2, 31-1-141-5							
2.1.5.1	Calculate Powers of Ten						2b	
2.1.5.2	Electrical Prefixes						B	
2.2	**TEST EQUIPMENT** TR: TO 31-1-141-1, 31-1-141-7, 31-1-141-8, 31-1-141-9, 31-1-141-10							
2.2.1	Use Digital Multimeter						2b	
2.2.2	Use Oscilloscope						2b	
2.2.3	Use Signal Generator						1a	
2.3.	**BASIC CIRCUITS** TR: TO 31-1-141-2, 31-1-141-5, 31-1-141-9							
2.3.1	**Direct Current (DC)**							
2.3.1.1	Theory						B	
2.3.1.2	Perform Calculations						2b	
2.3.2	**Alternating Current (AC)**							
2.3.2.1	Theory						B	
2.3.2.2	Perform Calculations						2b	
2.4	**BASIC CIRCUIT COMPONENTS** TR: TO 31-1-141-2, 31-1-141-5							
2.4.1	**Resistors**							
2.4.1.1	Theory						B	
2.4.1.2	Color Code						A	
2.4.1.3	Troubleshoot						2b	
2.4.2	**Inductors**							
2.4.2.1	Theory						B	
2.4.2.2	Troubleshoot						2b	
2.4.3	**Capacitors**							
2.4.3.1	Theory						B	
2.4.3.2	Troubleshoot						2b	
2.4.4	**Resistive-Capacitive-Inductive (RCL) Circuits Theory**							
2.4.4.1	Basic						B	
2.4.4.2	Resonant						B	
2.4.4.3	Frequency Sensitive Filter						B	
2.5	**ELECTROMAGNETIC DEVICES** TR: TO 31-1-141-2, 31-1-141-3, 31-1-141-9							
2.5.1	**Transformers**							

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			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
2.5.1.1	Theory							B	
2.5.1.2	Troubleshoot							2b	
2.5.2	Relays and Solenoids								
2.5.2.1	Theory							B	
2.5.2.2	Troubleshoot							2b	
2.5.3	**Motor Theory**								
2.5.3.1	Direct Current (DC)							B	
2.5.3.2	Alternating Current (AC)							B	
2.5.4	**Generator Theory**								
2.5.4.1	Direct Current (DC)							B	
2.5.4.2	Alternating Current (AC)							B	
2.5.5	Special Purpose Motors							A	
2.5.6	Transducer Theory							B	
2.6	**SOLID STATE DEVICES** **TR: TO 31-1-141-4**								
2.6.1	**Diodes**								
2.6.1.1	Theory							B	
2.6.1.2	Troubleshoot							2b	
2.6.2	**Bipolar Junction Transistors**								
2.6.2.1	Theory							B	
2.6.2.2	Troubleshoot							2b	
2.6.3	**Special Purpose Device Theory**								
2.6.3.1	Zener Diode							B	
2.6.3.2	Light Emitting Diode (LED)							A	
2.6.3.3	Liquid Crystal Display (LCD)							A	
2.6.3.4	Integrated Circuits (IC)							B	
2.7	**TRANSISTOR AMPLIFIER CIRCUITS** **TR: TO 31-1-141-1, 31-1-141-4**								
2.7.1	Theory							B	
2.7.2	Stabilization							B	
2.7.3	Coupling							B	
2.8	**POWER SUPPLY CIRCUITS THEORY** **TR: TO 31-1-141-3, 31-1-141-4, 31-1-141-9**								
2.8.1	Rectifiers							B	
2.8.2	Filters							B	
2.8.3	Voltage Regulators							B	
2.8.4	Troubleshoot							2b	
2.9	**WAVE GENERATING CIRCUIT THEORY** **TR: TO 31-1-141-4, 31-1-141-10**							A	
2.10	**DIGITAL LOGIC CIRCUITS THEORY** **TR: TO 31-1-141-4, 31-1-141-9, 31-1-141-13**								
2.10.1	Gates							B	
2.10.1	Flip-flops							B	

ATTACHMENT 2. RI 9S100 SCIENTIFIC APPLICATIONS FUNDAMENTALS JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
			A	B	C	D	E	A Initial	B Qual
			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
2.10.1	Binary Numbering Systems							B	
2.10.2	Digital to Analog (DA) and Analog to Digital (AD) Convertors Theory							B	
2.11	**BASIC COMMUNICATIONS THEORY** **TR: TO 31-1-141-4, 31-1-141-7, 31-1-141-9, 31-1-141-11, 31-1-141-12, 31-1-141-13**								
2.11.1	Antennas							B	
2.11.2	Transmission Lines							B	
2.11.3	Data Busses							B	
2.11.4	Waveguides							B	
2.11.5	Modulation							B	
2.11.6	**AM Receiver Signals**								
2.11.6.1	Measure Radio Frequency (RF)							1a	
2.11.6.2	Measure Intermediate Frequency (IRF)							1a	
2.11.6.3	Measure Audio Frequency (AF)							1a	
2.11.6.4	Measure Local Oscillator (LO) Output							1a	
AF INDOCTRINATION									
2.12	**TRAINING** **TR: AFI36-2101, CFETPRI9S100**								
2.12.1	**Responsibilities**								
2.12.1.1	Trainee							A	
2.12.1.2	Trainer							A	
2.12.1.3	Supervisor							A	
2.12.2	Evaluate Training Program							-	
2.12.3	Identify Training Requirements							-	
2.12.4	**Plan and Supervise OJT**								
2.12.4.1	Prepare Job Qualification Standards							-	
2.12.4.2	Conduct Training							-	
2.12.4.3	**Monitor Effectiveness of Training**								
2.12.4.3.1	Career Knowledge							-	
2.12.4.3.2	Job Proficiency Upgrade/Qualification							-	
2.12.4.3.3	Evaluate Effectiveness of Training Programs							-	
2.13	**AIR FORCE OCCUPATIONAL SAFETY AND HEALTH (AFOSH) PROGRAM** **TR: AFI91-202, AFI91-203**								
2.13.1	Operational Risk Management (ORM) **TR: AFI90-802**							B	

