

DEPARTMENT OF THE AIR FORCE
Headquarters US Air Force
Washington, DC 20330-1030

CFETP 4R0X1
Parts I and II
October 2002

AFSC 4R0X1/A/B/C

DIAGNOSTIC IMAGING SPECIALTY



CAREER FIELD EDUCATION

AND TRAINING PLAN

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**DIAGNOSTIC IMAGING SPECIALTY
AFSC 4R0X1/A/B/C
CAREER FIELD EDUCATION AND TRAINING PLAN**

Table of Contents

PART I

Preface	1
Abbreviations/Terms Explained	2
Section A, General Information	6
Purpose	
Use	
Coordination and Approval	
Section B, Career Progression and Information	7
Specialty Description	
Skill/Career Progression	
Apprentice (3) Level	
Journeyman (5) Level	
Craftsman (7) Level	
Superintendent (9) Level	
Training Decisions	
Community College of the Air Force	
Career Field Path	
Section C, Skill Level Training Requirements	17
Purpose	
Specialty Qualification Requirements	
Apprentice Training (3-Level)	
Journeyman Training (5-Level)	
Craftsman Training (7-Level)	
Superintendent Training (9-Level)	

Supersedes: CFETP 4R0X1, October 1998
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Number of Printed Pages: 92

Section D, Resource Constraints	22
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Section E, Transitional Training Guide	23
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PART II

Section A, Specialty Training Standard (STS)	24
--	----

Attachment 1- Qualitative Requirements	28
--	----

Attachment 2- Diagnostic Imaging Specialty	29
--	----

Attachment 3- Nuclear Medicine, A-shred	50
---	----

Attachment 4- Ultrasound, B-shred	59
-----------------------------------	----

Attachment 5- Magnetic Resonance Imaging, C-shred	62
---	----

Attachment 6- Bibliography and Cross Talk Listing of 4R0X1 Training References	67
--	----

Section B, Course Objective List	69
----------------------------------	----

Section C, Support Materials	77
------------------------------	----

Section D, Training Course Index	77
----------------------------------	----

Section E, MAJCOM Unique Requirements	78
---------------------------------------	----

Section F, Documentation of Training (Medical Specific)	78
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DIAGNOSTIC IMAGING SPECIALTY
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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, training support resources, and minimum core task requirements for the Diagnostic Imaging Specialty. The CFETP will provide supervisors, trainers, and trainees a clear career path to success and will instill rigor in all aspects of career field training. **NOTE:** Civilians occupying associated positions will use Part II to support duty position qualification training.

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

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

2.2. Part II includes the following: Section A identifies the Specialty Training Standard (STS) and includes duties, tasks, technical references to support training, and Air Education and Training Command (AETC) conducted training. In addition, Section A includes wartime course, core task, and correspondence course requirements. Section B contains the course objective list and training standards supervisors will use to determine if airmen have satisfied training requirements. Section C identifies available support materials. An example is a Qualification Training Package (QTPs which may be developed to support proficiency training). A list of QTPs are identified on <http://www.e-publishing.af.mil/pubs/speclist.asp?puborg=AF&series=qtp>. Section D is a training course index that can be used by supervisors 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 associated qualification needs. Section F explains implementation of the Enlisted Training and Competency Folder for all medical Air Force Specialties (AFS).

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

ABBREVIATIONS/TERMS EXPLAINED

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

Air Force Job Qualification Standard/Command Job Qualification Standard (AFJQS/CJQS). A comprehensive task list that describes a particular job type or duty position. Used by supervisors to document task qualifications. The tasks on AFJQS/CJQS are common to all persons serving in the described duty position.

ALARA. ALARA is an acronym standing for “As Low As Reasonably Achievable.” It describes a management philosophy of taking action to keep radiation exposure of patients and health care workers at the lowest practical level consistent with current technology.

Allocation Curves. The relation of hours of training in different training settings to the degree of proficiency that can be achieved on specified performance requirements.

American Registry of Diagnostic Medical Sonographers (ARDMS). The ARDMS is the nationally recognized certification body for ultrasonographers. Certified professionals may use the title “Registered Diagnostic Medical Sonographer” and its abbreviation “RDMS”, “Registered Vascular Technologist” and its abbreviation “RVT”, “Registered Cardiac Sonographer” and its abbreviation “RDCS”, and/or “Registered Ophthalmic Biometrist” and its abbreviation “ROUB” after their name. RDMS specialty areas include abdomen, obstetrics and gynecology, breast, neurosonology, and ophthalmology. RDC specialty areas include adult and pediatric echocardiography. Noninvasive vascular technology is a specialty area in RVT.

American Registry of Radiologic Technologists (ARRT). The ARRT is the nationally recognized certification body for many radiologic science professionals. Certified professionals may use the title “Registered Technologist” and its abbreviation “R.T.” after their name, along with the initial designating their certification specialty or subspecialty. Specialty certifications are offered for radiographers (R), nuclear medicine technologists (N), and radiation therapists (T). Subspecialty certifications are also offered in mammography (M), computed tomography (CT), magnetic resonance imaging (MR), cardiovascular-interventional technology (CV), bone densitometry (BM), sonography (S), vascular sonography (VS), and quality management (QM).

American Society of Radiologic Technologists (ASRT). The ASRT is the national professional organization for radiologic science professionals. Through its legislative body, the House of Delegates, and its appointees to the educational accreditation and professional certification bodies, the ASRT sets policy and direction for the profession. A military chapter was established in 1995 giving military radiologic science professionals a voice in the organization and 9 votes (3 from each service) in the House of Delegates.

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.

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

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

Core Task. A task Air Force Career Field Managers (AFCFMs) identify as a minimum qualification requirement within an Air Force specialty or duty position.

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-/7-skill level in this career field. Supervisors use the COL to assist in conducting graduate evaluations in accordance with AFI 36-2201, *Developing, Managing and Conducting Training*.

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

Field Technical Training (Type 4). Special or regular on-site training conducted by a field training detachment (FTD) or by a mobile training team.

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.

Initial Skills Training. A formal resident course that results in award of the entry skill level.

Joint Review Committee (JRC). Educational review committees formed of representatives from the medical profession and the radiologic science profession that publish standards for and render accreditation decisions on educational programs in the radiologic sciences. The Joint Review Committee on Education in Radiologic Technology (JRCERT) and the Joint Review Committee on Education in Nuclear Medicine Technology (JRCNMT) accredit the 4R0X1 and 4R0X1A educational programs, respectively.

Nuclear Medicine Technology Certification Board (NMTCB). A nationally recognized certification body sponsored by the Society of Nuclear Medicine (SNM). Certified nuclear medicine technologists may use the title “Certified Nuclear Medicine Technologist” and its abbreviation “CNMT” after their name. Certified nuclear cardiology technologists may use the title “Nuclear Cardiology Technologist” and its abbreviation “NCT” after their name.

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

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

Optimal Training. The ideal combination of training settings that results in the highest levels of proficiency on specified performance requirements in the minimum possible time.

Picture Archiving and Communication System (PACS). PACS is an independent network system consisting of communication and network, image database and storage, image acquisition, and image output and display within Diagnostic Imaging.

Qualification Training (QT). Actual hands-on task performance training designed to qualify an individual in a specific duty position. This portion of the dual channel on-the-job training program occurs both during and after the upgrade training process. 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 in other audiovisual media.

Representative Sites. Typical organizational units having similar missions, weapon systems or equipment, or a set of jobs, used as a basis for estimating average training capacities and costs within the Training Impact Decision System (TIDES).

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

Skills Training. A formal course that results in the award of a skill level.

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

Specialty Training Standard (STS). An Air Force publication that describes skills and knowledge that airman in a particular Air Force Specialty need on the job. It further serves as a contract between AETC and the user to show the overall training requirements that the formal schools must teach for an Air Force Specialty.

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

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

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

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

Training Impact Decision System (TIDES). A computer-based decision support technology being designed to assist Air Force career field managers in making critical judgments relevant to what training should be provided to personnel within career fields, when training should be provided (at what career points), and where training should be conducted (training setting).

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

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

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

Upgrade Training (UGT). Mandatory training that leads to attainment of a higher skill level/proficiency level.

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

Utilization and Training Workshop (U&TW). A forum of MAJCOM Air Force Specialty (AFS) functional managers, Subject Matter Experts (SMEs), and AETC training personnel that determines career ladder training requirements.

Wartime Course. A course structured to train only essential tasks and to produce the greatest number of graduates in the least amount of time. The course content is based on wartime tasks identified in the Specialty Training Standard.

Section A - General Information

1. Purpose. This CFETP provides information necessary for Air Force Career Field Managers (AFCFMs), MAJCOM functional managers (MFMs), commanders, training managers, supervisors, trainers, and the 882d Training Group (882 TRG) to plan, develop, manage, and conduct an effective career field training program. This plan outlines the training that individuals in this AFS should receive in order to develop and progress throughout their career. This plan identifies initial skills, upgrade, qualification, advanced, and proficiency training. Initial skills training is the AFS specific training an individual receives upon entry into the Air Force or upon retraining into this specialty for award of the 3-skill level. For the Diagnostic Imaging career field, this initial training is provided by the 382d Training Squadron (382 TRS), 882 TRG, Sheppard AFB, TX. Upgrade training identifies the mandatory courses, task qualification requirements, and correspondence course completion requirements for award of the 3-, 5-, 7-, and 9-skill levels. Qualification training is actual hands-on task performance training designed to qualify an airman in a specific duty position. This training program occurs both during and after the upgrade training process. It is designed to provide the performance skills/knowledge required to do the job. Advanced training is formal specialty training used for selected airmen. Continuation training is additional training, either in-residence or exportable advanced training courses, or on-the-job training, provided to personnel to increase their skills and knowledge beyond the minimum required for upgrade. The CFETP has several purposes, some are:

- 1.1.** To serve 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.** To identify task and knowledge training requirements for each skill level in the specialty and recommend education/training throughout each phase of an individual's career.
- 1.3.** To list training courses available in the specialty, identify sources of training, and the training delivery method.
- 1.4.** To identify major resource constraints that impact full implementation of the desired career field training process.

2. Use. 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 specialty.

2.1. 882 TRG training personnel will develop/revise formal resident, non-resident, field and exportable training based on requirements established by the users and documented in Part II of the CFETP. They will also work with the AFCFM to develop acquisition strategies for obtaining resources needed to provide the identified training.

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

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

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

Section B - Career Progression and Information

4. Specialty Description.

4.1. Specialty Summary. Operates equipment to produce diagnostic medical images, and assists the radiologist or physician with special procedures. Prepares equipment and patients for diagnostic studies and therapeutic procedures. Performs technical and administrative diagnostic imaging activities. Ensures health protective measures such as standard precautions and radiation protection measures are established and employed. Assists the radiation oncologist. Manages diagnostic imaging (DI) functions and activities. Related Department of Defense (DoD) Occupational Subgroup: 313.

4.2. Duties and Responsibilities.

4.2.1. *Operates fixed and mobile radiographic equipment to produce routine diagnostic medical images.* Computes techniques and adjusts control panel settings such as kilovoltage, exposure time, milliamperage, and focal spot size. Positions patients to image desired anatomic structures. Selects image recording media, adjusts table or cassette holder, aligns x-ray tube for correct distance and angle, and restricts radiation beam for maximum patient protection. Exposes and processes images.

4.2.2. *Uses specialized equipment to perform nuclear medicine, mammography, interventional radiography, ultrasound, computerized tomography (CT), and magnetic resonance imaging (MRI).* Selects imaging parameters and required accessories and makes adjustments based on the specific examination requirements. Records and processes images. Manipulates the recorded images using computer applications.

4.2.3. *Assists physician with fluoroscopic, interventional, and special examinations.* Instructs patients preparing for procedures. Prepares and assists with contrast media administration. May administer certain types of contrast media/medications upon task certification under the supervision of a physician. Maintains emergency response cart. Assists physician in treating reactions to contrast material. Prepares sterile supplies and equipment. Operates accessory equipment such as automatic pressure injectors, serial film changers and digital imagers, stereotactic biopsy devices, and vital signs monitoring equipment. Performs image subtraction and manipulation techniques. May perform non-interpretive fluoroscopic procedures as appropriate upon certification and under the direct supervision of a radiologist or supervising physician (limited to spotting the terminal ileum, voiding cystourethrograms, and foreign body localization).

4.2.4. *Assists radiation oncologist in radiation treatment of disease.* Operates treatment simulator. Constructs custom blocks and compensating filters. Uses electromagnetic and radioactive-source radiations in treating disease. Prepares and positions patients and equipment for, and delivers therapeutic and palliative radiation treatments. Sets and verifies dosage settings on equipment. Monitors patients during treatment activities. Documents patient treatment record.

4.2.5. *Performs and supervises general diagnostic imaging activities.* Mixes film processing solutions, loads and unloads film holders, and reproduces images. Cleans and inspects equipment and performs preventive maintenance. Receives patients, schedules appointments, prepares and processes examination requests and related records, and files images and reports. Enters and maintains data in radiology information systems (RIS). Assists with Phase II didactic and performance training, evaluation and counseling of students, and maintenance of student academic records. Participates in formal research projects.

4.2.6. *Establishes and maintains standards, guidelines, and practices.* Composes protocols. Prepares routine positioning guides and technique charts. Reviews images to ensure quality standards are met. Performs equipment quality control checks such as processor sensitometry, film-screen contact tests, collimation and light field alignment tests, and safelight tests. Monitors personnel to ensure protective procedures such as those in the As Low As Reasonably Achievable (ALARA) radiation safety, hazardous material communication, and Air Force occupational safety and health programs are followed. Performs tests on radiation protection equipment. Assesses staff competence, monitors appropriateness of care and completeness of examination requests.

4.2.7. *Plans, organizes, and supervises diagnostic imaging activities.* Assists and advises officer-in-charge on design and development of organizational structure. Analyzes workload and establishes production controls and performance standards for administrative and technical diagnostic imaging activities. These activities include: preparation, maintenance, and disposition of imaging reports, records, and correspondence; receiving patients; using and maintaining equipment; darkroom activities; performing diagnostic imaging examinations; and diagnostic imaging and therapeutic procedures. Coordinates on interdepartmental issues that interface with diagnostic imaging. Prepares and implements financial plan, monitors and analyzes annual expenditures. Prepares equipment purchase requests and justifications. Monitors equipment performance and preventive maintenance activities. Recommends new equipment procurement. Performs as the diagnostic imaging facility manager.

4.2.8. *Operates, maintains, and manages Picture Archiving and Communication Systems (PACS) Networks.* Operates equipment associated with Computed Radiography (CR) or Direct Digital Radiology (DDR), diagnostic/clinical workstations, film digitizers, optical disk storage systems, network and computer interface gateways between PACS and the following modalities: computed tomography, ultrasound, magnetic resonance, nuclear medicine, digital fluoroscopy, and angiography. Manages and administers all aspects of the system to include: daily systems operations, modality interfacing, database management, archival of patient data, quality assurance, system hardware management and control, daily system data back-ups, system maintenance and improvement, orientation of newly assigned personnel to PACS network environment, frontline diagnostic and trouble-shooting of hardware and software problems, software installation, and new computer system implementation. Installs upgrades to include

cabling and remote reading (telerad) locations. Ensures all MTF Hospital Information Systems (HIS) are compatible with PACS. Maintains and manages the main image database server, the archiving system, high resolution medical diagnostic monitors, image web server, PACS broker, and gateways for multiple imaging modalities.

4.3. Duty Titles. Appropriate duty titles for personnel working in this specialty depend on rank and/or skill level. Individuals possessing the 3-skill level, regardless of rank, hold the duty title of *Diagnostic Imaging (or Nuclear Medicine/Ultrasound/MRI) Apprentice*. Individuals possessing the 5-skill level, regardless of rank, hold the duty title of *Diagnostic Imaging (or Nuclear Medicine/Ultrasound/MRI) Journeyman*. Individuals possessing the 7-skill level, regardless of rank, hold the duty title of *Diagnostic Imaging (or Nuclear Medicine/Ultrasound/MRI) Craftsman*. In addition, individuals in the ranks of SSgt through MSgt who hold supervisory or management positions over an entire department or section may hold the duty title *NCOIC*. The title *Diagnostic Imaging Superintendent* is reserved for Senior Master Sergeants who possess the 9-skill level. However, a Master Sergeant who fills a funded SMSgt position may also hold the title *Superintendent*. The title *Diagnostic Imaging Manager* is reserved for Chief Master Sergeants. When no officer is assigned within the Imaging department, the senior enlisted member title is *Flight Chief* or *Element Leader* as applicable.

5. Skill/Career Progression. Adequate training and timely progression from the apprentice to the superintendent skill level play an important role in the Air Force's ability to accomplish its mission. It is essential that everyone involved in training must do his or her part to plan, manage, and conduct an effective training program. The guidance provided in this part of the CFETP will ensure each individual receives appropriate training, education, and experience at proper points in their career.

5.1. Apprentice (3) Level. Initial skills training in this specialty consists of the task and knowledge training provided in Phase I and Phase II. Initial skills training requirements were reviewed during the 4R0X1X U&TW held March 2002 at Sheppard AFB. The decision to train specific task and knowledge items is based on JRCERT accreditation requirements, review of OSR data, and 4R0X1X subject matter expert (SME) input. After completing initial skills training, apprentices will work with qualified diagnostic imaging journeymen, craftsmen, and radiologists to further enhance their knowledge and skills. Job assignments will normally include duties in diagnostic imaging service administration, routine clinical radiography, and/or assisting in special clinical radiography. The apprentice will enter upgrade training using the 4R051 Career Development Course (CDC), and will receive on-the-job training required for certification in all core tasks listed in the STS. The apprentice should devote their full time to learning the medical field and the primary job and to passing the Air Force Quality Control Test. Completion of national certification in radiography by the American Registry of Radiologic Technologists (ARRT) at the earliest opportunity is highly recommended. Taking an advanced first aid course, qualifying as an Emergency Medical Technician, or becoming a cardiopulmonary resuscitation (CPR) instructor are examples of how apprentices could increase their knowledge of the medical field.

5.2. Journeyman (5) Level. Following completion of the prerequisites for upgrade to the 5-skill level, new journeymen should consider expanding their personal and professional horizons as they enter into continuation training. Job assignment possibilities widen to include more

emphasis in special clinical radiography areas, duties as a preceptor/clinical instructor for Phase II students, duties in diagnostic imaging logistics, and first line supervisory duties in routine clinical radiography or diagnostic imaging service administration areas. Completion of continuing education requirements is mandatory for maintaining current ARRT certification. Attending computer training classes, completing requirements for the Community College of the Air Force (CCAF) Associate of Applied Science Degree in Radiologic Technology, and active participation as a member in the American Society of Radiologic Technologists (ASRT) and its state and local affiliates is encouraged. The more senior journeyman may consider training into one of the Special Experience Identifier (SEI) or AFSC shred areas as well as certain special duty assignments such as Technical Training Instructor duty. Individuals must have, or be able to complete requirements for an Associate Degree within one year following assignment to instructor duty. Additionally, instructors must obtain national certification in radiography through the American Registry of Radiologic Technologists (ARRT). Active involvement in squadron and community activities is strongly encouraged. Individuals will begin preparation for promotion to Staff Sergeant under the Weighted Airman Promotion System (WAPS). Individuals will attend Airman Leadership School after 48 months in the Air Force, or upon selection for promotion to Staff Sergeant.

NOTE: Individuals who retrain into the 4R0X1 specialty should not be assigned supervision/management responsibilities until they have obtained the 5-skill level, regardless of rank. It is also highly encouraged that retrainees pass the Air Force Quality Control Test prior to being assigned supervision/management duties.