ATTACHMENT 2. RI 9S100 SCIENTIFIC APPLICATIONS FUNDAMENTALS JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
			A	B	C	D	E	A Initial	B Qual
			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
2.13.2	Principles and Objectives of Safety Programs							A	
2.13.3	Lockout/Tagout Awareness							A	
2.13.4	Hazardous Waste Operations and Emergency Response **TR: AFI 32-7086**							A	
2.13.5	DOD Federal Hazards Communication Training Program **TR: AFI90-821**							A	
2.13.6	Use Fire Extinguishers							b	
2.13.7	Perform First Aid/CPR **TR: American Heart Association Instructor's Manual**							3c	
2.14	**LOGISTICS**								
2.14.1	Processes and Principles **TR: AFD Annex 4-0**							A	
2.14.2	**Supply** **TR: AFI 23-101**								
2.14.2.1	Basic AF Supply System Principles							A	
2.14.2.2	Use AF Supply System Procedures							-	
2.15	**PUBLICATIONS**								
2.15.1	AF Publications **TR: AFI 33-360, Air Force e-Publishing**							A	
2.15.2	MAJCOM Publications and Local Operating Instructions **TR: Air Force e-Publishing**							A	
2.15.3	TOs/TIs **TR: TO 00-5-1**							A	
2.16	**SUPERVISION AND MANAGEMENT**								
2.16.1	Career Information and Progression **TR: AFI 36-2101, RI9S100 CFETP Part 1**							A	
2.16.2	**Brief Newly Assigned Personnel**								
2.16.2.1	Mission							-	
2.16.2.2	Orientation to Work Center							-	
2.16.2.3	Security							-	
2.16.2.4	Safety							-	
2.16.2.5	Responsibilities							-	
2.16.3	Assign Personnel to Positions							-	
2.16.4	Orient New Personnel							-	
2.16.5	**Plan/Schedule**								
2.16.5.1	Work Assignments							-	
2.15.5.2	Shifts							-	
2.16.5.3	Priorities							-	
2.16.6	**Establish/Interpret**								
2.16.6.1	Work Methods/Controls							-	
2.16.6.2	Performance Standards							-	

ATTACHMENT 2. RI 9S100 SCIENTIFIC APPLICATIONS FUNDAMENTALS JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
			A	B	C	D	E	A Initial	B Qual
			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
2.16.6.3	Priorities							-	
2.16.6.4	Local Operating Instructions							-	
2.16.7	Evaluate Space/Personnel/Resource Requirements							-	
2.16.8	Coordinate Work with Other Personnel							-	
2.16.9	Resolve Technical Problems Encountered by Subordinate Personnel							-	
2.16.10	**Prepare** **TR: AFH 33-337**								
2.16.10.1	Trip Reports							-	
2.16.10.2	Briefings/Tours							-	
2.16.10.3	Personnel Action Requests							-	
2.16.10.4	Correspondence							-	
2.16.10.5	Messages							-	
2.16.11	Perform Self-Assessments							-	
2.16.12	Contract Management **TR: AFMAN 64-108, FAR 37.101**							-	
2.16.13	Project Authorizations							-	
2.16.14	Contractor Protocol							-	
2.17	**SECURITY**								
2.17.1	COMSEC/COMPUSEC **TR: AFI 33-200**							A	
2.17.2	RI 9S100 OPSEC **TR: AFI 10-701, Applicable Security Classification Guide**							A	
2.17.3	Information Security **TR: AFI16-1404**							A	
	TECHNICAL SKILLS								
2.18	**SOLDERING AND CONNECTORS** **TR: TO 00-25-259, TO 1-1A-14**								
2.18.1	Solder and Desolder							1a	
2.18.2	Assemble Solderless Connectors							1a	
2.19	**COMPUTER APPLICATIONS** **TR: Burd. *Systems Architecture*, Cengage Learning, 2016. White, Ron. *How Computers Work*. Ron White. 2015. Van Vugt, Sander. *Red Hat Enterprise Linux 6*, John Wiley & Sons, Inc. 2013. Messier. *Operating System Forensics*, Syngress, 2015. Perea. *Arduino Essentials*, Packt Publishing. 2015. Negus. *Linux Bible*, John Wiley & Sons, Inc., 2015. Membrey, Hows. *Learn Raspberry Pi 2 with Linux and Windows 10, Second Edition*, Apress. 2015. Bolton. *Programmable Logic Controllers, 6th Edition*, Newnes, 2015.**								
2.19.1	History							B	
2.19.2	Enterprise Operating Systems							B	
2.19.3	File Systems							B	
2.19.4	Networking and Communications **TR: Forouzan. *Data Communications and Networking*, McGraw-Hill, 2013. Shinder. *Computer Networking Essentials*, Cisco Press, 2001.**							B	

ATTACHMENT 2. RI 9S100 SCIENTIFIC APPLICATIONS FUNDAMENTALS JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
			A	B	C	D	E	A Initial	B Qual
			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
2.19.5	Hardware Architecture **TR: Soper, Prowse and Mueller. *CompTIA A+ Authorized Cert Guide*, Pearson Education, Inc., 2013.**							B	
2.19.6	Utilize Interface/Shells **TR: Blawat. *Mastering Windows PowerShell Scripting*, Packt Publishing. 2015. Naik. *Learning Linux Shell Scripting*, Packt Publishing, 2015.**							2b	
2.19.7	User/Account Roles							B	
2.19.8	Computer Roles/Functions							B	
2.19.9	Environment Virtualization **TR: Portnoy. *Virtualization Essentials*, Sybex, 2012.**							B	
2.19.10	File Backup and Archival Methodology							B	
2.19.11	Utilize Software Applications **TR: Walkenbach, *Excel 2013 Power Programming with VBA*, John Wiley & Sons, Inc., 2013. Wilton and Colby. *Beginning SQL*, Wrox, 2005.**							2b	
2.19.12	Cybersecurity and Information Assurance Principles **TR: AFI 33-200**							B	
2.19.13	Perform Safety and Troubleshooting **TR: TO 00-25-259, White, Ron. *How Computers Work, 10th ed.*, Que Publishing, 2015.**							2b	
2.19.14	System Startup Sequence **TR: White, Ron. *How Computers Work, 10th ed.*, Que Publishing, 2015.**							B	
TECHNICAL KNOWLEDGE									
2.20.	**MATHEMATICS** **TR: Hostetler, Robert P. and Ron Larson, *Precalculus (6th Ed)*, Houghton Mifflin Company, 2004.**								
2.20.1	Solve Basic Algebra							2b	
2.20.2	Solve Basic Trigonometry							2b	
2.20.3	Calculate Probability and Statistics							2b	
2.21	**APPLIED SCIENCES** **TR: Young and Freedman. *University Physics with Modern Physics*, Pearson Education, Inc., 2016. Muller. *Physics and Technology for Future Presidents*, Princeton University Press, 2010.**								
2.21.1	**Classical Physics** **TR: Wilson and Buffa. *College Physics*, Prentice Hall, 2000.**								
2.21.1.1	Classical Mechanics							B	
2.21.1.2	Classical Electromagnetism							B	
2.21.2	Chemistry and Thermodynamics **TR: McQuarrie and Rock. *General Chemistry*, W.H. Freeman and Company, 1991.**							B	
2.21.3	**Modern Physics**								
2.21.3.1	Electromagnetic Spectrum							B	
2.21.3.2	Quantum Mechanics							B	
2.21.3.3	Nuclear Physics							B	