5.3. Craftsman (7) Level. Upon selection for promotion to the grade of Staff Sergeant, journeymen may be entered into upgrade training for the 7-skill level (no earlier than the first day of the promotion cycle). Individuals must complete the Distance Learning 7 Level course. Craftsmen are expected to be knowledgeable and highly skilled in a wide variety of duties within the AFS. They may serve in supervisory, administrative, or management positions in the basic AFS areas, or in technical or supervisory positions in one of the subspecialty areas. PACS administrators, Phase II course supervisors, the career field technical writer, instructors and instructor supervisors at the technical training school are normally selected from this group of widely experienced technologists. By now, individuals should have completed the CCAF degree. Individuals are encouraged to continue collegiate education toward a baccalaureate or advanced degree in a specialty directly related to the AFSC (radiologic technology or health sciences) or one that would prepare the individual for the higher level management positions in the AFSC (business administration, personnel management, or education). Continued membership, active participation, and service in leadership roles in the ASRT and in its state and local affiliates is encouraged. Craftsmen selected for promotion to Technical Sergeant will attend a MAJCOM Noncommissioned Officer Academy. Active involvement in squadron, base, and community activities to help build leadership and management abilities is strongly encouraged.

5.3.1. PACS Administrator (N-Prefix). PACS requires dedicated and trained diagnostic imaging (DI) personnel who meet AFMAN 36-2108, attachment 3, criteria. MTF's with PACS network system will identify on their UMD, positions and applicable personnel with an "N" prefix. Training Documentation will be accomplished in their OJT record with specifics listed on an AF Form 797. The duties of a PACS network administrator should be reserved for TSgt-MSgt in the 10-14 year TAFMS. The PACS Administrator will report to the senior manager,

Diagnostic Imaging Flight under the direction of the DI Flight Chief. The incumbent will receive general direction from Medical Information Systems director (the individual/section responsible for overseeing/coordinating existing and participating in new PACS and digital imaging initiatives). The incumbent will receive assignments in terms of overall objectives to be achieved, resources available and priorities to be met. The PACS Administrator is expected to independently follow through assignments to completion, with the responsibility to resolve problems in a manner that is consistent with the Flight Chief/DI Senior management direction and approval. The PACS Administrator will act as a liaison in digital imaging initiatives within the department as well as interface with other departments to include Medical Information Systems and other departments as deemed necessary. The PACS Administrator will be responsible for operating and capital budget requests for medical imaging equipment in conjunction with the senior manager, Diagnostic Imaging. The PACS Administrator is responsible for leading the operational, fiscal, and human resources required for the picture archiving and communications system (PACS). The PACS Administrator is the on-site "Contracting Officer's Technical Representative" (COTR) to ensure compliance with all aspects/provisions of the DIN-PACS contract. Serves as liaison between Medical Group and the system vendor in facilitating software and hardware upgrades, service and repairs, and modifications of the facilities and hardware.

5.3.2. A/B/C-Shred. In order to facilitate career progression and to avoid "burnout," personnel serving in a shred AFSC may apply to have their shred dropped and return to the basic AFSC or apply for retraining into another shred after serving 48 months post training in their respective subspecialty. Procedures for leaving a shred AFSC are as follows: 1) Members must notify their NCOIC in writing of their desire to return to the basic AFSC or retrain into another shred; 2) NCOIC makes recommendation and forwards request to shred advisor; 3) Shred advisor evaluates request based upon current and projected manpower within shred and forwards request to AFCFM for approval/disapproval; 4) AFCFM notifies NCOIC of final decision; 5) If approved, NCOIC notifies MAJCOM Functional Manager of decision and initiates AF Form 2096 to remove member's shred, or instructs member to complete application for retraining.

5.4. Superintendent (9) Level. Superintendents are normally assigned to top level supervisory positions at the regional hospital or medical center level, or as the educational program director of the technical school at Sheppard AFB. The program director position requires a minimum educational level of a Bachelor's degree, and a minimum of two years prior teaching experience in an accredited Radiologic Technology program. Collegiate courses in the areas of financial and personnel management should be included in the education program as the individual completes a baccalaureate or advanced degree. Active involvement should continue in squadron, base, and community activities and in all levels of the career field's professional organizations with emphasis placed on assuming leadership roles. Completion of the Senior Noncommissioned Officer Academy is required for all persons selected for promotion to Chief Master Sergeant.

6. Training Decisions. The CFETP uses a building block approach (simple to complex) to encompass the entire spectrum of training requirements for the diagnostic imaging career field. The spectrum includes a strategy for when, where, and how to meet the training requirements. The strategy must be apparent and affordable to reduce duplication of training and to eliminate a disjointed approach to training. The most recent training decisions for the 4R0X1X career field

were made during a Utilization and Training Workshop (U&TW) held at Sheppard AFB in March 2002. Training decisions made for this AFS have been, and must continue to be made with the full understanding of their impact on the external, civilian accreditation of the programs.

6.1. 4R0X1 Accreditation. The 4R0X1 training program is accredited by the JRCERT. This accreditation makes graduates eligible to sit for the national certification examination in radiography offered by the ARRT. Continued JRCERT accreditation is based on the program's compliance with the "Standards for an Accredited Educational Program for the Radiographer" published by the JRCERT. These "Standards" are designed to assess the effectiveness of a program at achieving student learning outcomes consistent with national standards of practice in radiography. Currently, the Air Force radiography program is accredited as a 12-month program. Individuals who graduate from the 3-skill level course (52 weeks total between Phase I and Phase II), successfully complete the 4R051 CDC, and pass the Air Force Quality Control Test are eligible to take the ARRT's certification examination in radiography. To have and maintain an accredited training program, the Diagnostic Imaging AFSC requires and must produce RTs at each MTF. RT status is mandatory for instructors, course supervisors, and preceptors at each training site. Additionally, implementation of the Mammography Quality Standards Act of 1992 requires Air Force 4R0X1s who are performing mammography to be certified by the ARRT. Since mammography is a mission requirement at nearly every medical treatment facility where 4R0X1s are assigned, maintaining the link between our training programs and civilian accreditation and certification agencies is necessary to ensure a continual supply of Registered Technologists to provide for mission capability around the globe.

NOTE: AFI 41-104 describes the criteria for reimbursement of fees and expenses for certifying examinations and identifies documentation requirements. Attachment 2 of AFI 41-104 lists approved certifying agencies. Additionally, individuals can use their GI Bill for licensing and certification tests. All ARRT tests are specifically approved for the GI Bill. The VA covers the cost of the test only up to \$2,000 per test. Currently there are no limits to how many tests you may take. For more information, visit: <http://www.gibill.va.gov/Education/Lcweb.htm>.

6.2. 4R0X1A Accreditation. The tri-service 4R0X1A training program, sponsored by the Naval School of Health Sciences (NSHS)-Portsmouth, Virginia is accredited by the JRCNMT. This accreditation makes graduates eligible to sit for the national certification examinations in nuclear medicine offered by the ARRT and the NMTCB. Continued JRCNMT accreditation is based on compliance with the "Standards for an Accredited Educational Program in Nuclear Medicine Technology" published by the JRCNMT. The tri-service accredited program consists of both Phase I (conducted at NSHS-Portsmouth, VA) and Phase II (conducted at Lackland AFB, TX and Travis AFB, CA with secondary sites at Keesler AFB, MS, and Wright-Patterson AFB, OH as needed to meet training requirements) training courses. Maintaining this accreditation provides a constant source for certified nuclear medicine technologists for the Air Force and helps ensure compliance with Nuclear Regulatory Commission licensing requirements for operating nuclear medicine departments.

6.3. Initial Skills. Initial skills training in AFSC 4R0X1 is provided through Course J3AQR4R031 (Phase I) conducted by AETC through the 382d Training Squadron (382 TRS), Sheppard AFB, TX and Course J5ABO4R031 (Phase II) conducted at multiple CONUS locations under the guidance of the 382 TRS. The following changes were made in the initial skills/3-skill level course during the 2002 U&TW:

6.3.1. Reduced training proficiency codes in several task/knowledge items currently taught in the Phase I course.

6.3.2. Added a requirement to teach basic concepts of computed tomography (CT) in Phase I.

6.3.3. Increased the level of CT training in Phase II.

6.3.4. Deleted a requirement to train film processing in Phase II.

6.3.5. Reduced the level of training required for film processor maintenance in Phase II.

6.4. Five Level Upgrade Requirements. A 5-level CDC requirement was added to the Diagnostic Ultrasound Course. Upgrade requirements were added in the STS for diagnostic ultrasound 5-level upgrade training. Manpower authorization will be pursued to obtain a Technical Writer/Manager, 4R051B Career Development Course (CDC).

6.5. Seven Level Upgrade Requirements. Continued the requirement (from the 1998 U&TW) for members to pass the Radiology Quality Control Test in order to be upgraded to the 7-skill level. It was noted that funding for the in-residence Craftsman Course was discontinued in fiscal year 2002. This course has been converted to a computer-based, distance-learning course. Its initial offering is via CD-ROM, but the course will be converting to an Internet-based version by fiscal year 2003.

6.6. Proficiency Training. Any additional knowledge and skill requirements that are not taught through initial skills or upgrade training are assigned to continuation training. The purpose of the continuation training program is to provide additional duty position or collateral training that exceeds the minimum upgrade training requirements for the current skill level. Emphasis should be placed on preparing the individual for expanded utilization in present and expected future duty positions. Supervisors at all levels must develop a continuation training program that ensures subordinates receive the broadest possible exposure to appropriate continuation training throughout their careers.

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

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

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

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

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

7.3.1. Technical Education (24 Semester Hours). A minimum of 12 semester hours of Technical Core subjects/courses must be applied and the remaining semester hours applied from Technical Core/Technical Elective courses

7.3.1.1. Radiologic 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 subject/courses must be approved in advance by the Services Branch at CCAF.

Technical Core	
<i>Subjects/Courses</i>	<i>Semester Hours</i>
ARRT Registry	24
CCAF Internship.....	16
Clinical Practicum	6
Introduction to Radiologic Technology.....	3
Radiographic Anatomy and Physiology	3
Radiographic Physics.....	3
Radiographic Positioning.....	3
Radiographic Techniques and Darkroom Procedures	3
Special Radiographic Procedures	3

Technical Electives	
<i>Subjects/Course</i>	<i>Maximum Semester Hours</i>
Advanced Special Radiographic Procedures	3
AF Enlisted Professional Military Education	12
Basic Medical Readiness	3
Computer Science	6
Radiographic Clinical Education.....	12
Radiographic Internship.....	16

7.3.1.2. Nuclear Medicine 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 subject/courses must be approved in advance by the Services Branch at CCAF.

Technical Core

<i>Subjects/Courses</i>	<i>Semester Hours</i>
Applied Nuclear Medicine Physics and Chemistry	9
ARRT Registry	24
CCAF Internship.....	16
Clinical Nuclear Medicine.....	24
Diagnostic Imaging, Clinical and Nonclinical.....	24
Nuclear Medicine Instrumentation	14
Radiation Safety and Procedures	14
Radiopharmaceuticals.....	8

Technical Electives

<i>Subjects/Course</i>	<i>Maximum Semester Hours</i>
AF Enlisted Professional Military Education.....	12
Computer Science.....	6

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

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

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

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

7.4. Additional off-duty education is a personal choice that is encouraged for all. Individuals desiring to become an Air Education and Training Command Instructor should actively be 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. Manpower Table.

Table 1. Manpower Authorizations Table (as of 16 Apr 02)									
	CMSgt	SMSgt	MSgt	TSgt	SSgt	SrA	A1C	Amn	AB
4R0X1X	5	9	58	113	229	398	78	0	0

8.2. Enlisted Career Path.

Table 2. Enlisted Career Path				
Education and Training Requirements	GRADE REQUIREMENTS			
	Rank	Average Sew-On	Earliest Sew-On	High Year Of Tenure (HYT)
Basic Military Training school	AB			
Apprentice Technical School (3-Skill Level)	Amn A1C	6 months 16 months		
Upgrade To Journeyman (5-Skill Level) - Minimum 15 months on-the-job training (9 months for retrainees) - Complete CDC 4R051 - SrA sew-on no longer required for upgrade to the 5-skill level	A1C SrA	3 years	28 months	10 years
Airman Leadership School (ALS) - Must be a SrA with 48 months time in service or be a SSgt selectee - Resident graduation is a prerequisite for SSgt sew-on (Active Duty Only)	<u>Trainer</u> - Possess the same AFSC as the trainee, and be certified to train others - Must attend formal OJT Trainer training and be appointed by Commander			
Upgrade To Craftsman (7-Skill Level) - Minimum rank of SSgt - 12 months OJT for retrainees possessing a 7-level in a prior AFSC - Complete Diagnostic Imaging Craftsman Course	SSgt	4.8 years	3 years	20 years
	<u>Certifier</u> - Minimum rank of Staff Sergeant - Possess at least a 7-skill level in the same AFSC (recommended) - Attend formal OJT Certifier Course and appointed by Commander - Be a person other than the trainer (for core tasks)			

Table 2 continued... Enlisted Career Path				
Education and Training Requirements	GRADE REQUIREMENTS			
	Rank	Average Sew-On	Earliest Sew-On	High Year Of Tenure (HYT)
Noncommissioned Officer Academy (NCOA) - Must be a TSgt or TSgt selectee - Resident graduation is a prerequisite for MSgt sew-on (Active Duty Only)	TSgt	12 years	5 years	22 years
	MSgt	16.6 years	8 years	24 years
USAF Senior NCO Academy (SNCOA) - Must be a SMSgt, SMSgt selectee, or a MSgt who has been selected to attend based on promotion scores - Resident graduation is a prerequisite for CMSgt sew-on (Active Duty Only)				
Upgrade To Superintendent (9-Skill Level) - Minimum rank of SMSgt	SMSgt	21.3 years	11 years	26 years
	CMSgt	21.5 years	14 years	30 years

Section C - Skill Level Training Requirements

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

10. Specialty Qualification Requirements.

10.1. Apprentice Training (3-Level).

10.1.1. Specialty Qualification.

10.1.1.1. Knowledge. Knowledge is mandatory of human anatomy and physiology; medical terminology; medical ethics, to maintain professional and patient relationships; medical legal issues; radiation physics, biology and protection; basic electronics theory; techniques of operating x-ray and special diagnostic imaging equipment; radiographic positioning; basic patient care and monitoring techniques; image recording media; image processing techniques; aseptic and sterile techniques; reactions to contrast media; cardiopulmonary resuscitation; methods of recording the fluoroscopic image; and medical records administration.

10.1.1.1.1. For Nuclear Medicine (A-shred), knowledge is mandatory of algebra, nuclear physics, clinical chemistry, nuclear pharmacology, and Nuclear Regulatory Commission regulations concerning the use of radionuclides.

10.1.1.1.2. For Ultrasound (B-shred), knowledge is mandatory of ultrasound physics; techniques of operating specialized ultrasound components and equipment; knowledge of vascular and

abdominal anatomy (topical and cross-sectional), to include normal variant anatomy, abnormal anatomy, and obstetric/fetal anatomy; transducer characteristics, differences, and use.

10.1.1.1.3. For Magnetic Resonance Imaging (C-shred), knowledge is mandatory of magnetism, magnetic safety, radiofrequency and magnetic physics; techniques of operating MRI equipment; and an advanced knowledge of cross-sectional anatomy as applicable to MRI.

10.1.1.1.4. For PACS Administrators (N-Prefix), knowledge is mandatory of daily systems operations, modality interfacing, database management, archival of patient data, quality assurance, system hardware management and control, daily system data back-ups, system maintenance and improvement, orientation of newly assigned personnel to PACS network environment, frontline diagnostic and trouble-shooting of hardware and software problems, software installation, and new computer system implementation.

10.1.1.1.5. For personnel assigned duties as radiation therapy technologists, knowledge is mandatory of specialized radiotherapy simulation, dosimetry, and treatment techniques; advanced knowledge of radiation physics; construction techniques for custom blocks and compensating filters; and medical records documentation requirements.

10.1.1.2. Education. Completion of high school or general education development equivalency, with successful completion of courses in algebra and biology or general science are mandatory for entry into this AFSC. Successful completion of high school or collegiate courses in chemistry and physics is desirable.

10.1.1.3. Training. For the basic AFSC, completion of a basic course of instruction in radiologic technology, (course J3AQR4R031-000 Phase I and course J5ABO4R031-001 Phase II or civilian equivalent) is mandatory.

10.1.1.3.1. For Nuclear Medicine (A-shred), completion of course J5ALN4R031A-000, Nuclear Medicine Phase I and J5ALO4R031A-000, Nuclear Medicine Phase II, is mandatory for the award of the 3-skill level in the A-shred.

10.1.1.3.2. For Ultrasound (B-shred), completion of course J3AQR4R031B-000, Diagnostic Ultrasound Phase I and J5ALO4R031B-000, Diagnostic Ultrasound Phase II, is mandatory for award of the 3-skill level in the B-shred.

10.1.1.3.3. For Magnetic Resonance Imaging (C-shred), completion of QTP 4R0X1C and a minimum 12 months OJT are required for award of the 3-skill level in the C-shred. Individuals must apply and be selected for retraining into the C-shred prior to beginning training. The March 2002 U&TW approved a proposal to develop a six month formal MRI course to be developed and conducted at the 59th Medical Wing, Wilford Hall Medical Center, Lackland AFB, TX. This proposal has been forwarded to Air Staff for final approval. There is currently no estimated completion date for development of this course.

10.1.1.3.4. For PACS Administrators (N-Prefix), individuals will complete locally determined training specific to the PACS system they will be managing. Training will be documented on the Diagnostic Imaging standardized AF Form 797.

10.1.1.3.5. Personnel performing mammography duties must be registered in radiography through the American Registry of Radiologic Technologists and meet all other training/experience requirements specified in the Mammography Quality Standards Act.

10.1.1.3.6. For personnel assigned duties as radiation therapy technologists, completion of an American Medical Association (AMA) approved course of education in Radiation Therapy Technology is mandatory.

10.1.1.4. Experience. There are no prior experience requirements for entry into apprentice-level training in the Diagnostic Imaging career field.

10.1.1.4.1. Selection for shredout training (Nuclear Medicine, Ultrasound, Magnetic Resonance Imaging) requires a minimum of 12 months (post training) experience as a Diagnostic Imaging journeyman, 24 months is preferred. Possession of the 5-skill level, and current certification by the American Registry of Radiologic Technologists (ARRT). In addition, a minimum of eight weeks experience in computed tomography (CT) is recommended for retraining into MRI (C-shred). Individuals who are unable to obtain CT training may still apply for retraining into the C-shred. If accepted, they will be trained and must successfully complete CT training at the designated MRI training site. Failure to successfully complete full CT training automatically terminates MRI training and the individual will return to the 4R0X1 AFSC.

10.1.1.4.2. Selection for PACS Administrator duty (N-Prefix) requires possession of the 7-skill level and minimum rank of SSgt, TSgt preferred. Individuals should possess a thorough knowledge of and aptitude for working with information systems.

10.1.1.4.3. Selection for special duty assignments as Radiation Therapy technologists requires a minimum of 24 months experience as a diagnostic imaging journeyman, possession of the 5-skill level, and current certification by the American Registry of Radiologic Technologists (ARRT).

10.1.1.5. Other. Minimum age of 18 years is required for entry into training for this AFSC.

10.1.2. Training Sources and Resources. Completion of course J3AQR4R031-000, Diagnostic Imaging Apprentice Phase I (PDS Code AS6) at Sheppard AFB, TX and course J5ABO4R031-001, Diagnostic Imaging Apprentice Phase II (PDS Code QPN) satisfies the training requirements specified in the specialty qualification section (above) for award of the 3-skill level.

10.1.3. Implementation. Apprentice (3-skill level) training begins with entry in the Diagnostic Imaging Apprentice course (Phase I). Satisfactory completion of the course (Phase I and Phase II) results in award of the 3-skill level. Job qualification training starts when graduates are assigned to their first duty position. Thereafter, it is initiated any time an individual is assigned duties he/she is not qualified to perform.

10.1.3.1. Apprentice training for the shred AFSCs (Nuclear Medicine, Ultrasound, and Magnetic Resonance Imaging) begins when the individual has applied and been selected for retraining into one of the shreds.

10.2. Journeyman Training (5-Level).

10.2.1. Specialty Qualification.

10.2.1.1. Knowledge. For the basic AFSC and all shredouts, knowledge is mandatory of human anatomy and physiology; medical terminology; medical ethics to maintain professional and patient relationships; medical legal issues; radiobiology, radiation physics and protection; basic electronics theory; techniques of operating x-ray and special diagnostic imaging equipment; radiographic positioning; basic patient care and monitoring techniques; image recording media;

image processing techniques; sensitometric and quality control procedures; aseptic and sterile techniques; reactions to contrast media; cardiopulmonary resuscitation; methods of recording the fluoroscopic image; supply procedures; budget preparation and execution; and medical records administration.