ATTACHMENT 2. RI 9S100 SCIENTIFIC APPLICATIONS FUNDAMENTALS JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
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			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
2.22	**PHENOMENOLOGY** **TR: Young and Freedman. *University Physics with Modern Physics*, Pearson Education, Inc., 2016. Muller. *Physics and Technology for Future Presidents*, Princeton University Press, 2010.**								
2.22.1	Geophysical Applications							B	
2.22.2	Radio Frequency and Microwave Applications							B	
2.22.3	Electro-Optic Applications							B	
2.22.4	Nuclear Applications							B	
2.23	**ISR PROFESSIONAL**								
2.23.1	Community Structure **TR: Joint Publication 2-0, intelligencecareers.gov**							A	
2.23.2.	ISR Disciplines **TR: Air Force Enlisted Classification Directory**							A	
2.23.3.	**ISR Operations** **TR: Joint Publication 2-01, AFD Annex 2-0**								
2.23.3.1	National and Theatre Assets **TR: Joint Tactical Exploitation of National Systems (JTENS), AFTTP 3-1 Series**							A	
2.23.5.2	Operational Applications **TR: Joint Publication 2-0, intelligencecareers.gov**							A	

ATTACHMENT 3. RI 9S100 SUBSURFACE MAINTENANCE JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
			A	B	C	D	E	A Initial	B Qual
			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
3.1	**SECURITY AND SAFETY**								
3.1.1	RI9S100 Maintenance OPSEC **TR: AFI 10-701**							B	
3.1.2	General Safety Practices **TR: AFI 91-203**							B	
3.1.3	Handle Compressed Gases **TR: AFI 91-203**							2b	
3.1.4	Use Personal Protective Equipment **TR: AFI 91-203**							2b	
3.1.5	Apply Hazardous Energy Control and Tags **TR: AFI 91-203**							2b	
3.1.6	DOD Hazardous Communication Training Program **TR: AFI 90-821**							A	
3.1.7	Hazardous Material, Waste Management and Emergency Response							A	
3.1.8	USAF Mishap Prevention Program **TR: AFI 91-203**							A	
3.1.9	Material Handling and Storage **TR: AFI 91-203**							A	
3.2	**MAINTENANCE PRACTICES**								
3.2.1	Troubleshooting Theory							B	
3.2.2	Corrosion Control Theory **TR: TO 1-1-689 Series**							B	
3.2.3	Workmanship Standards **TR: TO 00-25-234**							B	
3.2.4	**Tools** **TR: AFI 21-101, AFI 91-203, TO 32-1-101**								
3.2.4.1	Use Tools							2b	
3.2.4.2	Maintain Tools							2b	
3.2.4.3	Control Tools							2b	
3.2.5	Test Measurement Diagnostic Equipment Principles **TR: TO 00-20-14, AFI 21-101**							B	
3.2.6	Electrostatic Discharge Control Principles **TR: TO 00-25-234, 00-25-259**							B	
3.2.7	Grounding Systems **TR: TO 31-10-24**							B	
3.2.8	Maintain Wiring and Cabling **TR: TO 00-25-234; TI 2W-1-1**							2b	
3.2.9	Solder and Desolder **TR: TO 00-25-234, TO 00-25-259**							3c	
3.2.10	Assemble Solderless Connectors **TR: TO 00-25-234, TO 00-25-259**							2b	
3.2.11	Use wiring/engineering drawing **TR: TO 00-25-234, TO 00-25-259**							2b	
3.3	**MAINTENANCE MANAGEMENT PRINCIPLES**								
3.3.1	Specific Technique Maintenance Management **TR: CENI 21-110**							B	

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1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
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			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
3.3.2	**Maintenance Management**								
3.3.2.1	Maintenance Organization **TR: CENI 21-110**							B	
3.3.2.2	Work Center Programs **TR: CENI 21-110**							B	
3.3.2.3	AFTAC Maintenance Evaluation Program **TR: CENI 21-101**							B	
3.3.2.4	Complete Maintenance Documentation **TR: TO 00-20-2**							2b	
3.3.2.5	Complete Maintenance Data Collection **TR: TO 00-20-2**							2b	
3.3.2.6	Configuration Control **TR: CENI 21-110, TO 00-20-2**							B	
3.4	**SUPPLY AND TRANSPORTATION** **TR: AFMAN 23-110**								
3.4.1	**USAF Supply System**								
3.4.1.1	Use Forward Supply Point							2b	
3.4.1.2	Use Bench/Shop Stock System							2b	
3.4.1.3	Equipment Accounts							B	
3.4.2	**Supply Procedures**								
3.4.2.1	USAF Logistics							B	
3.4.2.2	Depot Logistics							B	
3.4.3	**Shipping, Packing and Handling**								
3.4.3.1	Requirements							B	
3.4.3.2	Transportation Procedures							B	
3.4.3.3	Hazardous Materials Shipping Requirements							B	
3.5	**PUBLICATIONS** **TR: TO 00-5-1**								
3.5.1.1	TODO Functions							A	
3.5.1.2	Perform TODA Functions							2b	
3.5.1.3	Use Technical Publications							2b	
3.5.2	Submit AFTO 22							2b	
3.5.3	Local Preventative Maintenance Routines (PMR)							B	
3.5.4	Perform PMRs							2b	
3.6	**TRAVEL REQUIREMENTS**								
3.6.1	Use Foreign Clearance Guide **TR: DoD Foreign Clearance Guide (online)**							2b	
3.6.2	Foreign Travel Familiarization							B	
3.7	**FIELD SUBSYSTEM**								
3.7.1	**Sensor Site**								
3.7.1.1	**Short Period Seismometer** **TR: TI 2S-SP-1**								
3.7.1.1.1	Theory of Operation							B	
3.7.1.1.2	**Operate/Maintain**								

ATTACHMENT 3. RI 9S100 SUBSURFACE MAINTENANCE JETS

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			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
3.7.1.1.2.1	Remove and Replace Delta Rods							2b	
3.7.1.1.2.2	Remove and Replace Cross Flexures							2b	
3.7.1.1.2.3	Remove and Replace Cantilever Assembly							2b	
3.7.1.1.2.4	Center Mass							2b	
3.7.1.1.2.5	Adjust Natural Frequency							2b	
3.7.1.1.2.6	Measure Coil and Insulation Resistance							2b	
3.7.1.1.3	Troubleshoot							2b	
3.7.1.1.4	Remove and Replace							2b	
3.7.1.2	**Broadband Seismometer**								
3.7.1.2.1	Theory of Operation							B	
3.7.1.2.2	**KS54000** **TR: TI 2S-LP-BB-1**								
3.7.1.2.2.1	Operate/Maintain							2b	
3.7.1.2.2.2	Troubleshoot							2b	
3.7.1.2.2.3	Remove and Replace							2b	
3.7.1.2.3	**Guralp** **TR: TI 2S-BB-CMG3TB Series**								
3.7.1.2.3.1	Operate/Maintain							2b	
3.7.1.2.3.2	Troubleshoot							2b	
3.7.1.2.3.3	Remove and Replace							2b	
3.7.1.3	**Digitizer and Authenticator** **TR: TI 2S-AIM24S, 2S-AIMA**								
3.7.1.3.1	Theory of Operation							B	
3.7.1.3.2	Operate/Maintain							2b	
3.7.1.3.3.	Troubleshoot							2b	
3.7.1.3.4.	Remove and Replace							2b	
3.7.1.4.	**Wellhead Termination Unit and Interface Box** **TR: TI 2-ADSS-1 Series**								
3.7.1.4.1	Theory of Operation							B	
3.7.1.4.2	Operate/Maintain							2b	
3.7.1.4.3	Troubleshoot							2b	
3.7.1.5	**AC/DC Power Subsystems** **TR: TI 2P-UPS/12-1, 2P-SPS5087-1, 2P-UPS/Micro-1, 2W-1-1; TO00-25-234, 31-1-141-2, 31-1-141-3, 31-1-141-5, 31-1-141-9, 31-1-141-15**								
3.7.1.5.1	Theory of Operation							B	
3.7.1.5.2	Operate/Maintain							2b	
3.7.1.5.3	Troubleshoot							2b	
3.7.1.6	**Solar Power Subsystems** **TR: TI 2P-UPS/12-1, 2P-SPS5087-1, 2P-UPS/Micro-1, 2W-1-1; TO00-25-234, 31-1-141-2, 31-1-141-3, 31-1-141-5, 31-1-141-9, 31-1-141-15**								
3.7.1.6.1	Theory of Operation							B	
3.7.1.6.2	Operate/Maintain							-	
3.7.1.6.3	Troubleshoot							-	
3.7.2	**Central Data Collection Point**								

ATTACHMENT 3. RI 9S100 SUBSURFACE MAINTENANCE JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
			A	B	C	D	E	A Initial	B Qual
			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
3.7.2.1	**Data Acquisition Rack** **TR: TI 2S-CIM3/2.1-1**								
3.7.2.1.1	**Theory of Operation**								
3.7.2.1.1.1	Startup/Shutdown/Process Restarts							B	
3.7.2.1.1.2	Xave Data Path and Process Theory							B	
3.7.2.1.1.3	Workstation Authentication Theory							B	
3.7.2.1.2	**Operate/Maintain**								
3.7.2.1.2.1	Command and Control Digitizer							2b	
3.7.2.1.2.2	Run and Validate Calibrations							1a	
3.7.2.1.2.3	Open/Verify/Interpret Logs							2b	
3.7.2.1.3	Troubleshoot							2b	
3.7.2.2	**Workstation** **TR: TI 2WS Series, Foundations of CentOS Linux, Red Hat Enterprise Linux 6**								
3.7.2.2.1	Theory of Operation							B	
3.7.2.2.2	Operate/Maintain							2b	
3.7.2.2.3	Troubleshoot							2b	
3.8	**NETWORK COMMUNICATIONS SYSTEM** **TR: White, Ron. *How Computers Work, 10th ed.*, Que Publishing, 2015. CompTIA Network+ N10-005 Certification Guide**								
3.8.1	Communication Interfaces							B	
3.8.2	**WAN**								
3.8.2.1	Theory of Operation							B	
3.8.3	**LAN**								
3.8.3.1	Theory of Operation							B	
3.8.3.2	Operate/Maintain							2b	
3.8.3.3	Troubleshoot							2b	
3.8.4	**Intrasite Communications**								
3.8.4.1	**Modem** **TR: 2 RDL Series**								
3.8.4.1.1	Theory of Operation							B	
3.8.4.1.2	Operate/Maintain							2b	
3.8.4.1.3	Troubleshoot							2b	
3.8.4.2	**Wireless Transceiver** **TR: 2 RDL Series**								
3.8.4.2.1	Theory of Operation							B	
3.8.4.2.1	Operate/Maintain							2b	
3.8.4.2.3	Troubleshoot							2b	
3.9	**SYSTEMS CONTROL CENTER** **TR: TI 2-NDC-2**								
3.9.1	Theory of Operation							B	
3.9.2	Monitoring/Reporting							B	