10.2.1.2. Education. To assume the grade of SSgt, individuals must be graduates of Airman Leadership School.

10.2.1.3. Training. For the basic AFSC and all shredouts, the following actions are required for award of the 5-skill level AFSC: (a) complete CDC 4R051, (b) be certified on all STS core tasks (identified by an asterisk (*) in column 1 of the STS), (c) be certified on all STS tasks for the assigned duty position, (d) complete at least 15 months OJT (9 months for retrainees).

10.2.1.4. Experience. Prior qualification as a Diagnostic Imaging Apprentice is mandatory before entering journeyman training.

10.2.2. Training Sources and Resources. Completion of CDC 4R051, Diagnostic Imaging Journeyman, satisfies the knowledge requirements specified in the specialty qualification section (above) for award of the 5-skill level. The STS identifies all core tasks required for qualification. Upgrade and qualification training are provided by qualified trainers using available resources.

10.2.3. Implementation. Entry into 5-skill level upgrade training is initiated upon arrival at the first permanent duty station, following graduation from Phase II training. Qualification Training is initiated anytime an individual is assigned duties he/she is not qualified to perform.

10.2.4. Reporting Qualification Training Constraints-Units/MAJCOMS.

10.2.4.1. Supervisors should report known resource constraints that prevent personnel from completing the mandatory training requirements specified in this plan, to their unit enlisted specialty training (EST) manager. The authority for requesting waivers is AFI 36-2101, *Military Personnel Classification Policy*.

10.2.4.2. In the report provide a brief description of the resource constraints that adversely affect your training program and include the impact these constraints have on training. Identify the specific STS task code(s) affected. Also, provide a brief description of what you need to resolve the problem, including: expenses, the corrective actions taken or to be taken, and the estimated completion date.

10.2.4.3. If the constraint can be resolved at the local level, the report will be coordinated with the unit 4R0X1 functional manager and, if the impact affects unit war-skill requirements, the group commander. If the constraint needs MAJCOM support, forward the report through your group commander to the MAJCOM functional manager. Constraints that cannot be resolved at the unit or MAJCOM level, or have a long term estimated completion date, must be forwarded to the 4R0X1 AFCFM as a request for waiver or deferment of CFETP requirements.

10.3. Craftsman Training (7-Level).

10.3.1. Specialty Qualification.

10.3.1.1. Knowledge. Knowledge is mandatory of human anatomy and physiology; medical terminology; medical ethics to maintain professional and patient relationships; medical legal issues; radiation physics, biology and protection; basic electronics theory; techniques of

operating x-ray and special diagnostic imaging equipment; radiographic positioning; basic patient care and monitoring techniques; image recording media; image processing techniques; sensitometric and quality control procedures; aseptic and sterile techniques; reactions to contrast media; cardiopulmonary resuscitation; methods of recording the fluoroscopic image; supply procedures; budget preparation and execution; medical records administration; and department administration and management.

10.3.1.2. Education. To assume the grade of MSgt, individuals must be graduates of NCO Academy. Completion of an Associate of Applied Science degree in Radiologic Technology is desirable.

10.3.1.3. Training. The following actions are required for award of the 7-skill level AFSC: (a) be certified on all STS core tasks (identified by an asterisk (*) in column 1 of the STS), (b) be certified on all STS tasks for the assigned duty position, (c) complete at least 12 months OJT, and (d) complete Diagnostic Imaging Craftsman course. **In addition, individuals who began Phase I Diagnostic Imaging Apprentice training on or after 15 April 1997 must pass the Air Force Radiology Quality Control Test in order to be upgraded to the 7-skill level.** For information on the quality control test and how to apply, contact the Diagnostic Imaging Apprentice Course at DSN 736-4084.

10.3.1.4. Experience. Prior qualification as a Diagnostic Imaging Journeyman is mandatory.

10.3.2. Training Sources and Resources. Completion of course J6ACU4R071 000, Diagnostic Imaging Craftsman PDS Code ICD satisfies the requirement for formal advanced skills training. The STS identifies all core tasks required for qualification. Upgrade and qualification training are provided by qualified trainers using technical references listed in the STS, Part II, Section A of this CFETP. Training courses are listed in Part II, Section D of this CFETP.

10.3.3. Implementation. Entry into 7-skill level upgrade training is initiated when an individual possesses the 5-skill level and is selected for promotion to the grade of Staff Sergeant. Upgrade training may begin on the first day of the first month of the promotion cycle in which the individual has been selected for promotion. Qualification Training is initiated anytime an individual is assigned duties he/she is not qualified to perform. Completion of the 7-skill level course and all its prerequisites is required prior to award of the 7-skill level.

10.4. Superintendent Training (9-Level).

10.4.1. Specialty Qualification.

10.4.1.1. Knowledge. Knowledge is mandatory of human anatomy and physiology; medical terminology; medical ethics to maintain professional and patient relationships; medical legal issues; radiobiology, radiation physics and protection; basic electronics theory; ultrasound physical principles and biological effects; fundamental physics and operational effects of high strength magnetic fields; diagnostic and therapeutic procedures of diagnostic radiology, radiotherapy, and nuclear medicine; techniques of operating x-ray and special diagnostic imaging equipment; radiographic positioning; basic patient care and monitoring techniques; image recording media; image processing and storage procedures; sensitometric and quality control procedures; aseptic and sterile techniques; reactions to contrast media; cardiopulmonary resuscitation; methods of recording the fluoroscopic image; medical service organization and function, medical administrative procedures, medical supply procedures, medical equipment

management procedures, personnel management and administration, Nuclear Regulatory Commission regulations governing medical use of radioisotopes, applicable environmental protection standards, management of non-military personnel, applicable accreditation standards and inspection procedures, preparation and execution of budgets.

10.4.1.2. Experience. Prior qualification as a Diagnostic Imaging, Nuclear Medicine, Magnetic Resonance Imaging, or Ultrasound Craftsman is mandatory.

10.4.2. Training Sources/Resources. N/A

10.4.3. Implementation. Qualification Training is initiated anytime an individual is assigned duties he or she is not qualified to perform.

Section D - Resource Constraints

11. Purpose. This section identifies known resource constraints that preclude optimal/desired training from being developed or conducted, including information such as 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.

12. Apprentice Training (3- Level).

12.1. Basic AFSC.

12.1.1. Constraints. No 3-level training constraints exist for the basic AFSC.

12.2. Nuclear Medicine (A-shred)

12.2.1. Constraints. No 3-level training constraints exist for Nuclear Medicine (A-shred).

12.3. Diagnostic Ultrasound (B-shred)

12.3.1. Constraints. No 3-level training constraints exist for Diagnostic Ultrasound (B-shred)

12.4. Magnetic Resonance Imaging (C-shred)

12.4.1. Constraints. No formal training exists for award of the C-shred.

12.4.2. Impact. Training for the award of the C-shred will continue as OJT and utilize an Air Force developed MRI QTP pending Air Staff approval of a formal course. The training will continue to be primarily skills-based with secondary emphasis on knowledge-based training.

12.4.3. Resources Required.

12.4.3.1. Training days. The proposed formal course length is six-months, which equates to approximately 125 training days per student.

12.4.3.2. Training Facilities and Equipment. The 59th Medical Wing, Lackland AFB, TX possesses the necessary facilities and equipment to conduct a formal course in MRI. An appropriate technical reference library will need to be established at Wilford Hall that will include, at a minimum, *Sectional Anatomy for Imaging Professionals*, and *MRI for Technologists*

(2nd edition). Enough copies of these references should be on hand for the instructor and students.

12.4.3.3. Manpower/Personnel. One instructor will need to be identified to develop and teach the course at Wilford Hall (Lackland AFB, TX). The instructor must hold AFSC 4R051C or higher, and should have a minimum of 3 years experience performing MRI examinations.

12.4.4. Action Required. N/A

13. Journeyman Training (5- Level).

13.1. Basic AFSC.

13.1.1. Constraints. No 5-level training constraints exist for the basic AFSC.

13.2. Nuclear Medicine (A-shred)

13.2.1. Constraints. No 5-level training constraints exist for Nuclear Medicine.

13.3. Diagnostic Ultrasound (B-shred)

13.3.1. Constraints. No 5-level training constraints exist for Diagnostic Ultrasound.

13.4. Magnetic Resonance Imaging (C-shred)

13.4.1. Constraints. No 5-level training constraints exist for MRI.

14. Craftsman Training (7-Level).

14.1. Constraints. No 7-level training constraints exist.

Section E. Transitional Training Guide

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

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

PAUL K. CARLTON, JR
Lieutenant General, USAF, MC, CFS
Surgeon General

Part II

Section A - Specialty Training Standard (STS)

1. Implementation. This STS will be used for technical training provided by AETC for classes beginning 27 Jan 03 and thereafter.

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

2.1. Lists in the column 1 (Task, Knowledge, and Technical Reference) of attachments 2 through 5 the most common tasks, knowledge, and technical references (TR) necessary for airman to perform duties in the 3-, 5-, and 7-skill level. Column 1 identifies core tasks, by asterisk (*), specialty-wide training requirements for upgrade to the 5-skill level.

2.2. Provides certification for OJT. Column 2 is used to record completion of task training requirements and knowledge training requirements when a CDC is not available. Use automated training management systems to document technician qualifications, if available. Task certification must show a certification/completed date. *(As a minimum, use the following column designators: Completion Date and Certifier's Initials).*

2.3. Shows formal training and correspondence course requirements. Column 3 shows the proficiency to be demonstrated on the job by the graduate as a result of training on the task/knowledge and the career knowledge provided by the correspondence course. See CADRE/AFSC/CDC listing maintained by the unit training manager for current CDC listings.

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

2.5. Becomes a job qualification standard (JQS) for on-the-job training when placed in an Enlisted Training and Competency Folder, and used according to AFI 36-2201, *Developing, Managing, and Conducting Training*. When used as a JQS, the following requirements apply:

2.5.1. Documentation. Document and verify completion of training. Identify duty position requirements by circling the subparagraph number next to the task statement. Complete the following columns in Part 2 of the CFETP: Start Date, Completion Date, Trainer's Initials, Trainee's Initials, Certifier's Initials (as applicable). In "one-person shops", any person qualified to perform the task, regardless of rank, who has completed certifier's training can certify regardless of AFSC. EXAMPLE: The trainer, supervisor, OIC, or commander can be the certifier as can any qualified certifier from the unit, base, or local area. The trainee's commander must still designate the certifier in writing and ensure that supervisors document initial evaluations. **Every effort should be made to obtain separate trainers and certifiers, however if this is not possible due to a lack of qualified personnel, individuals may use the same person as their trainer and their certifier. The trainer/certifier in these circumstances are expected to maintain integrity of the training/certifying process.** An AFJQS may be used in lieu of Part II of the CFETP only upon approval of the AFCFM. The AFCFM may supplement these minimum documentation procedures as needed or deemed necessary for the career field.

Documentation Clarification:

- a) **Column A “Start Date”** - use the date that the individual initially started training on the task. This column is used **only** when the individual is initially trained on a task. When an individual moves to a new duty location and has duty position tasks that need to be re-verified, erase the former start date/trainer’s initials and only update the new completion date, trainee’s initials and certifier’s initials.
- b) **Column B “Completion Date”** - this is the date that the individual has completed training on a task and is considered proficient in the task. This date is entered/updated each time an individual has been verified or re-verified on a required task.
- c) **Column C “Trainer’s Initials”** - the person responsible for training the individual on the task places his/her initials in this column. This column is used **only** when the individual is initially trained on a task. When an individual moves to a new duty location, trainer’s initials are not required on those tasks that have previously been signed off. Trainer’s initials are not required because the individual does **not** require new training...just verification that he/she is proficient in any duty position tasks required at the new location. Use **only** the completion date, trainee’s initials and certifier’s initials to verify task proficiency in these situations (erase all other annotations).
- d) **Column D “Trainee’s Initials”** - the individual being trained on the task places his/her initials in this column. This column should be annotated for all circled tasks (e.g. duty required and core tasks).
- e) **Column E “Certifier’s Initials”** - the person responsible for certifying the trainee is proficient in the task places his/her initials in this column. Core tasks must always have certifier’s initials. When an individual changes duty locations, the certifier’s initials are used to re-verify proficiency on previously trained tasks that are required for the current duty position (start date and trainer’s initials are **not** required in these situations and should be erased).

NOTE: *Items that are taught to a Subject Knowledge Level (A, B, C, D) do not have lines in columns A-E because they do not require initials/date for training since they are “knowledge” items. Initial training on all core (*) tasks requires the certifier’s initials in addition to the trainee and trainer’s initials. Initial training on circled duty position tasks only requires certifier’s initials when they are also core tasks. Remember, if the individual has previously been trained and signed-off on a task, he/she does **not** require a new start date/trainer’s initials...he/she just requires a certifier to verify he/she is still proficient on the required task at the new location.*

2.5.1.1. Converting from old CFETP to new CFETP. Use the new CFETP to identify and verify all past and current task qualifications. For those tasks previously verified and still required in the current duty position, evaluate the individual’s current qualifications. Once proficiency is verified, recertify the individual (use current date as completion date, trainee’s initials, and certifier’s initial). The original start date should be erased now. For tasks previously verified but not required in the current duty position, carry forward **only** the previous completion dates (erase all other columns). If and when these tasks become duty position requirements, re-verify using the current completion date, trainee’s initials and certifier’s initials.

Again, no start date or trainer's initials are necessary for tasks that were previously signed off on an old CFETP.

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

2.5.1.3. Decertification and Recertification. When an airman is found to be unqualified on a task previously certified for his or her position, the supervisor lines through the previous certification or deletes previous certification when using automated system. Appropriate remarks as to the reason for decertification are entered on the AF Form 623A, **On-The-Job Training Record Continuation Sheet**. The individual may be recertified by erasing the previously certified tasks (use correction fluid/tape for ink entries), then annotate the recertified tasks as they are re-trained. Treat the recertification training as you would initial training...use new start date, new completion date, trainer's initials, trainee's initials, and certifier's initials (if item is a core task).

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

2.5.3. Maintaining Core Task Certification. Personnel working in the shred AFSCs (4R0X1A/B/C) must work a minimum of two weeks (ten duty days) per year performing basic radiography functions in order to maintain proficiency in wartime skills. In addition, shred personnel must be recertified annually on all core tasks identified in the basic AFSC specialty training standard (STS). This requirement is waived for shred personnel filling a special duty position assigned outside of a Medical Treatment Facility.

2.6. This STS is a guide for development of promotion tests used in the Weighted Airman Promotion System (WAPS). Specialty Knowledge Tests (SKTs) are developed at the USAF Occupational Measurement Squadron by senior NCOs with extensive practical experience in their career fields. The tests sample knowledge of STS subject matter areas judged by test development team members as most appropriate for promotion to higher grades. Questions are based upon study references listed in the WAPS catalog. Individual responsibilities are in chapter 14 of AFI 36-2606, *US Air Force Reenlistment, Retention, and NCO Status Programs* (formerly AFR 35-16, volume 1). WAPS is not applicable to the Air National Guard.

3. Recommendations. Identify inadequacies and recommended changes to this training standard through channels to 882 TRG/TTS, 939 Missile Rd, Sheppard AFB TX 76311-2245, use the Customer Service Information Line (CSIL), DSN 736-2385, or email 882trg.CSIL@sheppard.af.mil to report your findings.

6 Attachments:

1. Qualitative Requirements
2. Diagnostic Imaging Specialty
3. Nuclear Medicine, A shred
4. Ultrasound, B shred
5. Magnetic Resonance Imaging, C shred
6. Bibliography and Cross Talk Listing of 4R0X1 Training References

<i>This Block Is For Identification Purposes Only</i>		
Name of Trainee		
Printed Name (<i>Last, First, Middle Initial</i>)	Initials (Written)	SSAN
Printed Name of Trainer and Certifying Official and Written Initials		
<i>NI</i>	<i>NI</i>	

QUALITATIVE REQUIREMENTS

Proficiency Code Key		
	Scale Value	Definition: The individual...
Task Performance Levels	1	Can do simple parts of the task. Needs to be told or shown how to do most of the task. (Extremely Limited)
	2	Can do most parts of the task. Needs help only on hardest parts. (Partially Proficient)
	3	Can do all parts of the task. Needs only a spot check of completed work. (Competent)
	4	Can do the complete task quickly and accurately. Can tell or show others how to do the task. (Highly Proficient)
*Task Knowledge Levels	a	Can name parts, tools, and simple facts about the task. (Nomenclature)
	b	Can determine step by step procedures for doing the task. (Procedures)
	c	Can identify why and when the task must be done and why each step is needed. (Operating Principles)
	d	Can predict, isolate, and resolve problems about the task. (Advanced Theory)
**Subject Knowledge Levels	A	Can identify basic facts and terms about the subject. (Facts)
	B	Can identify relationship of basic facts and state general principles about the subject. (Principles)
	C	Can analyze facts and principles and draw conclusions about the subject. (Analysis)
	D	Can evaluate conditions and make proper decisions about the subject. (Evaluation)
<p>Explanations</p> <p>* A task knowledge scale value may be used alone or with a task performance scale value to define a level of knowledge for a specific task. (Example: b and 1b)</p> <p>** A subject knowledge scale value is used alone to define a level of knowledge for a subject not directly related to any specific task, or for a subject common to several tasks.</p> <p>- This mark is used alone instead of a scale value to show that no proficiency training is provided in the course or CDC.</p> <p>X This mark is used alone in course columns to show that training required but not given due to limitations in resources.</p> <p>√ This mark is used to identify items that are covered in the respective specialty's QTP.</p> <p><i>NOTE: All tasks and knowledge items shown with a proficiency code in column 3E are trained during wartime.</i></p>		

NOTE 1: Items in column 1 marked with an asterisk (*) are core tasks for the duty positions outlined below. Diagnostic Imaging personnel occupying any 4R0X1 duty position must be trained and certified on all respective core tasks to be duty position qualified at the 5-skill level.

- (a) Attachment 2 applies to all 4R0X1 personnel (including all technologists with shredouts, SEIs, and N-prefixes)
Note: Section 21 of Attachment 2 (Mammography Procedures) only applies to Mammography personnel
- (b) Attachment 3 applies to all Nuclear Medicine personnel
- (c) Attachment 4 applies to all Ultrasound personnel
- (d) Attachment 5 applies to all Magnetic Resonance Imaging personnel

NOTE 2: Users may annotate lists of training references to identify current references pending STS revision.

NOTE 3: Training References shown in the source summary (p 66) are commercial publications or other service publications considered essential for OJT and mission accomplishment and are referenced by title and applicable chapters throughout this STS. Unit OJT sections will consolidate the requirements for the unit they support and will order the publications through the hospital/clinic library activity.

NOTE 4: Items marked in column 3E are the tasks/knowledge that are trained in resident wartime courses. The Phase II course (J5ABO4R031 001) will be discontinued when the resident wartime course is implemented.