ATTACHMENT 3. RI 9S100 SUBSURFACE MAINTENANCE JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
			A	B	C	D	E	A Initial	B Qual
			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
3.9.3	System Tools							B	
3.10	**TMDE** **TR: AFI 21-113, TO 32-1-101, Equip User's Manual**								
3.10.1	Use Time Domain Reflectometer							2b	
3.10.2	Use Earth Tester							2b	
3.10.3	Use DC Power Supply							2b	
3.10.4	Use Audio Test Set/Communications Tester							2b	
3.10.5	Spectrum Analyzer							A	
3.10.6	Use Digital Multimeter							2b	
3.10.7	Use Storage Oscilloscope							2b	
3.10.8	Use RF Watt Meter							2b	

ATTACHMENT 4. RI 9S100 REMOTE SENSING JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
			A	B	C	D	E	A Initial	B Qual
			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
4.1	**SECURITY**								
4.1.1	RI 9S100 OPSEC **TR: Applicable Security Classification Guide**							B	
4.2	**ENERGY PHENOMENOLOGY**								
4.2.1	Remote Sensing **TR: Sabins, Floyd F. *Remote Sensing Principles and Interpretation 3rd Edition*, Waveland Press, 2007.**							B	
4.2.2	**Nuclear Explosions** **TR: Gladstone, Samuel. *Effects of Nuclear Weapons*, Knowledge Publications, 2006.**								
4.2.2.1	Phenomena							B	
4.2.2.2	Burst Types							B	
4.2.2.3	Observables							B	
4.2.3	**Conventional Explosions** **TR: Agrawal, Jai Prakash, *High Energy Materials*, Wiley-VCH, 2010.**								
4.2.3.1	Types							B	
4.2.3.2	Observables							B	
4.2.3.3	Delivery Systems							B	
4.2.4	**Directed Energy** **TR: *Effects of Directed Energy Weapons, 1st Ed.*, Directed Energy Professional Society, 2009.**								
4.2.4.1	Types							A	
4.2.4.2	Observables							A	
4.2.5	**Energy Propagation** **TR: The Ionosphere, Karl Rawer**								
4.2.5.1	Atmospheric Layers							B	
4.3	**DATA COLLECTION** **TR: Joint Tactical Exploitation of National Systems (JTENS),**								
4.3.1	Electromagnetics							B	
4.3.2	Basic Sensor Design							B	
4.3.3	**Data Acquisition**								
4.3.3.1	Theory							B	
4.3.3.2	Signal Conditioning							B	
4.3.3.3	Sampling							B	
4.3.4	Collection Parameters							B	
4.4	**DETECTION PHENOMENOLOGY**								
4.4.1	Radio Frequency (RF) **TR: White, Joseph F. *High Frequency Techniques: An introduction to RF and Microwave Engineering*, Wiley-IEEE Press, 2004.**							B	
4.4.2	**Radar** **TR: Richards, Mark A. *Principles of Modern Radar: Basic Principles*, SciTech Publishing, 2010. Stimson, G.W. *Introduction to Airborne Radar. 2nd Ed.*, The Institution of Engineering and Technology, 1998. Jeffrey, Tom. *Phased-Array Radar Design: Application of Radar Fundamentals*, Scitech Pub Inc, 2009.**								
4.4.2.1	Theory							B	
4.4.2.2	Line of Sight							B	
4.4.2.3	Phased Array							B	

ATTACHMENT 4. RI 9S100 REMOTE SENSING JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
			A	B	C	D	E	A Initial	B Qual
			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
4.4.2.4	Over the Horizon							B	
4.4.2.5	Synthetic Aperture							B	
4.4.2.6	Moving Target Indicator							B	
4.4.3	**Electro-Optics** **TR: Duree, Galem C. Jr. *Optics for Dummies*, For Dummies, 2011.**								
4.4.3.1	Theory							B	
4.4.3.2	Sensors							B	
4.4.3.3	**Infrared (IR)** **TR: Vincent, J. D. *Fundamentals of Infrared, Detector Operations and Testing 2nd Ed.*, Wiley, 2012.**								
4.4.3.3.1	Theory							B	
4.4.3.3.2	Thermal Imaging							B	
4.4.3.3.3	Overhead Persistent IR (OPIR)							B	
4.4.4.	Nuclear Radiation **TR: Knoll. *Radiation Detection and Measurement (2nd Ed)*, John Wiley and Sons, 1989.**							B	
4.4.5	**Spectral** **TR: Schowengerdt, Robert A. *Remote Sensing: Models and Methods for Image Processing 3rd Ed.*, Academic Press, 2006.**								
4.4.5.1	Theory							B	
4.4.5.2	Sensors							B	
4.5	**ORBITAL MECHANICS** **TR: Adolph, S. ed. Jursa. *Handbook of Geophysics and the Space Environment*, Air Force Geophysics Laboratory, 1985. Curtis, Howard. *Orbital Mechanics for Engineering Students 2nd Ed.*. Butterworth-Heinemann, 2009.**								
4.5.1	**Coordinate Systems**								
4.5.1.1	Terrestrial Coordinate Systems							B	
4.5.1.2	Celestial Coordinate Systems							B	
4.5.2	**Orbital Parameters**								
4.5.2.1	Ellipse Parameters							B	
4.5.2.2	Orbital Elements							B	
4.5.3	**Orbital Characteristics**								
4.5.3.1	Ground Tracks							B	
4.5.3.2	Perturbations							B	
4.5.3.3	Types of Orbits							B	
4.5.4	**Orbital Geometry**								
4.5.4.1	Satellite Tracking							B	
4.5.4.2	Sensor Geometry							B	
4.5.4.3	Perform Geometry Calculations							b	
4.5.5	Geographic Information Systems							A	
4.6	**Collection Systems** **TR: Joint Tactical Exploitation of National Systems (JTENS)**								
4.6.1	RF							B	
4.6.2	Radar							B	
4.6.3	Electro-Optical							B	
4.6.4	**Nuclear**								
4.6.4.1	Platforms							B	

ATTACHMENT 4. RI 9S100 REMOTE SENSING JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
			A	B	C	D	E	A Initial	B Qual
			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
4.6.4.2	Sensors							B	
4.6.5	Perform Remote Sensing Exercise							2b	
4.6.6	Data (Cueing/Tipping)							B	
4.6.7	Reports							A	