- STS 4R0X1 -	2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES						3. TRAINING PROFICIENCY CODES				
	A Start Date	B Completion Date	C Trainer's Initials	D Trainee's Initials	E Certifier's Initials	F QTP	A AQR Course (Phase I)	B 3-Skill Level Course (Phase II)	C 5-Skill Level CDC	D 7-Skill Level Course	E War Time Crs
1	CAREER LADDER PROGRESSION										
1a	USAF Medical Service TR: AFD 44-1										
1a(1)	Mission										
1a(2)	Organization										
1a(3)	Function										
1b	The airman career ladder and educational opportunities TR: CFETP 4R0X1, AFIs 36-2304, 36-2306; AFMAN 36-2108; AFVA 39-1										
1c	Progression in career ladder 4R0X1 TR: CFETP 4R0X1; AFI 36-2101; AFMAN 36-2108										
1d	Duties of AFSCs 4R031/51/71 TR: AFMAN 36-2108										
2	SPECIFIC OPERATIONS SECURITY (OPSEC) VULNERABILITIES OF AFSC 4R0X1 TR: AFI 10-1101										

- STS 4R0X1 - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS	2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES						3. TRAINING PROFICIENCY CODES				
	A Start Date	B Completion Date	C Trainer's Initials	D Trainee's Initials	E Certifier's Initials	F QTP	A AQR Course (Phase I)	B 3-Skill Level Course (Phase II)	C 5-Skill Level CDC	D 7-Skill Level Course	E War Time CrS
3 MEDICAL READINESS (Initial Medical Readiness training, directed by AFI 41-106, is provided in the Basic Medical Readiness course conducted at the 882d Training Group, Sheppard AFB, Texas. Completed training is documented on AF Form 1098 for each course graduate. Continuing/on-going Medical Readiness training for the individual is the responsibility of each medical facility.)							-	-	-	-	-
4 AF OCCUPATIONAL SAFETY AND HEALTH (AFOSH) PROGRAM TR: AFI 91-301; AFOSH Standard 127-8											
4a Hazards of AFSC 4R0X1 (document on AF Form 55)							A	-	B	C	A
4b AFOSH standards for AFSC 4R0X1 (document on AF form 55)							-	A	B	C	-
4c Perform radiation protection procedures when using TR: <u>Radiologic Science for Technologists (Ch 32)</u> ; <u>Merrill's Atlas of Radiographic Positions and Radiologic Procedures (Vol 1, Ch 2)</u>											
* 4c(1) Fixed radiographic equipment	_____	_____	_____	_____	_____		2b	3c	-	-	2b
4c(2) Mobile radiographic equipment	_____	_____	_____	_____	_____		1b	3c	-	-	1b
4d Radiology environmental management issues							-	-	A	B	-
5 SUPERVISION OF MILITARY AND NON-MILITARY PERSONNEL											
5a Orient new personnel TR: AFI 36-2201; AFMAN 2108; CFETP 4R0X1	_____	_____	_____	_____	_____		-	-	-	c	-
5b Assign personnel to duty position (UMD, UPMR, mobility, UTC, etc)	_____	_____	_____	_____	_____		-	-	-	c	-
5c Plan work assignments and priorities TR: AFPAM 35-2241V1	_____	_____	_____	_____	_____		-	-	-	b	-
5d Schedule work assignments and priorities TR: AFPAM 35-2241V1	_____	_____	_____	_____	_____		-	-	-	b	-
5e Establish work methods and performance standards (OIs, policies, protocols, etc.) TR: AFPAM 35-2241V1; AFIs 41-120, 44-135, 46-102	_____	_____	_____	_____	_____		-	-	a	c	-

- STS 4R0X1 - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES					3. TRAINING PROFICIENCY CODES				
		A Start Date	B Completion Date	C Trainer's Initials	D Trainee's Initials	E Certifier's Initials	F QTP	A AQR Course (Phase I)	B 3-Skill Level Course (Phase II)	C 5-Skill Level CDC	D 7-Skill Level Course
5f	Evaluate work performance of subordinate personnel TR: AFI 36-2403; AFMAN 36-2108						-	-	-	c	-
5g	Resolve management problems for subordinate personnel TR: AFI 36-2403						-	-	-	c	-
5h	Counsel personnel and resolve individual problems TR: AFPAM 36-2618						-	-	-	c	-
5i	Initiate action to correct substandard performance by personnel TR: AFI 36-2503, 36-2608						-	-	-	c	-
6	TRAINING TR: AFI 36-2201										
6a	Evaluate personnel to determine need for training						-	-	-	c	-
6b	Recommend personnel for training TR: AFI 36-2101; AFMAN 36-2108; CFETP 4R0X11; AF Education and Training Course Announcements https://etca.randolph.af.mil						-	-	-	c	-
6c	Planning and supervising OJT										
6c(1)	Prepare job qualification standards						-	-	-	-	-
6c(2)	Conduct training						-	-	-	b	-
6c(3)	Counsel trainees on their progress						-	-	-	-	-
6c(4)	Monitor effectiveness of										
6c(4)(a)	Career knowledge upgrade training						-	-	-	-	-
6c(4)(b)	Job proficiency upgrade training						-	-	-	-	-
6c(4)(c)	Qualification training						-	-	-	-	-
6d	Maintain training records						-	-	-	c	-
6e	Evaluate effectiveness of training programs						-	-	-	-	-
7	RADIOLOGIC SERVICE SUPPLY REQUIREMENTS TR: AFMs 67-1 (Vol V, Ch 1, 4, 10, 11, 12, and 16); Federal Supply Catalog Class 6525 Identification List and Management List										

- STS 4R0X1 - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES					3. TRAINING PROFICIENCY CODES				
		A Start Date	B Completion Date	C Trainer's Initials	D Trainee's Initials	E Certifier's Initials	F QTP	A AQR Course (Phase I)	B 3-Skill Level Course (Phase II)	C 5-Skill Level CDC	D 7-Skill Level Course
7a	Categories of medical supplies						-	-	A	B	-
7b	Ordering supplies	_____	_____	_____	_____	_____	-	-	-	b	-
7c	Preparing and submitting requests for medical material/services TR: AFMAN 23-110, Vol V, AF Medical Material Management System	_____	_____	_____	_____	_____	-	-	A	b	-
7d	Property accountability and responsibility TR: AFM 67-1 (Vol V, Ch 1)						A	-	A	B	-
7e	Report of survey system TR: AFI 23-220						A	-	B	-	-
7f	Budgeting procedures TR: AFI 65-601V1; AFP 172-4						-	-	-	B	-
7g	Precious metals recovery program TR: AFM 23-110 (Vol VI, Ch 4)						-	-	A	B	-
8	PROFESSIONALISM AND PATIENT RELATIONSHIPS TR: <u>Merrill's Atlas of Radiographic Positions and Radiologic Procedures</u> (Vol 1, Ch1); <u>Law and Ethics in Diagnostic Imaging</u>										
8a	Professional standards of ethics						A	B	C	C	-
8b	Professional relations with patients and medical personnel						A	B	C	C	-
8c	Privacy act and release of patient information TR: AFI 37-132						A	B	C	-	-
8d	Demonstrates professional verbal and written communication skills	_____	_____	_____	_____	_____	-	2b	-	-	-
9	PERFORMS IMAGE LIBRARY FUNCTIONS TR: AFIs 37-138, 41-120, 44-119; AFMANs 37-123, 37-139										
* 9a	Prepares master folder	_____	_____	_____	_____	_____	1b	3c	-	-	b
9b	Prepares sub folder	_____	_____	_____	_____	_____	b	3c	-	-	b
* 9c	Files folders in terminal digit sequence	_____	_____	_____	_____	_____	1b	3c	-	-	b
* 9d	Retrieves file folders	_____	_____	_____	_____	_____	1b	3c	-	-	-
9e	Performs search procedures for misplaced files	_____	_____	_____	_____	_____	-	-	b	-	-
9f	Performs film loan procedures	_____	_____	_____	_____	_____	-	-	b	-	-

- STS 4R0X1 - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES					3. TRAINING PROFICIENCY CODES				
		A Start Date	B Completion Date	C Trainer's Initials	D Trainee's Initials	E Certifier's Initials	F QTP	A AQR Course (Phase I)	B 3-Skill Level Course (Phase II)	C 5-Skill Level CDC	D 7-Skill Level Course
9g	Performs film transfer procedures	_____	_____	_____	_____	_____	-	-	b	-	-
9h	Performs maintenance and disposition of	_____	_____	_____	_____	_____					
* 9h(1)	Radiographic film files	_____	_____	_____	_____	_____	a	3c	c	-	a
9h(2)	Mammography image files	_____	_____	_____	_____	_____	-	-	b	-	-
9h(3)	Occupational/asbestos image files	_____	_____	_____	_____	_____	-	-	b	-	-
9h(4)	Final type image files	_____	_____	_____	_____	_____	a	b	c	-	a
9h(5)	Sensitive (medical-legal) image files	_____	_____	_____	_____	_____	-	-	b	-	-
9h(6)	Teaching image files	_____	_____	_____	_____	_____	-	-	b	-	-
9h(7)	Radiography reports	_____	_____	_____	_____	_____	a	2b	-	-	a
9h(8)	Digital image storage media	_____	_____	_____	_____	_____					
9h(8)(a)	Performs digitization of films	_____	_____	_____	_____	_____	-	-	-	-	-
9h(8)(b)	Retrieves images stored	_____	_____	_____	_____	_____	-	-	-	-	-
9h(8)(c)	Prints images stored	_____	_____	_____	_____	_____	-	-	-	-	-
10	RADIOLOGIC SERVICE ADMINISTRATION TR: AFIs 37-138, 37-160, Vol 1, 41-120, 44-135, 46-102										
* 10a	Process radiographic requests	_____	_____	_____	_____	_____	a	2b	-	-	a
10b	Prepare radiologic correspondence TR: AFMAN 37-126; AFI 33-332; AFI 33-360 Vol 1	_____	_____	_____	_____	_____	-	-	-	-	-
10c	Maintain nominal index files (manual or computerized)	_____	_____	_____	_____	_____	-	-	-	-	-
10d	Maintain correspondence files	_____	_____	_____	_____	_____	-	-	-	-	-
10e	Accreditation requirements	_____	_____	_____	_____	_____	-	-	-	B	-
10f	Management reports	_____	_____	_____	_____	_____	-	-	-	B	-
10g	Process improvement in radiology	_____	_____	_____	_____	_____	-	-	-	B	-
10h	Radiology information systems	_____	_____	_____	_____	_____					
10h(1)	Digital imaging network/Teleradiology	_____	_____	_____	_____	_____	-	-	A	A	-

- STS 4R0X1 - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES					3. TRAINING PROFICIENCY CODES				
		A Start Date	B Completion Date	C Trainer's Initials	D Trainee's Initials	E Certifier's Initials	F QTP	A AQR Course (Phase I)	B 3-Skill Level Course (Phase II)	C 5-Skill Level CDC	D 7-Skill Level Course
10h(2)	Picture Archiving and Communication Systems (PACS)						-	-	A	A	-
10h(3)	CHCS						-	-	A	A	-
10h(4)	Local Area Network (LAN) (intranet/e-mail)						-	-	A	A	-
10h(5)	Systems administration						-	-	-	A	-
10i	Facilities management						-	-	-	B	-
11	TECHNICAL FUNDAMENTALS OF RADIOLOGY TR: <u>Radiologic Science for Technologists; The Basics of Film Processing in Medical Imaging</u>										
11a	Basic electronics						B	-	B	-	B
11b	Radiation physics						B	-	B	-	B
11c	Principles of x-ray production						B	-	B	-	B
11d	Radiobiology						B	-	B	-	B
* 11e	Select prime exposure factors	_____	_____	_____	_____	_____	2b	3b	c	-	3b
* 11f	Control secondary and scattered radiation	_____	_____	_____	_____	_____	2b	3b	c	-	3b
11g	Characteristics of film and screens						B	-	C	-	B
11h	Process radiographic film	_____	_____	_____	_____	_____	2b	3c	-	-	2b
11i	Prepare solution for film processing	_____	_____	_____	_____	_____	b	-	c	-	b
11j	Operate dry chemical processors	_____	_____	_____	_____	_____	-	-	-	-	-
11k	Perform film reproduction	_____	_____	_____	_____	_____	1a	2b	c	-	-
11l	Film printing (lasers, multi-format, etc.)	_____	_____	_____	_____	_____	-	-	-	-	-
11m	Computed radiography						A	-	B	-	-
12	RADIOGRAPHIC EQUIPMENT QUALITY CONTROL TR: <u>Quality Management in the Imaging Sciences; The Basics of Film Processing in Medical Imaging</u>										
12a	Perform quality control checks on										
12a(1)	Radiographic imaging systems										

- STS 4R0X1 - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES					3. TRAINING PROFICIENCY CODES					
		A Start Date	B Completion Date	C Trainer's Initials	D Trainee's Initials	E Certifier's Initials	F QTP	A AQR Course (Phase I)	B 3-Skill Level Course (Phase II)	C 5-Skill Level CDC	D 7-Skill Level Course	E War Time Crs
12a(1)(a)	kVp checks	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
12a(1)(b)	mA/time checks	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
12a(1)(c)	Beam alignment/field alignment checks	_____	_____	_____	_____	_____	_____	_____	a	_____	_____	_____
12a(1)(d)	Focal spot size checks	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
12a(2)	Radiographic processors											
12a(2)(a)	Sensitometry film checks	_____	_____	_____	_____	_____	a	1b	c	_____	_____	_____
12a(2)(b)	Replenishment rate checks	_____	_____	_____	_____	_____	a	1b	b	_____	_____	_____
12a(2)(c)	Temperature checks	_____	_____	_____	_____	_____	a	1b	b	_____	_____	_____
12a(2)(d)	Silver recovery	_____	_____	_____	_____	_____	_____	_____	a	_____	_____	_____
12a(3)	Adjunct equipment											
12a(3)(a)	Viewbox illumination checks	_____	_____	_____	_____	_____	_____	_____	a	_____	_____	_____
12a(3)(b)	Safelight checks	_____	_____	_____	_____	_____	a	b	c	_____	_____	_____
12a(3)(c)	Film/screen contact checks	_____	_____	_____	_____	_____	a	b	c	_____	_____	_____
12a(3)(d)	Lead protective devices checks	_____	_____	_____	_____	_____	_____	a	_____	_____	_____	_____
12b	Perform preventive maintenance on											
12b(1)	Processors											
12b(1)(a)	Film transport system	_____	_____	_____	_____	_____	1a	2b	c	_____	_____	1a
12b(1)(b)	Circulation system	_____	_____	_____	_____	_____	1a	2b	c	_____	_____	1a
12b(1)(c)	Replenishment system	_____	_____	_____	_____	_____	1a	2b	c	_____	_____	1a
12b(2)	Clean intensifying screens	_____	_____	_____	_____	_____	1a	2b	c	_____	_____	1a
12c	Perform film reject/repeat analysis	_____	_____	_____	_____	_____	_____	_____	c	_____	_____	_____
13	ANATOMY AND PHYSIOLOGY TR: <u>Gray's Anatomy; Principles of Anatomy and Physiology</u>											
13a	Organization of the body						A	B	B	_____	_____	A
13b	Structure and function of body systems											
13b(1)	Osteology						A	B	B	_____	_____	A

- STS 4R0X1 - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES					3. TRAINING PROFICIENCY CODES				
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13b(2)	Muscular						A	-	B	-	A
13b(3)	Respiratory						A	B	B	-	A
13b(4)	Cardiovascular						A	B	B	-	A
13b(5)	Digestive						A	B	B	-	A
13b(6)	Urinary						A	B	B	-	A
13b(7)	Nervous						A	B	B	-	A
13b(8)	Endocrine						A	-	A	-	-
13b(9)	Integumentary						A	-	-	-	-
13b(10)	Reproductive						A	B	B	-	-
13c	Cross-sectional anatomy TR: <u>Sectional Anatomy</u>						-	-	B	-	-
14	ROUTINE CLINICAL RADIOGRAPHY TR: <u>Merrill's Atlas of Radiographic Positions and Radiologic Procedures</u> (Vol 1, Ch 4-10; Vol 2, Ch 20-23)										
14a	Produce radiographs of the										
* 14a(1)	Upper extremities	_____	_____	_____	_____	_____	2b	3c	c	-	2b
* 14a(2)	Shoulder girdle	_____	_____	_____	_____	_____	2b	3c	c	-	2b
* 14a(3)	Lower extremities	_____	_____	_____	_____	_____	2b	3c	c	-	2b
* 14a(4)	Pelvic girdle	_____	_____	_____	_____	_____	2b	3c	c	-	2b
* 14a(5)	Chest	_____	_____	_____	_____	_____	2b	3c	c	-	2b
* 14a(6)	Abdomen	_____	_____	_____	_____	_____	2b	3c	c	-	2b
* 14a(7)	Vertebral column	_____	_____	_____	_____	_____	2b	3c	c	-	2b
14a(8)	Ribs	_____	_____	_____	_____	_____	2b	2c	c	-	2b
14a(9)	Sternum	_____	_____	_____	_____	_____	2b	b	c	-	2b
14a(10)	Skull	_____	_____	_____	_____	_____	2b	2c	c	-	2b
14a(11)	Sinuses	_____	_____	_____	_____	_____	2b	3c	c	-	2b
14a(12)	Facial bones	_____	_____	_____	_____	_____	2b	2c	c	-	2b

- STS 4R0X1 - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES					3. TRAINING PROFICIENCY CODES				
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14a(13)	Mastoids and petrous pyramids	_____	_____	_____	_____	_____	2b	-	c	-	-
* 14b	Perform image quality control	_____	_____	_____	_____	_____	1a	2b	c	-	1a
14c	Image artifacts	_____	_____	_____	_____	_____	A	B	B	-	A
15 SPECIAL CLINICAL RADIOGRAPHY											
15a	Signs and symptoms of reactions to contrast media TR: <u>Patient Care in Radiology</u>	_____	_____	_____	_____	_____	A	B	C	-	A
15b	Patient preparation and instructions TR: <u>Patient Care in Radiology</u>	_____	_____	_____	_____	_____	A	B	-	-	A
15c	Operate equipment and assist in performing	_____	_____	_____	_____	_____					
* 15c(1)	Contrast studies of the alimentary tract TR: <u>Merrill's Atlas of Radiographic Positions and Radiologic Procedures</u> (Vol II, Ch 17)	_____	_____	_____	_____	_____	b	2c	c	-	b
15c(2)	Contrast studies of the biliary tract TR: <u>Merrill's Atlas of Radiographic Positions...</u> (Vol II, Ch 16)	_____	_____	_____	_____	_____	b	b	c	-	-
15c(3)	Contrast studies of the urinary tract TR: <u>Merrill's Atlas of Radiographic Positions...</u> (Vol II, Ch 18)	_____	_____	_____	_____	_____	b	2c	c	-	b
15c(4)	Arthrography TR: <u>Merrill's Atlas of Radiographic Positions...</u> (Vol I, Ch 12)	_____	_____	_____	_____	_____	a	b	b	-	-
15c(5)	Scanography TR: <u>Merrill's Atlas of Radiographic Positions...</u> (Vol I, Ch 11)	_____	_____	_____	_____	_____	1b	b	b	-	-
15c(6)	Contrast studies of the reproductive system TR: <u>Merrill's Atlas of Radiographic Positions...</u> (Vol II, Ch 19)	_____	_____	_____	_____	_____	-	b	c	-	-
15c(7)	Tomography TR: <u>Merrill's Atlas of Radiographic Positions...</u> (Vol III, Ch 29)	_____	_____	_____	_____	_____	a	1b	b	-	-
15c(8)	Mobile radiography TR: Local Operator's Manual	_____	_____	_____	_____	_____	b	2c	c	-	1b
15c(9)	Mobile fluoroscopy TR: Local Operator's Manual	_____	_____	_____	_____	_____	a	2b	b	-	1b

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15c(10)	Myelography TR: <u>Merrill's Atlas of Radiographic Positions...</u> (Vol III, Ch 25)	_____	_____	_____	_____	_____	_____	_____	b	_____	_____	
15c(11)	Venography TR: <u>Merrill's Atlas of Radiographic Positions...</u> (Vol III, Ch 26)	_____	_____	_____	_____	_____	_____	_____	b	_____	_____	
15c(12)	Bone densitometry	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	
16	PATIENT CARE TR: <u>Patient Care in Radiography</u>											
16a	Nursing techniques											
16a(1)	Personal privacy/care of personal effects						_____	B	_____	_____	_____	
16a(2)	Patient safety/special needs						A	B	_____	_____	_____	
* 16a(3)	Monitors vital signs	_____	_____	_____	_____	_____	_____	2b	c	_____	2b	
16a(4)	Lifting techniques						_____	A	_____	_____	A	
16a(5)	Performs venipuncture	_____	_____	_____	_____	_____	a	2b	b	_____	a	
16a(6)	IV precautions						_____	A	_____	_____	A	
16a(7)	Monitors patients during diagnostic exams	_____	_____	_____	_____	_____	b	c	c	_____	_____	
16a(8)	Administer contrast media											
16a(8)(a)	Oral contrast media	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	
16a(8)(b)	Rectal contrast media	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	
16a(8)(c)	Intravenous contrast media	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	
16a(8)(d)	Intra-articular contrast media	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	
16a(8)(e)	Retrograde urinary contrast media	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	
16a(8)(f)	Endovaginal contrast media	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	
16a(9)	Administer medications											
16a(9)(a)	Oral medications											
16a(9)(a)(1)	Diphenylhydramine hydrochloride (e.g., Benadryl)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	
16a(9)(a)(2)	Furosemide (e.g., Lasix)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	

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16a(9)(b)	Intramuscular medications											
16a(9)(b)(1)	Diphenylhydramine hydrochloride (e.g., Benadryl)	_____	_____	_____	_____	_____	-	-	-	-	-	
16a(9)(b)(2)	Furosemide (e.g., Lasix)	_____	_____	_____	_____	_____	-	-	-	-	-	
16a(9)(c)	Intravenous medications											
16a(9)(c)(1)	Epinephrine (e.g., Adrenalin)	_____	_____	_____	_____	_____	-	-	-	-	-	
16a(9)(c)(2)	Furosemide (e.g., Lasix)	_____	_____	_____	_____	_____	-	-	-	-	-	
16a(9)(c)(3)	Cholecystokinin (e.g., CCK)	_____	_____	_____	_____	_____	-	-	-	-	-	
16a(9)(c)(4)	Dipyridamole (e.g., Persantine)	_____	_____	_____	_____	_____	-	-	-	-	-	
16a(10)	Document medication administration	_____	_____	_____	_____	_____	-	-	-	-	-	
16b	Transports patients within department	_____	_____	_____	_____	_____	-	2b	-	-	-	
16c	Performs medical and surgical aseptic techniques	_____	_____	_____	_____	_____	a	2b	-	-	2b	
* 16d	Perform cardiopulmonary resuscitation TR: <u>Healthcare Provider's Manual for Basic Life Support</u>	_____	_____	_____	_____	_____	-	3c	-	-	3c	
16e	Crash cart familiarization	_____	_____	_____	_____	_____	-	-	-	-	-	
17	INFECTION CONTROL TR: <u>Patient Care in Radiography</u> ; AFI 44-108											
* 17a	Employs standard precautions	_____	_____	_____	_____	_____	b	2b	c	-	b	
17b	Employs isolation procedures	_____	_____	_____	_____	_____	a	b	b	-	a	
17c	Employs reverse isolation procedures	_____	_____	_____	_____	_____	a	b	b	-	a	
* 17d	Performs equipment cleaning	_____	_____	_____	_____	_____	2b	3c	-	-	2b	
18	TECHNICAL AND REGULATORY OVERVIEW OF SUBSPECIALTIES											
18a	Nuclear Medicine (A-shred)						-	-	-	B	-	
18b	Ultrasound (B-shred)						-	-	-	B	-	
18c	Magnetic Resonance Imaging (C-shred)						-	-	-	B	-	
18d	Computed Tomography (SEI 478)						-	-	-	B	-	

- STS 4R0X1 - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES					3. TRAINING PROFICIENCY CODES				
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18e	Cardiovascular and Interventional Procedures (SEI 479)						-	-	-	B	-
18f	Mammography (SEI 460)						-	-	-	B	-
19	COMPUTED TOMOGRAPHY PROCEDURES TR: <u>Merrill's Atlas of Radiographic Positions and Radiologic Procedures</u> (Vol 3, Ch 33); <u>Computed Tomography: Physical Principles, Clinical Applications, and Quality Control</u>										
19a	Safety in CT										
19a(1)	Radiation protection						-	-	-	-	-
19a(2)	Mechanical safety						-	-	-	-	-
19a(3)	Laser safety						-	A	-	-	-
19b	Physics of CT										
19b(1)	Image formation						A	A	B	-	-
19b(2)	Data acquisition						A	A	B	-	-
19b(3)	Data measurement						A	A	A	-	-
19b(4)	Data processing						A	A	B	-	-
19b(5)	Resolution						A	A	B	-	-
19c	Components of a CT scanner										
19c(1)	Imaging system						A	A	B	-	-
19c(2)	Computer system						A	A	A	-	-
19c(3)	Image display						A	A	B	-	-
19c(4)	Image storage and recording						A	A	A	-	-
19c(5)	CT control console						A	A	A	-	-
19d	Cross sectional anatomy										
19d(1)	Head						-	A	-	-	-
19d(2)	Neck						-	-	-	-	-
19d(3)	Chest						-	A	-	-	-
19d(4)	Abdomen						-	A	-	-	-

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19d(5)	Pelvis						-	A	-	-	-	
19d(6)	Spine						-	-	-	-	-	
19d(7)	Extremities						-	-	-	-	-	
19e	Disease entities											
19e(1)	Pathology						-	-	-	-	-	
19e(2)	Differential diagnosis						-	-	-	-	-	
19e(3)	Common CT demonstrated abnormalities						-	-	-	-	-	
19f	Operate CT system											
19f(1)	Start-up	_____	_____	_____	_____	_____	-	-	-	-	-	
19f(2)	Shutdown	_____	_____	_____	_____	_____	-	-	-	-	-	
19f(3)	Emergency shutdown	_____	_____	_____	_____	_____	-	-	-	-	-	
19f(4)	Tube warm-up	_____	_____	_____	_____	_____	-	-	-	-	-	
19f(5)	Calibration	_____	_____	_____	_____	_____	-	-	-	-	-	
19f(6)	Image archiving	_____	_____	_____	_____	_____	-	-	-	-	-	
19g	Perform routine examinations of											
19g(1)	Neuro											
19g(1)(a)	Head	_____	_____	_____	_____	_____	-	1a	-	-	-	
19g(1)(b)	Sinus	_____	_____	_____	_____	_____	-	1a	-	-	-	
19g(1)(c)	Orbits	_____	_____	_____	_____	_____	-	-	-	-	-	
19g(1)(d)	Sella turcica	_____	_____	_____	_____	_____	-	-	-	-	-	
19g(1)(e)	Temporal bone	_____	_____	_____	_____	_____	-	-	-	-	-	
19g(1)(f)	IAC	_____	_____	_____	_____	_____	-	-	-	-	-	
19g(1)(g)	Neck	_____	_____	_____	_____	_____	-	-	-	-	-	
19g(1)(h)	C-spine	_____	_____	_____	_____	_____	-	-	-	-	-	
19g(1)(i)	T-spine	_____	_____	_____	_____	_____	-	-	-	-	-	
19g(1)(j)	L/S-spine	_____	_____	_____	_____	_____	-	-	-	-	-	

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19g(2)	Body										
19g(2)(a)	Abdomen	_____	_____	_____	_____	_____	-	1a	-	-	-
19g(2)(b)	Liver	_____	_____	_____	_____	_____	-	-	-	-	-
19g(2)(c)	Kidney	_____	_____	_____	_____	_____	-	-	-	-	-
19g(2)(d)	Adrenals	_____	_____	_____	_____	_____	-	-	-	-	-
19g(2)(e)	Spleen	_____	_____	_____	_____	_____	-	-	-	-	-
19g(2)(f)	Pancreas	_____	_____	_____	_____	_____	-	-	-	-	-
19g(2)(g)	Pelvis	_____	_____	_____	_____	_____	-	-	-	-	-
19g(2)(h)	S-I joints	_____	_____	_____	_____	_____	-	-	-	-	-
19g(2)(i)	Chest	_____	_____	_____	_____	_____	-	-	-	-	-
19g(2)(j)	Aorta	_____	_____	_____	_____	_____	-	-	-	-	-
19g(3)	Extremities										
19g(3)(a)	Upper extremity	_____	_____	_____	_____	_____	-	-	-	-	-
19g(3)(b)	Lower extremity	_____	_____	_____	_____	_____	-	-	-	-	-
19h	Assist in performing special procedures										
19h(1)	Biopsy	_____	_____	_____	_____	_____	-	-	-	-	-
19h(2)	Stereotactic biopsy	_____	_____	_____	_____	_____	-	-	-	-	-
19h(3)	Radiation therapy planning	_____	_____	_____	_____	_____	-	-	-	-	-
19h(4)	Abscess drainage	_____	_____	_____	_____	_____	-	-	-	-	-
19i	Filming procedures										
19i(1)	Setting windows/levels	_____	_____	_____	_____	_____	-	1a	a	-	-
19i(2)	Image format	_____	_____	_____	_____	_____	-	-	a	-	-
19i(3)	Measuring	_____	_____	_____	_____	_____	-	-	a	-	-
19i(4)	ROI	_____	_____	_____	_____	_____	-	-	a	-	-
19j	Reconstruction of images	_____	_____	_____	_____	_____	-	-	-	-	-
19k	Reformation of images	_____	_____	_____	_____	_____	-	-	-	-	-

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19l	CT contrast agents											
19l(1)	Types of contrast						-	-	A	-	-	
19l(2)	Reactions to contrast agents						-	-	-	-	-	
19l(3)	Operate power injectors											
19l(3)(a)	Set injection delays	_____	_____	_____	_____	_____	-	-	a	-	-	
19l(3)(b)	Preventing extravasation of contrast media	_____	_____	_____	_____	_____	-	-	a	-	-	
19m	CT angiography											
19m(1)	Vascular anatomy						-	-	-	-	-	
19m(2)	Injection rates						-	-	-	-	-	
19m(3)	Contrast phase						-	-	-	-	-	
19n	3-D imaging											
19n(1)	Preparation	_____	_____	_____	_____	_____	-	-	-	-	-	
19n(2)	Scanning techniques	_____	_____	_____	_____	_____	-	-	-	-	-	
19n(3)	Reconstruction	_____	_____	_____	_____	_____	-	-	-	-	-	
19o	Patient preparation	_____	_____	_____	_____	_____	-	-	-	-	-	
19p	Patient scheduling	_____	_____	_____	_____	_____	-	-	-	-	-	
19q	Pediatric care	_____	_____	_____	_____	_____	-	-	-	-	-	
20	CARDIOVASCULAR AND INTERVENTIONAL PROCEDURES TR: <u>Merrill's Atlas of Radiographic Positions and Radiologic Procedures</u> (Vol III, Ch 26)											
20a	Operate imaging equipment and peripherals											
20a(1)	Single and biplane generators	_____	_____	_____	_____	_____	-	-	b	-	-	
20a(2)	Rapid/Serial film changers	_____	_____	_____	_____	_____	-	-	b	-	-	
20a(3)	Exposure program units	_____	_____	_____	_____	_____	-	-	b	-	-	
20a(4)	Digital subtraction units	_____	_____	_____	_____	_____	-	-	b	-	-	
20a(5)	Pressure injectors	_____	_____	_____	_____	_____	-	-	b	-	-	

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20a(6)	Duplicating and subtraction film printers	_____	_____	_____	_____	_____	-	-	-	-	-
20a(7)	Multi-format and/or laser film printers	_____	_____	_____	_____	_____	-	-	-	-	-
20a(8)	Photospot and/or video image recorders	_____	_____	_____	_____	_____	-	-	-	-	-
20a(9)	Image viewing monitors	_____	_____	_____	_____	_____	-	-	-	-	-
20a(10)	Patient procedure table and controls	_____	_____	_____	_____	_____	-	-	-	-	-
20a(11)	Fluoroscopic image tower	_____	_____	_____	_____	_____	-	-	-	-	-
20b	Non-Imaging Equipment										
20b(1)	Electrocardiograph monitors	_____	_____	_____	_____	_____	-	-	-	-	-
20b(2)	External and internal blood pressure monitors	_____	_____	_____	_____	_____	-	-	-	-	-
20b(3)	Respiration monitors	_____	_____	_____	_____	_____	-	-	-	-	-
20b(4)	Intravascular infusion pumps	_____	_____	_____	_____	_____	-	-	-	-	-
20b(5)	Cardiac defibrillators	_____	_____	_____	_____	_____	-	-	-	-	-
20b(6)	Resuscitators	_____	_____	_____	_____	_____	-	-	-	-	-
20b(7)	Oxygen deliverers	_____	_____	_____	_____	_____	-	-	-	-	-
20b(8)	Suction devices	_____	_____	_____	_____	_____	-	-	-	-	-
20c	Procedure responsibility										
20c(1)	Sterile technique and fields										
20c(1)(a)	Procedure tray preparation and set-up	_____	_____	_____	_____	_____	-	-	b	-	-
20c(1)(b)	Entry site preparation	_____	_____	_____	_____	_____	-	-	b	-	-
20c(1)(c)	Equipment preparation	_____	_____	_____	_____	_____	-	-	b	-	-
20c(2)	Patient care										
20c(2)(a)	Dressing application and maintenance	_____	_____	_____	_____	_____	-	-	-	-	-
20c(2)(b)	Drainage catheters, tubes, and bags	_____	_____	_____	_____	_____	-	-	-	-	-
20c(3)	Identify and monitor patient vital signs	_____	_____	_____	_____	_____	-	-	-	-	-

- STS 4R0X1 - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES						3. TRAINING PROFICIENCY CODES				
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20c(4)	Identify and monitor patient cardiac rhythms	_____	_____	_____	_____	_____		-	-	-	-	-
20c(5)	Identify patient lab results	_____	_____	_____	_____	_____		-	-	-	-	-
20c(6)	Prepare drugs, medicines, and solutions											
20c(6)(a)	Pre and intra-procedural	_____	_____	_____	_____	_____		-	-	-	-	-
20c(6)(b)	Desired and adverse effects	_____	_____	_____	_____	_____		-	-	-	-	-
20c(7)	Verify pre-op orders and consent form	_____	_____	_____	_____	_____		-	-	-	-	-
20c(8)	Document procedure events and data	_____	_____	_____	_____	_____		-	-	-	-	-
20c(9)	Perform equipment tests as per protocols	_____	_____	_____	_____	_____		-	-	-	-	-
20c(10)	Identify catheters	_____	_____	_____	_____	_____		-	-	b	-	-
20c(11)	Identify wires	_____	_____	_____	_____	_____		-	-	b	-	-
20c(12)	Identify contrast materials											
20c(12)(a)	Dose limits	_____	_____	_____	_____	_____		-	-	-	-	-
20c(12)(b)	Reaction identification and types	_____	_____	_____	_____	_____		-	-	-	-	-
20c(13)	Set up specialty trays	_____	_____	_____	_____	_____		-	-	-	-	-
20c(14)	Identify needles and accessories	_____	_____	_____	_____	_____		-	-	b	-	-
20d	Cardiovascular anatomy											
20d(1)	Extremities	_____	_____	_____	_____	_____		-	-	-	-	-
20d(2)	Head	_____	_____	_____	_____	_____		-	-	-	-	-
20d(3)	Neck	_____	_____	_____	_____	_____		-	-	-	-	-
20d(4)	Chest	_____	_____	_____	_____	_____		-	-	-	-	-
20d(5)	Abdomen	_____	_____	_____	_____	_____		-	-	-	-	-
20d(6)	Pelvis	_____	_____	_____	_____	_____		-	-	-	-	-
20d(7)	Secondary vessels	_____	_____	_____	_____	_____		-	-	-	-	-
20d(8)	Tertiary vessels	_____	_____	_____	_____	_____		-	-	-	-	-
20d(9)	Vascular pathology	_____	_____	_____	_____	_____		-	-	-	-	-
20e	Perform cardiovascular-interventional exams											

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20e(1)	Arteriography										
20e(1)(a)	Abdominal aorta	_____	_____	_____	_____	_____	-	-	-	-	-
20e(1)(b)	Renal	_____	_____	_____	_____	_____	-	-	-	-	-
20e(1)(c)	Celiac	_____	_____	_____	_____	_____	-	-	-	-	-
20e(1)(d)	Hepatic	_____	_____	_____	_____	_____	-	-	-	-	-
20e(1)(e)	Splenic	_____	_____	_____	_____	_____	-	-	-	-	-
20e(1)(f)	Mesenteric	_____	_____	_____	_____	_____	-	-	-	-	-
20e(1)(g)	Pelvis	_____	_____	_____	_____	_____	-	-	-	-	-
20e(1)(h)	Thoracic aorta	_____	_____	_____	_____	_____	-	-	-	-	-
20e(1)(i)	Carotids, common	_____	_____	_____	_____	_____	-	-	-	-	-
20e(1)(j)	Carotids, internal-external	_____	_____	_____	_____	_____	-	-	-	-	-
20e(1)(k)	Vertebral arteries	_____	_____	_____	_____	_____	-	-	-	-	-
20e(1)(l)	Subclavian arteries	_____	_____	_____	_____	_____	-	-	-	-	-
20e(1)(m)	Intracranial vessels	_____	_____	_____	_____	_____	-	-	-	-	-
20e(1)(n)	Extracranial vessels	_____	_____	_____	_____	_____	-	-	-	-	-
20e(1)(o)	Upper extremities	_____	_____	_____	_____	_____	-	-	-	-	-
20e(1)(p)	Lower extremities, run-off	_____	_____	_____	_____	_____	-	-	-	-	-
20e(1)(q)	Pulmonary	_____	_____	_____	_____	_____	-	-	-	-	-
20e(2)	Venography										
20e(2)(a)	Portal	_____	_____	_____	_____	_____	-	-	-	-	-
20e(2)(b)	Upper extremity	_____	_____	_____	_____	_____	-	-	-	-	-
20e(2)(c)	Lower extremity	_____	_____	_____	_____	_____	-	-	-	-	-
20e(2)(d)	Vena cava	_____	_____	_____	_____	_____	-	-	-	-	-
20e(3)	Fistula and shunt exams	_____	_____	_____	_____	_____	-	-	-	-	-
20e(4)	Percutaneous transluminal angioplasty, canalization, stents	_____	_____	_____	_____	_____	-	-	-	-	-
20e(5)	Thrombolytic infusion	_____	_____	_____	_____	_____	-	-	-	-	-

- STS 4R0X1 - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES					3. TRAINING PROFICIENCY CODES				
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20e(6)	Embolotherapy	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
20e(7)	Venous filter procedures	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
20e(8)	Biliary interventions	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
20e(9)	Genitourinary interventions	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
20e(10)	Needle biopsy procedures	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
20e(11)	Percutaneous abscess drainage	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
20e(12)	Percutaneous gastrostomy	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
20e(13)	Percutaneous nephrostomy	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
20e(14)	Foreign body retrieval	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
20e(15)	Vascular pressure measurements	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

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21 MAMMOGRAPHY PROCEDURES (SEI) TR: <u>Merrill's Atlas of Radiographic Positions and Radiologic Procedures</u> (Vol 2, Ch 24); <u>ACR Radiologic Technologists Manual</u>											
21a Perform routine mammography											
* 21a(1) Craniocaudad (CC)	_____	_____	_____	_____	_____		-	-	b	-	4c
* 21a(2) Mediolateral oblique (MLO)	_____	_____	_____	_____	_____		-	-	b	-	4c
21b Perform special mammography											
21b(1) Spot compression	_____	_____	_____	_____	_____		-	-	-	-	4c
21b(2) Magnification	_____	_____	_____	_____	_____		-	-	b	-	4c
21b(3) Exaggerated craniocaudad	_____	_____	_____	_____	_____		-	-	-	-	4c
21b(4) Cleavage	_____	_____	_____	_____	_____		-	-	-	-	3c
21b(5) Axillary tail	_____	_____	_____	_____	_____		-	-	b	-	3c
21b(6) Tangential	_____	_____	_____	_____	_____		-	-	-	-	b
21b(7) Rolled view	_____	_____	_____	_____	_____		-	-	-	-	3c
21b(8) Augmented breast (implants)	_____	_____	_____	_____	_____		-	-	-	-	4c
21b(9) 90-degree lateral	_____	_____	_____	_____	_____		-	-	-	-	3c
21b(10) Lateromedial (LM)	_____	_____	_____	_____	_____		-	-	-	-	3c
21b(11) Lateral medial oblique (LMO)	_____	_____	_____	_____	_____		-	-	-	-	3c
21b(12) Caudocranial (reverse CC)	_____	_____	_____	_____	_____		-	-	-	-	3c
21b(13) Superolateral to inferomedial oblique	_____	_____	_____	_____	_____		-	-	-	-	b
21b(14) Post-mastectomy	_____	_____	_____	_____	_____		-	-	-	-	b
21c Assist in performing special mammographic procedures											
21c(1) Stereotactic biopsy	_____	_____	_____	_____	_____		-	-	a	-	A
21c(2) Needle localization	_____	_____	_____	_____	_____		-	-	a	-	A
21c(3) Aseptic techniques/sterile procedures	_____	_____	_____	_____	_____		-	-	-	-	A
21c(4) Breast ultrasound	_____	_____	_____	_____	_____		-	-	-	-	A