ATTACHMENT 5. RI 9S100 SPECIAL EQUIPMENT MAINTENANCE JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
			A	B	C	D	E	A Initial	B Qual
			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
5.1	**SECURITY AND SAFETY**								
5.1.1	RI9S100 Maintenance OPSEC **TR: AFI 10-701**							B	
5.1.2	General Safety Practices **TR: AFI 91-203**							B	
5.1.3	Handle Compressed Gases **TR: AFI 91-203**							2b	
5.1.4	Use Personal Protective Equipment **TR: AFI 91-203**							2b	
5.1.5	Apply Hazardous Energy Control and Tags **TR: AFI 91-203**							2b	
5.1.6	DOD Hazardous Communication Training Program **TR: AFI 90-821**							A	
5.1.7	Hazardous Material, Waste Management, and Emergency Response **TR: AFI 32-7086**							A	
5.1.8	USAF Mishap Prevention Program **TR: AFI 91-203**							A	
5.1.9	Material Handling and Storage **TR: AFI 91-203**							A	
5.2	**MAINTENANCE PRACTICES**								
5.2.1	Troubleshooting Theory							B	
5.2.2	Corrosion Control Theory **TR: TO 1-1-689 Series**							B	
5.2.3	Workmanship Standards **TR: TO 00-25-234**							B	
5.2.4	**Tools** **TR: AFI 21-101, TO 32-1-101, TO 00-25-234, TO 00-25-259, TI 2W-1-1**								
5.2.4.1	Use Tools							2b	
5.2.4.2	Maintain Tools							2b	
5.2.4.3	Control Tools							2b	
5.2.5	Test Measurement Diagnostic Equipment Principles **TR: TO 00-20-14, AFI 21-101**							B	
5.2.6	Electrostatic Discharge Control Principles **TR: TO 00-25-234, 00-25-259**							B	
5.2.7	Grounding Systems **TR: TO 31-10-24**							B	
5.2.8	Maintain Wiring and Cabling **TR: TO 00-25-234; TI 2W-1-1**							2b	
5.2.9	Maintain Tubing, Fittings, and Valves							2b	
5.2.10	Solder and Desolder **TR: TO 00-25-234, TO 00-25-259**							3c	
5.2.11	Assemble Solderless Connectors **TR: TO 00-25-234, TO 00-25-259**							2b	
5.2.12	Use Wire/Engineering Drawing **TR: TO 00-25-234, TO 00-25-259**							2b	

ATTACHMENT 5. RI 9S100 SPECIAL EQUIPMENT MAINTENANCE JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
			A	B	C	D	E	A Initial	B Qual
			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
5.3	**MAINTENANCE MANAGEMENT PRINCIPLES**								
5.3.1	Specific Technique Maintenance Management **TR: CENI 21-110**							B	
5.3.2	**Maintenance Management** **TR: CENI 21-110, AFI 21-210, TO 00-20-2**								
5.3.2.1	Maintenance Organization							B	
5.3.2.2	Work Center Programs							B	
5.3.2.3	Maintenance Evaluation Program **TR: AFI 21-101, CENI 21-210**							B	
5.3.2.4	Complete Maintenance Documentation **TR: TO 00-20-2**							2b	
5.3.2.5	Complete Maintenance Data Collection **TR: TO 00-20-2**							2b	
5.3.3	Configuration Control							B	
5.4	**SUPPLY AND TRANSPORTATION** **TR: AFMAN 23-110**								
5.4.1	**USAF Supply System**								
5.4.1.1	Use Forward Supply Point							2b	
5.4.1.2	Use Bench/Shop Stock System							2b	
5.4.1.3	Equipment Accounts							B	
5.4.2	**Supply Procedures**								
5.4.2.1	USAF Logistics							B	
5.4.2.2	Depot Logistics							B	
5.4.3	**Shipping, Packing, and Handling**								
5.4.3.1	Requirements							B	
5.4.3.2	Transportation Procedures							B	
5.4.3.3	Hazardous Materials Shipping Requirements							B	
5.5	**PUBLICATIONS** **TR: TO 00-5-1**								
5.5.1	**TI/TO Library**								
5.5.1.1	TODO Functions							A	
5.5.1.2	Perform TODA Functions							2b	
5.5.1.3	Use Technical Publications							2b	
5.5.2	Submit AFTO Form 22							2b	
5.5.3	Local Preventative Maintenance Routines (PMR)							B	
5.5.4	Perform PMRs							2b	
5.6	**TRAVEL REQUIREMENTS**								
5.6.1	Use Foreign Clearance Guide **TR: DoD Foreign Clearance Guide (online)**							2b	

ATTACHMENT 5. RI 9S100 SPECIAL EQUIPMENT MAINTENANCE JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
			A	B	C	D	E	A Initial	B Qual
			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
5.6.2	Foreign Travel Familiarization							B	
5.7	**NUCLEAR MATERIALS PHENOMENOLOGY** **TR: Nuclear Energy and Proliferation Workshop notes, Nov 96. Spector, Leonard. *The Undeclared Bomb*, Ballinger Publishing Co., 1988. Gladstone and Dolan. *Effects of Nuclear Weapons*, US DoD, 1977.**								
5.7.1	Effects of Nuclear Weapons							B	
5.7.2	Nuclear Reactors							B	
5.7.3	Meteorological Effects and Sample Degradation							B	
5.7.4	**Sampling Theory** **TR: 3D-ACR-1, 3D-ACR-2, 1A-AARE-1**								
5.7.4.1	Cryogenic Distillation							B	
5.7.4.2	Particulate							B	
5.7.4.3	Whole Air							B	
5.7.5	**Analysis** **TR: Knoll. *Radiation Detection and Measurement (2nd Ed)*, John Wiley and Sons, 1989.**								
5.7.5.1	Detector Theory							B	
5.7.5.2	Anti/Coincidence Counting							A	
5.7.5.3	Radioactive Decay and Daughter Products							B	
5.7.5.4	Calculate Half-life Decay Rates							2b	
5.7.5.5	Counting Statistics							A	
5.8	**GROUND BASED COLLECTION MISSIONS** **TR: AFTAC General Subject Security Classification Guide**								
5.8.1	National, DoD, and R&D Customer Relationships							B	
5.8.2	Reactor Products Program							B	
5.8.3	Nuclear Debris Collection and Analysis							B	
5.8.4	Nuclear Plant Program							B	
5.8.5	Missions and Treaties							B	
5.9	**GROUND BASED PLATFORM SAMPLES** **TR: CENI 10-23, CENI 10-23-1**								
5.9.1	**Sample Handling Procedures**								
5.9.1.1	Sample Lifecycle							B	
5.9.1.2	Perform Sample Handling Procedures							2b	
5.9.2	**Sample Contamination**								
5.9.2.1	Threats and Outcomes of Contamination							B	
5.9.2.2	Cleanroom Processes and Good Laboratory Practices							B	
5.10	**NETWORK INTERFACE** **TR: CompTIA Network+ N10-005 Cert Guide**								

ATTACHMENT 5. RI 9S100 SPECIAL EQUIPMENT MAINTENANCE JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
			A	B	C	D	E	A Initial	B Qual
			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
5.10.1	Network Theory							B	
5.10.2	System Control							B	
5.10.3	Perform Remote Troubleshooting							2b	
5.10.4	Perform Network Troubleshooting							2b	
5.11	**GROUND BASED COLLECTION PLATFORMS**								
5.11.1	**Gaseous Collectors** **TR: TI 3D-ACR-1, 3D-ACR-2, 3D-ACR-6; CENI 10-23, 10-23-1**								
5.11.1.1	Principles of Operation							B	
5.11.1.2	Relationship of Pressure, Volume, and Temperature							B	
5.11.1.3	Structural and Facility Power Requirements							B	
5.11.1.4	Operate Ground Based Collection Platforms							2b	
5.11.1.5	Use Forms							2b	
5.11.1.6	**Operator Maintenance**								
5.11.1.6.1	Perform Leak Check							2b	
5.11.1.6.2	Charge Helium System							2b	
5.11.1.6.3	Replace Air Compressor							2b	
5.11.1.6.4	Replace Inlet Air Filter							2b	
5.11.1.7	**Normal Maintenance**								
5.11.1.7.1	Maintain Sample Air System							2b	
5.11.1.7.2	Maintain Helium System							2b	
5.11.1.7.3	Maintain Argon System							2b	
5.11.1.7.4	Maintain Temperature Sensing System							2b	
5.11.1.7.5	Maintain Control System							2b	
5.11.1.7.6	Maintain Power Distribution System							2b	
5.11.1.7.7	Troubleshoot and Repair							2b	
5.11.1.8	**Ancillary Equipment**								
5.11.1.8.1	Principles of Operation							B	
5.11.1.8.2	Basic Vacuum Theory							B	
5.11.1.8.3	Operate Vacuum Pump							2b	
5.11.1.8.4	Maintain Ancillary Equipment							2b	
5.11.2	**Particulate Collection Platforms** **TR: TI 13-AGFU-1, 13-AGFU-4, 13-AGFU-6, 13-AGFU-8**								
5.11.2.1	Principles of Operation							B	
5.11.2.2	Structural and Facility Power Requirements							B	
5.11.2.3	Perform Remote Monitoring and State of Health							2b	

ATTACHMENT 5. RI 9S100 SPECIAL EQUIPMENT MAINTENANCE JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
			A	B	C	D	E	A Initial	B Qual
			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
5.11.2.4	Operate Particulate Collections Equipment							2b	
5.11.2.5	**Maintenance**								
5.11.2.5.1	Maintain Blower Assembly							2b	
5.11.2.5.2	Maintain Filter Paper Path							2b	
5.11.2.5.3	Maintain Control Subsystem							2b	
5.11.2.5.4	Maintain Analysis Subsystem							2b	
5.11.2.5.5	Maintain Calibration Subsystem							2b	
5.11.2.5.6	Maintain Barcode Subsystem							2b	
5.11.2.5.7	Maintain Power Subsystem							2b	
5.11.2.5.8	Troubleshoot and Repair							2b	

ATTACHMENT 6. RI 9S100 SUBSURFACE ANALYSIS JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
			A	B	C	D	E	A Initial	B Qual
			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
6.1	**SECURITY**								
6.1.1	RI9S100 OPSEC **TR: Applicable Security Classification Guide**							B	
6.2	**SEISMIC** **TR:TI 2-NDC-TNG1; DO OI 10-2; CENI 10-102; Eiby, G.A., *Earthquakes*, Van Nustrand Reeinhold, 1980. Richter, Charles F. *Elementary Seismology*, W.H. Freeman and Company, 1958. Bolt, Bruce. *Nuclear Explosions and Earthquakes*, W.H. Freeman and Company, 1976. Lay, Thorne and Wallace. *Modern Global Seismology*, Academic Press, 1995. Simon, Ruth B. *Earthquake Interpretations*. Woodward-Clyde consultants, 1981. Dahlman, Olda and Hans Israelson, *Monitoring Underground Nuclear Explosions*, Elseevier Scientific Pub Co, 1977. Douglas, Alan. *Forensic Seismology and Nuclear Test Bans*, Cambridge, 2013.**								
6.2.1	**Theory and Application**								
6.2.1.1	Field Subsystem							B	
6.2.1.2	HQ Subsystem							B	
6.2.1.3	Array Characteristics							B	
6.2.1.4	Workflow Familiarization							A	
6.2.2	**Data Analysis**								
6.2.2.1	Theory and Application							B	
6.2.2.2	Distinguish Signal from Noise and Background							2b	
6.2.2.3	Differentiate Between Natural and Man-made Events							2b	
6.2.2.4	Perform Signal Measurement							2b	
6.2.2.5	Recognize/Identify Later Phases							2b	
6.2.2.6	Determine Signal Types							2b	
6.2.2.7	Determine Signal Azimuth							2b	
6.2.2.8	Associate Short Period							2b	
6.2.2.9	Form Events							2b	
6.2.2.10	**Apply Event Refinement Techniques**								
6.2.2.10.1	Determine Event Validity							2b	
6.2.2.10.2	Determine Event Location							2b	
6.2.2.10.3	Determine Event Distance							2b	
6.2.2.10.4	Determine Event Depth							2b	
6.2.2.10.5	Determine Event Magnitude							2b	
6.2.2.11	Use Analysis Tools							2b	
6.2.2.12	Validate Automatic Signal Detection							2b	
6.2.3	Use Application Software							2b	
6.3	**ADVANCED ANALYSIS**								
6.3.1	**Long Period** **TR: TI 2-NDC-TNG1; DO OI 10-2; CENI 10-102; Eiby, G.A., *Earthquakes*, Van Nustrand Reeinhold, 1980. Richter, Charles F. *Elementary Seismology*, W.H. Freeman and Company, 1958. Bolt, Bruce. *Nuclear Explosions and Earthquakes*, W.H. Freeman and Company, 1976. Lay, Thorne and Wallace. *Modern Global Seismology*, Academic Press, 1995. Simon, Ruth B. *Earthquake Interpretations*. Woodward-Clyde consultants, 1981. Dahlman, Olda and Hans Israelson, *Monitoring Underground NuclearExplosions*, Elseevier Scientific Pub Co, 1977. Douglas, Alan. *Forensic Seismology and Nuclear Test Bans*, Cambridge, 2013.**								
6.3.1.1	Theory and Application							A	