- STS 4R0X1 - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS	2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES						3. TRAINING PROFICIENCY CODES				
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21 MAMMOGRAPHY PROCEDURES (SEI) TR: <u>Merrill's Atlas of Radiographic Positions and Radiologic Procedures</u> (Vol 2, Ch 24); <u>ACR Radiologic Technologists Manual</u>											
21d ACR guidelines, accreditation standards, and quality assurance											
21d(1) Technologist and radiologist continuing education requirements							-	-	-	-	A
21d(2) Frequency of tests							-	-	-	-	A
21d(3) Types of tests											
21d(3)(a) Screen-film contact/cassette test	_____	_____	_____	_____	_____		-	-	-	-	B
21d(3)(b) Compression test	_____	_____	_____	_____	_____		-	-	-	-	B
21d(3)(c) Phantom test	_____	_____	_____	_____	_____		-	-	-	-	3c
21d(3)(d) Viewboxes	_____	_____	_____	_____	_____		-	-	-	-	B
21d(3)(e) Sensitometry test	_____	_____	_____	_____	_____		-	-	-	-	3c
21d(3)(f) Repeat analysis	_____	_____	_____	_____	_____		-	-	-	-	B
21d(3)(g) Processor cleanliness	_____	_____	_____	_____	_____		-	-	-	-	B
21d(3)(h) Visual checklist (mammography unit)	_____	_____	_____	_____	_____		-	-	-	-	B
21d(3)(i) Fixer retention analysis	_____	_____	_____	_____	_____		-	-	-	-	b
21d(3)(j) Darkroom fog test	_____	_____	_____	_____	_____		-	-	-	-	b
21d(3)(k) Screen cleanliness	_____	_____	_____	_____	_____		-	-	-	-	B
21d(3)(l) Darkroom cleanliness	_____	_____	_____	_____	_____		-	-	-	-	B
21e Anatomy and Physiology	_____	_____	_____	_____	_____		-	-	A	-	A
21f Risk factors and benefits	_____	_____	_____	_____	_____		-	-	A	-	A
21g Processing and artifacts	_____	_____	_____	_____	_____		-	-	C	-	C

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22 NUCLEAR MEDICINE (A-shred) TR: <u>Nuclear Medicine Technology and Techniques</u> ; <u>Introductory Physics of Nuclear Medicine</u> ; <u>Principles and Practices of Nuclear Medicine</u> ; <u>Essentials of Nuclear Medicine Imaging</u> ; <u>Practical Nuclear Medicine</u>										
22a Perform diagnostic imaging										
22a(1) Bone										
* 22a(1)(a) Three phase	_____	_____	_____	_____	_____		a	3b	-	-
* 22a(1)(b) Whole body/planar	_____	_____	_____	_____	_____		a	3b	-	-
22a(2) Endocrine										
22a(2)(a) Thyroid										
* 22a(2)(a)1 Scan	_____	_____	_____	_____	_____		a	3b	-	-
* 22a(2)(a)2 Uptake	_____	_____	_____	_____	_____		a	3b	-	-
22a(2)(b) Metastatic thyroid cancer scan	_____	_____	_____	_____	_____		a	3c	-	-
22a(2)(c) Parathyroid	_____	_____	_____	_____	_____		a	2b	-	-
22a(2)(d) Adrenal imaging	_____	_____	_____	_____	_____		-	a	-	-
22a(3) Central nervous system										
22a(3)(a) Brain scan										
22a(3)(a)1 Planar	_____	_____	_____	_____	_____		a	-	-	-
22a(3)(a)2 Flow	_____	_____	_____	_____	_____		a	2b	-	-
22a(3)(a)3 Brain death	_____	_____	_____	_____	_____		a	-	-	-
22a(3)(a)4 Shunt evaluation	_____	_____	_____	_____	_____		a	-	-	-
22a(3)(b) CSF cisternography	_____	_____	_____	_____	_____		a	-	-	-
22a(4) Pulmonary										
* 22a(4)(a) Perfusion imaging	_____	_____	_____	_____	_____		a	3b	-	-
* 22a(4)(b) Ventilation or aerosol imaging	_____	_____	_____	_____	_____		a	3b	-	-
22a(4)(c) Quantitative (split lung) imaging	_____	_____	_____	_____	_____		a	3b	-	-

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22a(5)	Gastrointestinal/Hepatobiliary imaging										
* 22a(5)(a)	Liver/Spleen imaging	_____	_____	_____	_____	_____		a	2b	-	-
22a(5)(b)	Bone marrow imaging	_____	_____	_____	_____	_____		a	3b	-	-
* 22a(5)(c)	Hepatobiliary function	_____	_____	_____	_____	_____		a	3b	-	-
22a(5)(d)	Gastroesophageal imaging										
* 22a(5)(d) <u>1</u>	Gastric emptying	_____	_____	_____	_____	_____		a	3b	-	-
22a(5)(d) <u>2</u>	Esophageal transit	_____	_____	_____	_____	_____		a	b	-	-
* 22a(5)(d) <u>3</u>	Gastroesophageal reflux	_____	_____	_____	_____	_____		a	b	-	-
* 22a(5)(e)	GI bleed imaging	_____	_____	_____	_____	_____		a	3b	-	-
22a(5)(f)	Meckels diverticulum	_____	_____	_____	_____	_____		a	2b	-	-
22a(6)	Tumor/Infection imaging										
* 22a(6)(a)	Gallium 67	_____	_____	_____	_____	_____		a	2b	-	-
22a(6)(b)	Iodine-131 MIBG	_____	_____	_____	_____	_____		a	a	-	-
22a(6)(c)	Indium-111 monoclonal antibodies labeled white blood cells	_____	_____	_____	_____	_____		a	2b	-	-
22a(6)(d)	Breast imaging	_____	_____	_____	_____	_____		a	a	-	-
22a(6)(e)	Lymphoscintigraphy	_____	_____	_____	_____	_____		a	a	-	-
22a(6)(f)	Positron imaging	_____	_____	_____	_____	_____		a	a	-	-
22a(7)	Renal/Genitourinary imaging										
22a(7)(a)	Renal imaging										
* 22a(7)(a) <u>1</u>	Renogram	_____	_____	_____	_____	_____		a	b	-	-
* 22a(7)(a) <u>2</u>	Glomerular filtration rate	_____	_____	_____	_____	_____		a	b	-	-
22a(7)(a) <u>3</u>	Effective renal plasma flow	_____	_____	_____	_____	_____		a	b	-	-
22a(7)(a) <u>4</u>	Interventional renography	_____	_____	_____	_____	_____		a	b	-	-
* 22a(7)(a)5	Dynamic perfusion imaging	_____	_____	_____	_____	_____		a	b	-	-
22a(7)(a) <u>6</u>	Transplant imaging	_____	_____	_____	_____	_____		a	b	-	-
* 22a(7)(a) <u>7</u>	Renal cortical imaging	_____	_____	_____	_____	_____		a	2b	-	-

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22a(7)(b)	Voiding Cysto-Urethrogram	_____	_____	_____	_____	_____	a	b	-	-
22a(7)(c)	Testicular imaging	_____	_____	_____	_____	_____	a	b	-	-
22a(8)	Cardiac imaging									
* 22a(8)(a)	Myocardial perfusion imaging	_____	_____	_____	_____	_____	a	3c	-	-
22a(8)(b)	Infarct avid imaging	_____	_____	_____	_____	_____	a	a	-	-
22a(8)(c)	Gated blood pool imaging									
* 22a(8)(c)1	Resting multiple gated acquisition	_____	_____	_____	_____	_____	a	3b	-	-
* 22a(8)(c)2	Stress multiple gated acquisition	_____	_____	_____	_____	_____	a	b	-	-
22a(8)(c)3	Ejection fraction	_____	_____	_____	_____	_____	a	2b	-	-
22a(8)(d)	Radionuclide ventriculography									
22a(8)(d)1	First pass	_____	_____	_____	_____	_____	a	a	-	-
* 22a(8)(d)2	Left to right shunt	_____	_____	_____	_____	_____	a	a	-	-
* 22a(8)(d)3	Right to left shunt	_____	_____	_____	_____	_____	a	a	-	-
22a(9)	Single photon emission computed tomography imaging procedures TR: <u>SPECT, Single Photon Computed Tomography, A Primer</u>									
* 22a(9)(a)	Cardiac	_____	_____	_____	_____	_____	a	3b	-	-
* 22a(9)(b)	Gated myocardial perfusion	_____	_____	_____	_____	_____	a	3b	-	-
* 22a(9)(c)	Bone	_____	_____	_____	_____	_____	a	3b	-	-
22a(9)(d)	Abdominal	_____	_____	_____	_____	_____	a	2b	-	-
22a(9)(e)	Thoracic	_____	_____	_____	_____	_____	a	2b	-	-
22a(9)(f)	Brain	_____	_____	_____	_____	_____	a	2b	-	-
22a(9)(g)	Liver/Spleen	_____	_____	_____	_____	_____	a	2b	-	-
22a(10)	Other imaging modalities (PET Scanning, BMDs, New Technologies)									
22b	Non imaging nuclear laboratory procedures									
22b(1)	Perform Schilling's test	_____	_____	_____	_____	_____	a	a	-	-

- STS 4R0X1A - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES						3. TRAINING PROFICIENCY CODES			
		A Start Date	B Completion Date	C Trainer's Initials	D Trainee's Initials	E Certifier's Initials	F QTP	A ALN Course (Phase I)	B 3-Skill Level Course (Phase II)	C 7-Skill Level Course	D War Time Crs
22b(2)	In vitro procedures										
22b(2)(a)	Perform therapy procedures										
22b(2)(a)1	Phosphorus-32 therapy						a	b	-	-	
22b(2)(a)2	Strontium-89 palliative therapy						a	b	-	-	
22b(2)(a)3	Iodine-131 therapy for Graves' disease or hyperthyroidism										
* 22b(2)(a)3a	Patient instructions						a	2b	-	-	
* 22b(2)(a)3b	Staff instructions						a	2b	-	-	
22b(2)(b)	Perform Iodine-131 ablation therapy										
* 22b(2)(b)1	Room location and preparation						a	2b	-	-	
* 22b(2)(b)2	Patient instructions						a	2b	-	-	
* 22b(2)(b)3	Staff instructions						a	2b	-	-	
* 22b(2)(b)4	Patient release levels						a	2b	-	-	
* 22b(2)(b)5	Room decontamination procedures						a	2b	-	-	
22c	Perform radiopharmacy procedures TR: <u>Fundamentals of Nuclear Pharmacy</u>										
* 22c(1)	Radiopharmaceutical handling						a	3c	-	-	
* 22c(2)	Radiation safety techniques						2b	3c	-	-	
22c(3)	Radionuclide generator										
* 22c(3)(a)	Operation						a	3c	-	-	
* 22c(3)(b)	Elution technique						a	3c	-	-	
* 22c(3)(c)	Wet vs. Dry column						a	3c	-	-	
* 22c(3)(d)	Molybdenum assay						a	3c	-	-	
* 22c(3)(e)	Aluminum ion testing						a	3c	-	-	
22c(4)	Radiopharmaceutical kit preparation										
* 22c(4)(a)	Aseptic technique						a	3c	-	-	
* 22c(4)(b)	Quality assurance						a	3c	-	-	

- STS 4R0X1A - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES					3. TRAINING PROFICIENCY CODES			
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* 22c(5)	Dose calibrator operations	_____	_____	_____	_____	_____	a	3c	-	-
22c(6)	Radiopharmaceutical receipt methods	_____	_____	_____	_____	_____				
* 22c(6)(a)	Package inspection	_____	_____	_____	_____	_____	a	3c	-	-
* 22c(6)(b)	Package monitoring	_____	_____	_____	_____	_____	a	3c	-	-
* 22c(6)(c)	Receipt logs	_____	_____	_____	_____	_____	a	3c	-	-
22c(7)	Perform radiopharmaceutical storage and disposal methods	_____	_____	_____	_____	_____				
* 22c(7)(a)	Decay in storage	_____	_____	_____	_____	_____	a	3c	-	-
* 22c(7)(b)	Packaging techniques	_____	_____	_____	_____	_____	a	3c	-	-
* 22c(7)(c)	Survey techniques	_____	_____	_____	_____	_____	a	3c	-	-
22c(7)(d)	Disposal in sanitary sewer	_____	_____	_____	_____	_____	a	2b	-	-
22c(7)(e)	Transfer to low level waste storage site	_____	_____	_____	_____	_____	a	2b	-	-
22c(8)	Radiation safety practices and protective devices	_____	_____	_____	_____	_____				
* 22c(8)(a)	Survey instrumentation	_____	_____	_____	_____	_____	a	3c	-	-
* 22c(8)(b)	Wipe test analysis	_____	_____	_____	_____	_____	a	3c	-	-
* 22c(8)(c)	Syringe shields	_____	_____	_____	_____	_____	a	3c	-	-
* 22c(8)(d)	Radioactive labeling	_____	_____	_____	_____	_____	a	3c	-	-
* 22c(8)(e)	Shielding	_____	_____	_____	_____	_____	a	3c	-	-
* 22c(9)	Phlebotomy techniques	_____	_____	_____	_____	_____	a	2b	-	-
22c(10)	RBC labeling techniques	_____	_____	_____	_____	_____				
* 22c(10)(a)	In vivo	_____	_____	_____	_____	_____	a	2b	-	-
* 22c(10)(b)	Modified in vitro	_____	_____	_____	_____	_____	a	2b	-	-
* 22c(10)(c)	In vitro	_____	_____	_____	_____	_____	a	2b	-	-
22c(11)	WBC labeling techniques	_____	_____	_____	_____	_____	a	-	-	-
* 22c(12)	Lab security	_____	_____	_____	_____	_____	a	3c	-	-
* 22c(13)	Perform staff bioassay	_____	_____	_____	_____	_____	a	3c	-	-

- STS 4R0X1A - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES						3. TRAINING PROFICIENCY CODES			
		A Start Date	B Completion Date	C Trainer's Initials	D Trainee's Initials	E Certifier's Initials	F QTP	A ALN Course (Phase I)	B 3-Skill Level Course (Phase II)	C 7-Skill Level Course	D War Time CrS
22c(14)	Dose calculations										
* 22c(14)(a)	Adult radiopharmaceutical dose	_____	_____	_____	_____	_____		2b	3c	-	-
* 22c(14)(b)	Pediatric radiopharmaceutical dose	_____	_____	_____	_____	_____		2b	3c	-	-
22d	Radiation safety										
22d(1)	Prepare a personnel dosimetry program	_____	_____	_____	_____	_____		a	-	b	-
22d(2)	Prepare a renewal and/or amendment for a radioactive material license or permit	_____	_____	_____	_____	_____		a	-	b	-
22d(3)	Determine shielding requirements for radioactive materials	_____	_____	_____	_____	_____		2b	2c	c	-
22d(4)	Prepare a protocol for handling radiation accidents and casualties	_____	_____	_____	_____	_____		a	b	-	-
22d(5)	Prepare a protocol for handling misadministrations	_____	_____	_____	_____	_____		a	b	-	-
22d(6)	Posting of nuclear regulatory commission regulations and correspondence	_____	_____	_____	_____	_____		a	3c	-	-
22d(7)	Posting and compliance of Air Force permits	_____	_____	_____	_____	_____		a	b	-	-
22d(8)	Nuclear Regulatory Commission (NRC) compliance										
22d(8)(a)	Code of Federal Regulations (CFR) Title 10, Part 19							B	C	-	-
22d(8)(b)	CFR Title 10, Part 20							B	C	-	-
22d(8)(c)	CFR Title 10, Part 35							B	C	-	-
22d(9)	ALARA concept							B	C	-	-
22d(10)	Perform area survey and monitoring procedures										
* 22d(10)(a)	Weekly swipe testing	_____	_____	_____	_____	_____		b	3c	-	-
* 22d(10)(b)	Daily contamination surveys	_____	_____	_____	_____	_____		b	3c	-	-
22d(11)	Personnel monitoring devices							B	C	-	-
22e	Perform equipment quality assurance checks										
22e(1)	Well detector/uptake probe										

- STS 4R0X1A - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES					3. TRAINING PROFICIENCY CODES			
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22e(1)(a)	Calibrate						2b	3b	-	-
22e(1)(b)	Measure sensitivity						2b	3b	-	-
22e(1)(c)	Determine crystal resolution						2b	3b	-	-
22e(1)(d)	Chi-square						2b	3b	-	-
22e(1)(e)	Linearity						2b	3b	-	-
22e(2)	Gamma camera quality control									
22e(2)(a)	Acquire flood fields									
* 22e(2)(a) <u>1</u>	Intrinsic						a	3c	-	-
* 22e(2)(a) <u>2</u>	Extrinsic						a	3c	-	-
* 22e(2)(b)	Recognize field artifacts						a	3c	-	-
* 22e(2)(c)	Sensitivity						a	3c	-	-
* 22e(2)(d)	Uniformity						a	3c	-	-
22e(2)(e)	System resolution						a	3c	-	-
22e(2)(f)	Calibrate									
22e(2)(f) <u>1</u>	Energy						a	3c	-	-
22e(2)(f) <u>2</u>	Linearity						a	3c	-	-
* 22e(2)(f) <u>3</u>	Isotope peak, (multiple window)						a	3c	-	-
22e(2)(g)	SPECT quality assurance									
* 22e(2)(g) <u>1</u>	Center of rotation						a	3c	-	-
22e(2)(g) <u>2</u>	SPECT resolution (Jaszczak)						a	3c	-	-
22e(3)	Dose calibrator									
* 22e(3)(a)	Constancy						a	3c	-	-
* 22e(3)(b)	Accuracy						a	3c	-	-
* 22e(3)(c)	Geometry						a	3c	-	-
* 22e(3)(d)	Linearity						a	3c	-	-
22f	Nuclear medicine computer applications TR: <u>Computers in Nuclear Medicine...</u>									

- STS 4R0X1A - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES						3. TRAINING PROFICIENCY CODES			
		A Start Date	B Completion Date	C Trainer's Initials	D Trainee's Initials	E Certifier's Initials	F QTP	A ALN Course (Phase I)	B 3-Skill Level Course (Phase II)	C 7-Skill Level Course	D War Time Crs
22f(1)	Image acquisition										
* 22f(1)(a)	Static	_____	_____	_____	_____	_____	a	3c	-	-	
* 22f(1)(b)	Dynamic	_____	_____	_____	_____	_____	a	3c	-	-	
* 22f(1)(c)	Gated	_____	_____	_____	_____	_____	a	3c	-	-	
* 22f(1)(d)	SPECT	_____	_____	_____	_____	_____	a	3c	-	-	
22f(1)(e)	SPECT gated	_____	_____	_____	_____	_____	a	3c	-	-	
22f(2)	Perform image processing										
* 22f(2)(a)	Image formatting	_____	_____	_____	_____	_____	a	3c	-	-	
* 22f(2)(b)	Filter parameters	_____	_____	_____	_____	_____	a	3c	-	-	
* 22f(2)(c)	Region of interest	_____	_____	_____	_____	_____	a	3c	-	-	
* 22f(2)(d)	SPECT reconstruction	_____	_____	_____	_____	_____	a	3c	-	-	
* 22f(2)(e)	Attenuation correction	_____	_____	_____	_____	_____	a	3c	-	-	
22g	Patient care TR: <u>Patient Care in Radiography</u>										
22g(1)	Nursing techniques										
22g(1)(a)	Personal privacy/care of personal effects						A	B	-	-	
22g(1)(b)	Patient safety/special needs						A	B	-	-	
* 22g(1)(c)	Monitors vital signs	_____	_____	_____	_____	_____	2b	3b	-	-	
* 22g(1)(d)	Lifting techniques	_____	_____	_____	_____	_____	2b	2b	-	-	
* 22g(1)(e)	Performs venipuncture	_____	_____	_____	_____	_____	a	2b	-	-	
* 22g(1)(f)	IV precautions	_____	_____	_____	_____	_____	a	3b	-	-	
22g(1)(g)	Monitors patients during diagnostic exams	_____	_____	_____	_____	_____	b	c	-	-	
* 22h	Transports patients within department	_____	_____	_____	_____	_____	c	2b	-	-	
22i	Performs medical and surgical aseptic techniques	_____	_____	_____	_____	_____	a	2b	-	-	
* 22j	Perform cardiopulmonary resuscitation TR: <u>Healthcare Provider's Manual for Basic Life Support</u>	_____	_____	_____	_____	_____	3c	3c	-	-	
22k	Crash cart familiarization						-	-	-	-	
22l(1)	Administer medications										