ATTACHMENT 6. RI 9S100 SUBSURFACE ANALYSIS JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
			A	B	C	D	E	A Initial	B Qual
			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
6.3.1.2	Signal Types							A	
6.3.1.3	Data Processing							A	
6.3.2	**Hydroacoustic** **TR: DO OI 10-1; Paker, Sybil P. Ed. *The McGraw Hill Encyclopedia of Ocean and Atmospheric Sciences*, McGraw Hill, Inc, 1977.**								
6.3.2.1	Theory and Application							A	
6.3.2.2	Field Subsystem							A	
6.3.2.3	HQ Subsystem							A	
6.3.2.4	Locations							A	
6.3.2.5	Signal Types							A	
6.3.2.6	Data Processing							A	
6.3.3	**Infrasound** **TR: Infrasound Fundamentals, AFTAC.**								
6.3.3.1	Theory and Application							A	
6.3.3.2	Signal Types							A	
6.3.3.3	Data Processing							A	

ATTACHMENT 7. RI 9S100 NETWORKING AND SYSTEMS ADMINISTRATION JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
			A	B	C	D	E	A Initial	B Qual
			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
7.1	**WORKSTATION OPERATING SYSTEM FUNDAMENTALS** **TR: Vugt. *Red Hat Enterprise Linux 6*, John Wiley & Sons, Inc., 2013. Negus. *Linux Bible*, John Wiley & Sons, Inc., 2015.**								
7.1.1	Identify Basic Characteristics							B	
7.1.2	File Structure and File System							B	
7.2	**WORKSTATION OPERATING SYSTEM** **TR: Vugt. *Red Hat Enterprise Linux 6*, John Wiley & Sons, Inc., 2013. Negus. *Linux Bible*, John Wiley & Sons, Inc., 2015.**								
7.2.1	Use Operating System Commands							2b	
7.2.2	Use Text Editor							2b	
7.2.3	Customize the Operating System							2b	
7.3	**SYSTEM ADMINISTRATION** **TR: Vugt. *Red Hat Enterprise Linux 6*, John Wiley & Sons, Inc., 2013. Negus. *Linux Bible*, John Wiley & Sons, Inc., 2015.**								
7.3.1	Perform Startup/Shutdown Procedures							2b	
7.3.2	Maintain System Configuration							2b	
7.3.3	Manage System Processes							2b	
7.3.4	Manage System Devices							2b	
7.3.5	Use Backup, Restore and Tar Utilities							2b	
7.3.6	Maintain System Security							2b	
7.3.7	System Diagnostics							2b	
7.4	**NETWORK ADMINISTRATION** **TR: Shinder. *Computer Networking Essentials*, Cisco Press, 2001. Vugt. *Red Hat Enterprise Linux 6*, John Wiley & Sons, Inc., 2013. Negus. *Linux Bible*, John Wiley & Sons, Inc., 2015. Portnoy. *Virtualization Essentials*, Sybex, 2012.**								
7.4.1	IP Theory							B	
7.4.2	Manage Workstation							2b	
	Connect Network Clients							2b	
	Troubleshoot Network Connections							2b	
7.5	**WRITE SCRIPT** **TR: Naik. *Learning Linux Shell Scripting*, Packt Publishing, 2015. Blawat. *Mastering Windows PowerShell Scripting*, Packt Publishing, 2015. Wilton and Colby. *Beginning SQL*, Wrox, 2005.**							2b	
7.6.	**INSTALL OPERATING SYSTEM** **TR: Vugt, *Red Hat Enterprise Linux 6*, John Wiley & Sons, Inc., 2013. Negus, *Linux Bible*, John Wiley & Sons, Inc., 2015.**							2b	

ATTACHMENT 8. RI 9S100 ADVANCED SCIENTIFIC APPLICATIONS JETS

1. Tasks, Knowledge and Technical References		2. Core tasks	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training Provided	
			A	B	C	D	E	A Initial	B Qual
			Training Start	Training Complete	Trainee Initials	Trainer Initials	Certifier Initials		
8.1.	**ISR PROFESSIONAL**								
8.1.1	Community Structure **TR: Joint Publication 2-0, intelligencecareers.gov**							B	
8.1.2	ISR Disciplines **TR: Air Force Enlisted Classification Directory**							B	
8.1.3	ISR Operations **TR: Joint Publication 2-01, AFD Annex 2-0**							B	
8.1.4	9S100 Roles							B	
8.2	**ADVANCED DETECTION PHENOMENOLOGY AND ISR SYSTEMS**								
8.2.1	Traditional Nuclear Detonation Detection Systems							B	
8.2.2	Non-traditional Detection Systems **TR: Joint Tactical Exploitation of National Systems (JTENS)**							B	
8.3	**CAREER DEVELOPMENT**								
8.3.1.1	Manpower **TR: AFI 38-201**							B	
8.3.1.2	Budget **TR: AFI 65-601VI, AFI 65-601V2, AFI 65-601V3**							B	
8.3.1.3	Support Agreements **TR: AFI 25-201**							B	
8.4	**CRITICAL THINKING** **TR: Heuer, Richard J. *Psychology of Intelligence Analysis*, Military Bookshop, 2010. Jones, Morgan D. *The Thinker's Toolkit,* Crown Business. 1998. Moore, David T. *Critical Thinking and Intelligence Analysis,* National Defense Intelligence College.**								
8.4.1	Critical Thinking							B	
8.4.2	Apply Principles of Critical Thinking							2b	