- STS 4R0X1A - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES						3. TRAINING PROFICIENCY CODES			
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22l(1)(a)	Oral medications										
22l(1)(a) <u>1</u>	Diphenylhydramine hydrochloride (e.g., Benadryl)	_____	_____	_____	_____	_____	-	-	-	-	
22l(1)(a) <u>2</u>	Furosemide (e.g., Lasix)	_____	_____	_____	_____	_____	-	-	-	-	
22l(1)(a) <u>3</u>	Captopril (e.g., Capoten)	_____	_____	_____	_____	_____	-	-	-	-	
22l(1)(b)	Intramuscular medications										
22l(1)(b) <u>1</u>	Diphenylhydramine hydrochloride (e.g., Benadryl)	_____	_____	_____	_____	_____	-	-	-	-	
22l(1)(b) <u>2</u>	Furosemide (e.g., Lasix)	_____	_____	_____	_____	_____	-	-	-	-	
22l(1)(c)	Intravenous medications										
22l(1)(c) <u>1</u>	Epinephrine (e.g., Adrenalin)	_____	_____	_____	_____	_____	-	-	-	-	
22l(1)(c) <u>2</u>	Furosemide (e.g., Lasix)	_____	_____	_____	_____	_____	-	-	-	-	
22l(1)(c) <u>3</u>	Cholecystokinin (e.g., CCK)	_____	_____	_____	_____	_____	-	-	-	-	
22l(1)(c) <u>4</u>	Dipyridamole (e.g., Persantine)	_____	_____	_____	_____	_____	-	-	-	-	
22l(1)(c) <u>5</u>	Enalapril maleate (e.g., Vasotec)	_____	_____	_____	_____	_____	-	-	-	-	
22m	Document medication administration	_____	_____	_____	_____	_____	-	-	-	-	

- STS 4R0X1B - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS	2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES						3. TRAINING PROFICIENCY CODES				
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23 ULTRASONOGRAPHY (B-shred)											
23a Principles of diagnostic ultrasound TR: <u>Understanding Ultrasound Physics;</u> <u>Essentials of Ultrasound Physics</u>											
23a(1) Practical physics							B	-	C	-	B
23a(2) Instrumentation							B	-	C	-	B
23a(3) Artifacts and safety							B	-	C	-	B
23a(4) Doppler physics							B	-	C	-	B
23b Basic operating procedures											
* 23b(1) Adjust sonographic instrumentation	_____	_____	_____	_____	_____		2b	3c	-	-	2b
* 23b(2) Adjust image display	_____	_____	_____	_____	_____		2b	3c	-	-	2b
* 23b(3) Record ultrasound image	_____	_____	_____	_____	_____		2b	3c	-	-	2b
* 23b(4) Patient prep and instructions	_____	_____	_____	_____	_____		2b	3c	-	-	2b
23c Cross-sectional anatomy and physiology TR: <u>Ultrasonography: An Introduction to</u> <u>Normal Structure and Functional Anatomy;</u> <u>Diagnostic Ultrasound: A Logical Approach</u>											
23c(1) Thorax							-	-	A	-	-
23c(2) Abdomen							B	-	C	-	B
23c(3) Pelvis							B	-	C	-	B
23c(4) Extremities							A	-	B	-	A
23c(5) Testicular							B	-	B	-	B
23c(6) Breast							B	-	C	-	B
23c(7) Thyroid							B	-	C	-	B
23c(8) Neurosonography							-	-	A	-	-
23c(9) Vascular							B	-	C	-	B
23c(10) Obstetrics							B	-	C	-	-

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23d	Perform ultrasound scans TR: <u>Diagnostic Ultrasound: A Logical Approach</u>											
* 23d(1)	Aortic						2b	3c	c	-	2b	
* 23d(2)	Hepatic						2b	3c	c	-	2b	
* 23d(3)	Biliary						2b	3c	c	-	2b	
* 23d(4)	Pancreatic						2b	3c	c	-	2b	
* 23d(5)	Renal						2b	3c	c	-	2b	
* 23d(6)	Splenic						2b	3c	c	-	2b	
* 23d(7)	Pelvic						2b	3c	c	-	2b	
* 23d(8)	Endovaginal						2b	3c	c	-	2b	
* 23d(9)	Obstetrical						2b	2c	c	-	-	
23d(10)	Peripheral vascular											
23d(10)(a)	Upper extremity						-	1a	b	-	-	
* 23d(10)(b)	Lower extremity						2b	2c	c	-	2b	
23d(11)	Carotid						1a	2b	c	-	1a	
* 23d(12)	Testicular						a	3c	c	-	a	
* 23d(13)	Thyroid						2b	3c	c	-	2b	
23d(14)	Breast						1b	3b	c	-	1b	
23d(15)	Superficial structures						1a	2c	c	-	1a	
23d(16)	Transplants						-	-	a	-	-	
23d(17)	Ultrasound guided amniocentesis						-	a	b	-	-	
23d(18)	Ultrasound guided needle biopsy						-	a	b	-	-	
23d(19)	Neonatal head						-	-	a	-	-	
23d(20)	Aspiration/localization						-	a	b	-	-	
23d(21)	Prostate						-	-	a	-	-	
23d(22)	Interoperative						-	-	a	-	-	

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23d(23)	Abdominal doppler	_____	_____	_____	_____	_____	-	-	a	-	-
23d(24)	Portable sonography	_____	_____	_____	_____	_____	-	2c	-	-	2a
23e	Equipment quality assurance	_____	_____	_____	_____	_____	a	-	-	-	a
23f	Probe cleaning techniques	_____	_____	_____	_____	_____	a	2b	a	-	a
23g	Patient relations	_____	_____	_____	_____	_____	a	2a	-	-	a
23h	Ethics TR: <u>Law and Ethics in Diagnostic Imaging</u>	_____	_____	_____	_____	_____	A	-	-	-	-
23i(1)	Administer contrast media	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
23i(1)(a)	Oral contrast media	_____	_____	_____	_____	_____	-	-	a	-	-
23i(1)(b)	Rectal contrast media	_____	_____	_____	_____	_____	-	-	-	-	-
23i(1)(c)	Intravenous contrast media	_____	_____	_____	_____	_____	-	-	a	-	-
23i(1)(d)	Endovaginal contrast media	_____	_____	_____	_____	_____	-	-	a	-	-
23i(2)	Administer medications	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
23i(2)(a)	Oral Diphenhydramine hydrochloride (e.g., Benadryl)	_____	_____	_____	_____	_____	-	-	-	-	-
23i(2)(b)	Intramuscular Diphenhydramine hydrochloride (e.g., Benadryl)	_____	_____	_____	_____	_____	-	-	-	-	-
23i(2)(c)	Intravenous Epinephrine (e.g., Adrenalin)	_____	_____	_____	_____	_____	-	-	-	-	-
23i(3)	Document medication administration	_____	_____	_____	_____	_____	-	-	-	-	-

- STS 4R0X1C - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS	2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES						3. TRAINING PROFICIENCY CODES				
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24 MAGNETIC RESONANCE IMAGING (C-shred) TR: <u>MRI for Technologists; Sectional Anatomy For Imaging Professionals</u>											
24a Safety in the magnetic resonance (MR) environment											
* 24a(1) Contraindications for scanning						√	-	-	-	-	-
* 24a(2) Preventing projectiles						√	-	-	-	-	-
* 24a(3) Quenching the magnet						√	-	-	-	-	-
* 24a(4) Emergency evacuation procedures						√	-	-	-	-	-
24b Physics of magnetic resonance											
24b(1) Flip angles							-	-	-	-	-
24b(2) Time of relaxation (TR)							-	-	-	-	-
24b(3) Time of echo (TE)							-	-	-	-	-
24b(4) Time of inversion (TI)							-	-	-	-	-
24b(5) Matrices							-	-	-	-	-
24b(6) Signal averages							-	-	-	-	-
24b(7) Slice selection											
24b(7)(a) Resolution							-	-	-	-	-
24b(7)(b) Cross talk							-	-	-	-	-
24b(8) T1 weighting							-	-	-	-	-
24b(9) T2 weighting							-	-	-	-	-
24b(10) Proton density weighting							-	-	-	-	-
24b(11) Saturation											
24b(11)(a) Spatial							-	-	-	-	-
24b(11)(b) Spectral							-	-	-	-	-
24b(12) Shimming the magnet							-	-	-	-	-
24c Perform MR pulse sequences											

- STS 4R0X1C - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES					3. TRAINING PROFICIENCY CODES					
		A Start Date	B Completion Date	C Trainer's Initials	D Trainee's Initials	E Certifier's Initials	F QTP	A AQR Course	B 3-Skill Level Course	C 5-Skill Level Course	D 7-Skill Level Course	E War Time CrS
* 24c(1)	Spin echo						√	-	-	-	-	-
24c(2)	Gradient echoes							-	-	-	-	-
24c(3)	Inversion recovery											
* 24c(3)(a)	Non-suppressed						√	-	-	-	-	-
24c(3)(b)	Fluid suppressed							-	-	-	-	-
24c(3)(c)	Fat suppressed							-	-	-	-	-
* 24c(4)	"Fast" spin echo						√	-	-	-	-	-
24c(5)	Cine							-	-	-	-	-
24c(6)	MR angiography											
* 24c(6)(a)	Time of flight						√	-	-	-	-	-
* 24c(6)(b)	Phase contrast						√	-	-	-	-	-
24c(7)	Select imaging options							-	-	-	-	-
24c(8)	Perfusion imaging							-	-	-	-	-
24c(9)	Diffusion imaging							-	-	-	-	-
24d	MR system components											
24d(1)	Magnet							-	-	-	-	-
24d(2)	Operator's console							-	-	-	-	-
24d(3)	Power distribution system							-	-	-	-	-
24d(4)	Camera							-	-	-	-	-
24d(5)	Radio frequency (RF) system							-	-	-	-	-
24d(6)	Quench box							-	-	-	-	-
24d(7)	Table controls							-	-	-	-	-
24d(8)	Patient alignment system							-	-	-	-	-
24d(9)	Cryogen monitors							-	-	-	-	-
24d(10)	Oxygen monitors							-	-	-	-	-
24d(11)	Coils							-	-	-	-	-

- STS 4R0X1C - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES					3. TRAINING PROFICIENCY CODES					
		A Start Date	B Completion Date	C Trainer's Initials	D Trainee's Initials	E Certifier's Initials	F QTP	A AQR Course	B 3-Skill Level Course	C 5-Skill Level Course	D 7-Skill Level Course	E War Time CrS
24e	Cross sectional anatomy											
24e(1)	Brain						-	-	-	-	-	
24e(2)	Neck						-	-	-	-	-	
24e(3)	Spine						-	-	-	-	-	
24e(4)	Thorax						-	-	-	-	-	
24e(5)	Abdomen						-	-	-	-	-	
24e(6)	Pelvis						-	-	-	-	-	
24e(7)	Extremities						-	-	-	-	-	
24f	Spectroscopy						-	-	-	-	-	
24g	MR contrast agents											
24g(1)	Types of agents						-	-	-	-	-	
24g(2)	Reactions to agents						-	-	-	-	-	
* 24h	Control of MR artifacts						√	-	-	-	-	-
24i	Operate MRI system											
* 24i(1)	Start-up						√	-	-	-	-	-
* 24i(2)	Shutdown						√	-	-	-	-	-
* 24i(3)	Emergency shutdown						√	-	-	-	-	-
* 24i(4)	Window/Level adjustments						√	-	-	-	-	-
* 24i(5)	Scan prescription						√	-	-	-	-	-
* 24i(6)	Tuning the magnet						√	-	-	-	-	-
* 24j	Establish IV injection						√	-	-	-	-	-
24k	Perform examinations											
24k(1)	Head											
* 24k(1)(a)	Brain						√	-	-	-	-	-
24k(1)(b)	Internal auditory canals							-	-	-	-	-
24k(1)(c)	Pituitary gland							-	-	-	-	-

- STS 4R0X1C - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES					3. TRAINING PROFICIENCY CODES					
		A Start Date	B Completion Date	C Trainer's Initials	D Trainee's Initials	E Certifier's Initials	F QTP	A AQR Course	B 3-Skill Level Course	C 5-Skill Level Course	D 7-Skill Level Course	E War Time CrS
* 24k(1)(d)	Orbits						√	-	-	-	-	-
24k(1)(e)	Cranial nerves							-	-	-	-	-
24k(1)(f)	Parotids							-	-	-	-	-
24k(1)(g)	Diffusion							-	-	-	-	-
* 24k(2)	C-spine						√	-	-	-	-	-
* 24k(3)	T-spine						√	-	-	-	-	-
* 24k(4)	L-spine						√	-	-	-	-	-
* 24k(5)	Anterior neck						√	-	-	-	-	-
* 24k(6)	Shoulder						√	-	-	-	-	-
* 24k(7)	Elbow						√	-	-	-	-	-
* 24k(8)	Wrist						√	-	-	-	-	-
* 24k(9)	Knee						√	-	-	-	-	-
* 24k(10)	Pelvis/Hips						√	-	-	-	-	-
* 24k(11)	Ankle						√	-	-	-	-	-
* 24k(12)	Long bones (e.g., tib/fib, femur, forearm)							-	-	-	-	-
* 24k(13)	Temporomandibular joint						√	-	-	-	-	-
24k(14)	Heart							-	-	-	-	-
24k(15)	Great vessels							-	-	-	-	-
24k(16)	Abdomen							-	-	-	-	-
24k(17)	Chest							-	-	-	-	-
24k(18)	MR mammography							-	-	-	-	-
24k(19)	Quality assurance							-	-	-	-	-
24k(20)	Administer contrast media											
24k(20)(a)	Oral contrast media							-	-	-	-	-
24k(20)(b)	Intravenous contrast media							-	-	-	-	-
24k(20)(c)	Intra-articular contrast media							-	-	-	-	-

- STS 4R0X1C - 1. TASKS, KNOWLEDGE, TECHNICAL REFERENCES AND CORE TASKS		2. CERTIFICATION FOR OJT AND QUALIFICATION TRAINING PACKAGES					3. TRAINING PROFICIENCY CODES					
		A Start Date	B Completion Date	C Trainer's Initials	D Trainee's Initials	E Certifier's Initials	F QTP	A AQR Course	B 3-Skill Level Course	C 5-Skill Level Course	D 7-Skill Level Course	E War Time CrS
24k(21)	Administer medications											
24k(21)(a)	Oral Diphenylhydramine hydrochloride (e.g., Benadryl)	_____	_____	_____	_____	_____	-	-	-	-	-	-
24k(21)(b)	Intramuscular Diphenylhydramine hydrochloride (e.g., Benadryl)	_____	_____	_____	_____	_____	-	-	-	-	-	-
24k(21)(c)	Intravenous Epinephrine (e.g., Adrenalin)	_____	_____	_____	_____	_____	-	-	-	-	-	-
24k(22)	Document medication administration	_____	_____	_____	_____	_____	-	-	-	-	-	-

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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 objective and delineated on the individual progress checklist. Instructor assistance is provided as needed during the progress check and students may be required to repeat all or part of the behavior until satisfactory performance is attained.

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

7. Course Objective. These objectives are listed in the sequence taught by block of instruction.

7.1. Initial Skills Course (J3AQR4R031-000), Diagnostic Imaging Apprentice, Phase I).

7.1.1. Block I – Radiographic Fundamentals I

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Welcome and Orientation		
2	Basic Atomic Theory	11a-b	PC/W
3	Energy, Ohm’s Law, and Circuits	11a	PC/W
4	Introduction to Radiographic Fundamentals I	11c, 11f, 11h	PC/W
5	Introduction to Radiographic Fundamentals II	11c, 11e-f, 11h	PC/W

7.1.2. Block II – Osteology and Radiographic Considerations of the Upper Extremity

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Introduction to Osteology and Arthrology	13b(1-4), 13b(6-10)	PC/W
2	Introduction to Positioning	14a(1-6)	PC/W
3	Osteology and Arthrology of the Hand, Wrist, and Forearm	13b(1)	PC/W
4	Positioning of the Hand, Fingers, and Thumb	4c(1), 11e-f, 11h 14a(1), 14a(5-6), 14b, 16a(7)	PC/W
5	Positioning of the Wrist and Forearm	4c(1), 11e-f, 11h, 14a(1), 14b, 16a(7)	PC/W
6	X-ray Tube Angulation	11c, 11e	PC/W
7	Osteology and Arthrology of the Humerus, Elbow and Shoulder Girdle	13b(1)	PC/W

7.1.2. Block II – Osteology and Radiographic Considerations of the Upper Extremity continued...

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
8	Positioning of the Elbow and Humerus	4c(1), 11e-f, 14a(1), 14b, 16a(7)	PC/W
9	Positioning of the Shoulder Girdle	4c(1), 11e-f, 14a(2), 14b, 16a(7)	PC/W

7.1.3. Block III – Radiographic Fundamentals II

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Magnetism and Electromagnetism	11a, 11c	PC/W
2	Power Production	11a	PC/W
3	Rectification	11a	PC/W
4	Safety in the Radiologic Environment	4a	PC/W
5	Intensifying Screens	11g	PC/W
6	Radiographic Film	11g	PC/W
7	Film Processing Chemistry	11i	PC/W
8	Methods and Principles of Film Processing	11h	PC/W
9	Processor Maintenance	4a, 12a(2)(a-c), 12b(1)(a-c)	PC/W

7.1.4. Block IV – Radiographic Fundamentals III

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	X-Ray Tubes	11c	PC/W
2	Tube Rating Charts	11c, 11e	PC/W
3	Meters, Timers, and Controlling Components	11a	PC/W
4	Interaction	11b	PC/W
5	Detection, Measurement, and Shielding	4a, 11b	PC/W
6	Radiobiology	4a, 11b, 11d	PC/W
7	Administrative Procedures	8c, 9a-d, 9h(1), 9h(4), 9h(7), 10a	PC/W

7.1.5. Block V – Radiographic Fundamentals IV

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Filtration and Methods of Controlling Secondary and Scatter Radiation I	11f	PC/W
2	Filtration and Methods of Controlling Secondary and Scatter Radiation II	11f	PC/W
3	Factors Affecting Image Quality	11c, 11e	PC/W
4	Exposure Factors and Effects on Radiographic Imaging	11e-f	PC/W

7.1.6. Block VI – Osteology and Radiographic Considerations of the Lower Extremity and Pelvic Girdle

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Osteology and Arthrology of the Foot, Ankle, and Leg	13b(1)	PC/W
2	Positioning of the Toes, Foot, and Ankle	4c(1), 11e-f, 11h, 14a(3), 14a(10), 14b, 16a(7)	PC/W
3	Positioning of the Leg	4c(1), 11e-f, 11h, 14a(3), 14b, 16a(7)	PC/W
4	Osteology and Arthrology of the Knee and Femur	13b(1)	PC/W
5	Osteology and Arthrology of the Pelvic Girdle	13b(1)	PC/W
6	Positioning of the Knee and Femur	4c(1), 11e-f, 14a(3), 14b, 16a(7)	PC/W
7	Positioning of the Hips and Pelvis	4c(1), 11e-f, 14a(3-4), 14b, 16a(7)	PC/W

7.1.7. Block VII – Osteology and Radiographic Consideration of the Cranium and Facial Bones

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Osteology and Arthrology of the Skull	13b(1)	PC/W
2	Positioning of the Cranium	4c(1), 11e-f, 11h, 14a(10-13), 14b, 16a(7)	PC/W
3	Osteology and Arthrology of the Facial Bones	13b(1)	PC/W
4	Positioning of the Facial Bones and Paranasal Sinuses	4c(1), 11e-f, 11h, 14a(11-12), 14b, 16a(7)	PC/W

7.1.8. Block VIII – Osteology and Radiographic Considerations of the Thorax and Vertebral Column

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Osteology and Arthrology of the Ribs and Sternum	13b(1)	PC/W
2	Positioning of the Ribs and Sternum	4c(1), 11e-f, 11h, 14a(8-9), 14b, 16a(7)	PC/W
3	Osteology and Arthrology of the Vertebral Column	13b(1)	PC/W

7.1.8. Block VIII – Osteology and Radiographic Considerations of the

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
	Thorax and Vertebral Column continued...		
4	Positioning of the Cervical Spine	4c(1), 11e-f, 14a(7), 16a(7)	PC/W
5	Positioning of the Thoracic and Lumbar Spine	4c(1), 11e-f, 11h, 14a(7), 14b, 16a(7)	PC/W
6	Positioning of the Sacrum, Sacroiliac Joints, and Coccyx	4c(1), 11e-f, 11h, 14a(7), 14b, 16a(7)	PC/W

7.1.9. Block IX – Anatomy, Physiology, and Special Techniques I

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Orientation to Computer Based Instruction		
2	Medical Terminology	13b(1-3), 13b(6-10)	PC/W
3	Introduction to Anatomy and Physiology	13a	PC/W
4	Anatomy and Physiology of the Integumentary System	13b(9)	PC/W
5	Anatomy and Physiology of the Muscular System	13b(2)	PC/W
6	Anatomy and Physiology of the Reproductive System	13b(10)	PC/W
7	Anatomy and Physiology of the Endocrine System	13b(8)	PC/W
8	Anatomy and Physiology of the Respiratory System	13b(3)	PC/W
9	Anatomy and Physiology of the Cardiovascular and Lymphatic Systems	13b(4)	PC/W
10	Contrast Media and Emergency Treatment of Patient Reactions	15a-b	PC/W

7.1.10. Block X – Anatomy, Physiology, and Special Techniques II

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Anatomy and Physiology of the Nervous System	13b(7)	PC/W
2	Anatomy and Physiology of the Digestive System	13b(5)	PC/W
3	Anatomy and Physiology of the Urinary System	13b(6)	PC/W
4	Contrast Studies of the Digestive System	15c(1)	PC/W
5	Contrast Studies of the Biliary System	15c(2)	PC/W
6	Contrast Studies of the Urinary System	15c(3)	PC/W
7	Venipuncture	16a(5)	PC/W
8	Tomography	15c(7)	PC/W

7.1.11. Block XI – Special Studies and Procedures I

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Additional Radiographic Projections of the Extremities	4c(1), 11e-f, 14a(1-3), 16a(7)	PC/W
2	Additional Radiographic Proj. of the Vertebral Column	4c(1), 11e-f, 11h, 14a(7), 16a(7)	PC/W
3	Additional Radiographic Projections of the Skull	4c(1), 11e-f, 11h, 14a(10-13), 16a(7)	PC/W
4	Additional Radiographic Proj. of the Chest and Abdomen	4c(1), 11e-f, 11h, 14a(5-6), 16a(7)	PC/W

7.1.12. Block XII – Special Studies and Procedures II

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Technique Charts	4a, 11e	PC/W
2	Automatic Exposure Systems	11e	PC/W
3	Methods of Recording the Fluoroscopic Image	4c(1), 15c(1), 15c(2), 15c(4), 15c(9)	PC/W
4	Portable Fluoroscopy	4c(2), 15c(9)	PC/W
5	Special Studies of the Skeletal System	15c(4-5)	PC/W
6	Surgical and Bedside Radiography (Portable)	4c(2), 15c(8), 16a(7), 16c, 17a-d	PC/W
7	Maintenance of Records and Composite Health Care System	10a, 10c, 10e	PC/W
8	Computerized Radiography	11m	PC/W

7.1.13. Block XIII – Special Studies and Procedures III

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Orthopedic Procedures and Traumatic Positioning	4c(1-2), 14a(1-5), 14a(7-10), 15c(8), 15a(2)	PC/W
2	Medical Service Mission and History	1a(1-3)	PC/W
3	Supply Procedures	7e-f	PC/W
4	Professional Ethics	8a-b	PC/W
5	Career Progression	1b-d	PC/W
6	Operations Security	2	PC/W
7	Radiographic Quality Control	11k, 12a(2)(a-c), 12a(3)(b-c), 12b(2), 14c	PC/W

7.1.14. Block XIV – Performance Rechecks

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
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1	Positioning of the Thorax and Vertebral Column	4c(1), 11e-f, 11h, 14a(5), 14a(7-9), 14b, 16a(7)	PC
2	Positioning of the Cranium and Facial Bones	4c(1), 11e-f, 11h, 14a(10-13), 14b, 16a(7)	PC
3	Positioning of the Lower Extremity	4c(1), 11e-f, 11h, 14a(3), 14b, 16a(7)	PC
4	Positioning of the Upper Extremity	4c(1), 11e-f, 11h, 12b(1)(a-c), 14a(1), 14a(2), 14b, 16a(7)	PC
5	Adjustment of Prime Exposure Factors	11b, 11e-f	PC
6	Production of the Radiographs	11b, 11e-g, 14a	PC

7.2. Initial Skills Course (J5ABO4R031-001, Diagnostic Imaging Apprentices, Phase II).

7.2.1. BLOCK I - Facilities Orientation

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Facility Orientation	N/A	N/A
2	AFOOSH Training	4b	N/A
2	Course Orientation	N/A	N/A
3	Standard Policies	N/A	N/A
4	Professional and Patient Relationships	8a-b	N/A
5	Performance	N/A	N/A
6	CPR Training	16d	PC/W

7.2.2. BLOCK II - Standard Clinical Radiography Part 1

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Standard Radiographic Positions and Anatomy of the Extremities	13b(1), 13b(5) 14a(1-4)	W

7.2.3. BLOCK III - Standard Clinical Radiography Part 2

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Standard Radiographic Positions and Anatomy of the Chest and Abdomen	13a-b, 14a(5-6), 14a(8-9)	W

7.2.4. BLOCK IV - Standard Clinical Radiography Part 3

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
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1 & 3	Standard Radiographic Positions and Anatomy Part I and Part II	13b(1), 14a(7), 14a(10-12)	W
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7.2.5. BLOCK V - Patient Care/Infection Control/Mobile Radiography/Department Admin

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Patient Care	16a(1-7)	W
2	Maintaining Medical/Surgical Aseptic Technique	15c(4), 15c(6), 15c(8-9), 15c(11), 16c	W
3	Mobile Radiography	15c(8-9), 16c, 17b, 17d	W
4	Infection Control	17a-d	W
5	Report and Film Sorting, Assembly, Filing	9a-d, 10e	W
6	Receiving, Processing, and Scheduling Patients	8a-b, 9a-b, 10b, 10d-e	W
7	Progression in the Career Ladder 4R0X1	1c	W

7.2.6. BLOCK VI - Special Clinical Radiography Part 1

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Special Clinical Procedures, Positions, and Anatomy of the Digestive, Biliary and Urinary Systems	13a, 13b(5-6), 15a-b, 15c(2-7)	W

7.2.7. BLOCK VII - Special Clinical Radiography Part 2

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Special Clinical Procedures, Positions, and Anatomy of the Cardiovascular, Nervous, and Reproductive Systems and the Joints	13a, 13b(4), 13b(7), 13b(10), 15b, 15c(4-6)	W
2	Computed Tomography	19b(1-5), 19c(1-5), 19d(1)	

7.2.8. BLOCK VIII - Film Processing and CT

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
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1	Quality Control	12a(1)(d)- 12a(3), 12b(1-2)	W
2	Darkroom	11h, 11j, 14c	W
7.2.9. BLOCK IX - Radiation Protection			
<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Exposure Techniques	11e	W
2	Control of Secondary and Scattered Radiation	11f, 13b(5)	W
3	Technique Charts	11e	W
4	Radiation Protection	14c(1-2)	W
7.2.10. BLOCK X - Department Administrative Procedures			
<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Tasks associated with the Front Desk and File Room	10b, 10d, 9a-d, 9i(7), 10e	PC
7.2.11. BLOCK XI - Quality Control/Darkroom Procedures			
<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Tasks associated with Automatic Processing and Quality Control	11b, 11h, 11j, 12a(1)(a-c), 12a(2)(a-c), 12b(1)(a-c), 12b(3), 14b	PC
7.2.12. BLOCK XII - Clinical Radiographic Procedures			
<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Tasks Required to Produce Diagnostic Radiographs of the Extremities, Spine, Chest, Abdomen, Pelvis, Skull and Contents, Alimentary Tract, and Urinary Tract	4c(2), 11e, 14a(1-13), 15c(1), 15c(3), 15c(7-9), 16a(3), 16a(5), 16c, 17a, 17d	PC
2	Computed Tomography of the Head	19b(1-5), 19c(1-5), 19d(1), 19d(3-5), 19g(1)(a), 19i(1)	PC
7.2.13. BLOCK XIII - End-of-Course Activities			
<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>

1	Course Critique and Graduation	N/A	N/A
2	End-of-Course Appointments	N/A	N/A

7.3. Advanced Skills Course. J6ACU4R071-000, Diagnostic Imaging Craftsman.

7.3.1. Block I.

<u>Unit</u>	<u>Title</u>	<u>STS Ref.</u>	<u>Meas.</u>
1	Welcome and Orientation	N/A	N/A
2	Career Ladder Progression	1b, 1c	W
3	Supervision of Military and Non-Military Personnel	5a-i	W
4	Training	6a-b, 6c(2)	W
5	Air Force Occupational Safety and Health Program	4a-b, 4d	W
6	Professional and Patient Relationships	8a-b,	W
7	Radiologic Service Administration	10a, 10g-k	W
8	Radiologic Service Supply Requirements	7a-c, 7e, 7g-h	W
9	Technical and Regulatory Overview of Subspecialties	18a-e	W

Section C - Support Materials

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

8. NOTE: There are currently no advanced courses. This area is reserved.

Section D - Training Course Index

9. Purpose. This section of the CFETP identifies training courses available for the specialty and shows how the courses are used by each MAJCOM in their career field training programs.

10. Air Force In-Residence Courses.

<u>Course Number</u>	<u>Course Title</u>	<u>Location</u>
J3ATR40030-002	Basic Medical Readiness	Sheppard AFB, TX
J3AQR4R031-000	Diagnostic Imaging Apprentice (Ph I)	Sheppard AFB, TX
J5ABO4R031-001	Diagnostic Imaging Apprentice (Ph II)	Various Phase II sites
J5ALN4R031A-000	Nuclear Medicine (Ph I)	Naval School of Health Sciences, VA
J5ALO4R031A-000	Nuclear Medicine (Ph II)	Naval School of Health Sciences, VA
J3AQR4R031B-000	Diagnostic Ultrasound (Ph I)	Sheppard AFB, TX
J5ALO4R031B-000	Diagnostic Ultrasound (Ph II)	Various Phase II Sites
10.	AF In-Residence Courses continued...	
<u>Course Number</u>	<u>Course Title</u>	<u>Location</u>

J5AZO4R051-002	DI Mammography Course	Wright Patterson AFB, OH and Keesler AFB, MS
XX5ALS99400-001	Airman Leadership School	Local Base
XX5NCO99200-001	Air Force Noncommissioned Officer Academy	Various Locations
015NCO99100-000	USAF Senior Noncommissioned Officer Academy	Gunter Annex, Maxwell AFB, AL

11. Extension Course Institute (ECI) Courses.

<u>Course Number</u>	<u>Course Title</u>	<u>Location</u>
CDC 4R051	Diagnostic Imaging Journeyman	Gunter Annex, Maxwell AFB, AL
015ECI00006	Air Force Noncommissioned Officer Academy	Gunter Annex, Maxwell AFB, AL
015ECI00005	USAF Senior Noncommissioned Officer Academy (CD-ROM)	Gunter Annex, Maxwell AFB, AL
015ECI00008 (See note below)	USAF Senior Noncommissioned Officer Academy	Gunter Annex, Maxwell AFB, AL

12. Exportable Courses.

<u>Course Number</u>	<u>Course Title</u>	<u>Location</u>
J6ACU4R071-000	Diagnostic Imaging Craftsman	Various Locations

13. Courses Under Development/Revision.

<u>Course Number</u>	<u>Course Title</u>	<u>Location</u>
To be announced	Magnetic Resonance Imaging	Lackland AFB, TX

Section E - MAJCOM Unique Requirements

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

NOTE: For information on courses listed in this index refer to ETCA web address (<https://etca.randolph.af.mil>) for AF in-residence courses and the ECI Catalog for non-resident courses.

Section F - Documentation of Training (Medical Specific)

14.1. Development of a Work Center Training Plan and the Enlisted Training and Competency Folder. The focus of this training guidance is to bring all training documentation back into one six-part folder. Over the years, training documentation has taken on many forms. Previous restrictions imposed by, Air Force Instruction 36-2201, *Developing, Managing, and Conducting Training*, allowed only certain documents to be maintained in the OJT record.

Changing medical training requirements created a need for additional ways to document training outside the OJT record. The end result was that each training location created different means to document training. Often a section might have training documented in three or more locations, which made the training documentation and review process difficult to manage. Individuals involved in the training process, not to mention inspection teams, were finding it difficult to get a good overview of the training process, as they had to search through several different tracking folders to find the information they were looking for. Training documentation became very cumbersome to say the least.

4.2. Developing a Master Training Plan (MTP).

14.2.1. What Is It? A Master Training Plan is a reference guide developed for each section that includes all facets of training for individuals assigned. It is to be used as a reference source for the type of training and training documentation that occurs with each assigned member. The MTP is used to standardize training and to give trainers, trainees, supervisors, NCOICs, and OICs an overview of the training process for the duty section. The MTP is also used as a means to reduce the amount of paperwork previously required during the training process.

14.2.2. What's In It? Keep in mind that the Master Training Plan is an overview of training for the duty section; it should include all documents involved in the training process for the duty section. Training will vary from section to section and person to person, but there are certain documents that will be a standard requirement for all MTPs. They are listed below.

14.2.2.1. Unit Specific Orientation Checklist (see attached example)

14.2.2.2. Job description for each duty position within the duty section (see AFMAN 36-2108)

14.2.2.3. Dual Channel OJT Concept

14.2.2.3.1. Career knowledge requirements

14.2.2.3.2. Job qualification requirements

14.2.2.4. Testing procedures for CDCs

14.2.2.5. Uses of AF Form 623 and Job Qualification Standards (JQSs)

14.2.2.6. Performance standards/position qualification training for each duty position

14.2.2.7. Master Career Field Education Training Plan (CFETP)

14.2.2.7.1. Identifies all tasks required for the duty section

14.2.2.7.2. Standardized reference source for initiating individual training

14.2.2.7.3. Impact of training on career progression

14.2.2.8. Qualification Training Packages (QTPs) required to perform peacetime/wartime duties

14.2.2.8.1. Required for all tasks identified in the CFETP that require completion of a QTP before certification.

14.2.2.8.2. Required for all tasks not listed in the CFETP and/or identified by the duty section as a high-risk procedure or task. **Note:** The tasks included in the CFETP have already been

reviewed. Those identified as high risk usually have a QTP. Other tasks in the CFETP **do not** require QTPs.

14.3. Documentation of Training. The Enlisted Training and Competency Folder.

14.3.1. The purpose of this section is to provide guidelines and examples of proper documentation for the many forms used in training all medical personnel (4XXXXs). Training documentation helps us to assess readiness capability, individual strengths and weaknesses, and resources needed to support quality patient care. It also helps us meet all JCAHO and regulatory requirements. The Enlisted Training and Competency Folder is limited to the forms presented here and those prescribed in AFI 36-2201. Your unit training manager can also assist you with specific questions on training documentation.

14.4. Documents included in 4XXXX Training Records.

14.4.1. To assemble a 4XXXX training record, utilize a standard 6-part folder (NSN 7530-00-990-8884, Folder, 6 Section). Attach (glue/tape/staple), centered on top half of the front cover, a computer generated or typewritten label titled, "Enlisted Training and Competency Folder" (see **Figure 1**). Also include the members/trainee's full name (Last Name, First Name, Middle Initial), rank and SSAN. Attach an AFVA 205-15, "Privacy Act Statement" label centered at the bottom of the front cover. To facilitate filing the folders in a traditional filing cabinet, place an additional label with the trainee's typed last name, first name, middle initial on the top right corner of the inside back cover (back section of Part 6) as viewed in landscape orientation. Other sections of the 6-part folder are discussed in detail in the paragraphs below. Parts 2 through 5 are intended to replace the existing AF Form 623 and the documents contained therein. Training documents normally filed in the AF Form 623 will be filed in the 6-part folder under Parts 2 through 5 in the same sequence that they appear in the current AF Form 623. Index tabs/tabbed dividers may be used in parts that contain multiple documents. When multiple copies of any form are placed in the OJT record, they are placed in chronological order with the most current documentation on top. When building the new 6-part folder, the parts of the folder will contain the documents filed in the sequence, shown in Figure 1.

ENLISTED TRAINING AND COMPETENCY FOLDER

Jones, William G.

SRA 123-45-6789

<p>PART 1</p> <ul style="list-style-type: none"> - Locally required training and skills competency documentation (AF Form 2519 General Purpose Form or locally produced competency verification checklist) - AF Form 55 - Safety Training 	<p>PART 3</p> <ul style="list-style-type: none"> - AF Forms 1098 -- Mandatory Training (Section A) -- In-service (Section B) 	<p>PART 5</p> <ul style="list-style-type: none"> - AF Form 2096 - PC III documentation
<p>PART 2</p> <ul style="list-style-type: none"> - AF Form 623b - CFETP - AF Form 797 (if any) 	<p>PART 4</p> <ul style="list-style-type: none"> - AF Forms 623a - Job Description/Performance and Expectations (Standards) -- Orientation -- Training progress (CDC, upgrade, etc.) 	<p>PART 6</p> <ul style="list-style-type: none"> - Continuing Education to sustain National Certification - Certificates

Figure 1. Organization of the 4XXXX OJT record (4R0X1X Model)

**COMPETENCY VERIFICATION RECORD:
VENIPUNCTURE**

Date of Checklist Creation/Revision: Feb 2002

NAME: _____

	S	U
<p>I. COGNITIVE</p> <p>Teaching Methodology: Self-directed study. Reference: Lippincott Manual of Nursing Practice (5th Edition) Method of Evaluation/Standards: Written Test/90% Frequency of Reverification: Annually</p> <p>Written test passed on _____ with a score equal to or greater than the minimal passing score of 90%. Member's test score is maintained on Diagnostic Imaging Personnel Database. Member is proficient in the cognitive phase of venipuncture.</p> <p>II. PERFORMANCE</p> <p>Teaching Methodology: Demo/Performance Method of Evaluation/Standard: Performance Check/Satisfactory completion of all critical elements Frequency of Reverification: Annually</p> <p>Instructions: All critical elements (identified by an *) must be successfully completed. If the member's performance is detrimental to the patient's safety, stop the performance immediately and correct the member.</p> <ul style="list-style-type: none"> A. Wash hands. B. Assemble appropriate equipment. C. Verify patient's identification. D. Explain procedure to patient before starting. E. Apply tourniquet above the puncture site. F. Palpate and locate vein. G. Properly cleanse the puncture site. H. Insert vacu-tainer or syringe and needle properly. I. Release tourniquet. J. Inject contrast media. (Maintain open injection site, if needed.) K. Press sterile 2 x 2 over site while removing needle. L. Have patient elevate arm and hold pressure over the site for 1-2 minutes. M. Properly dispose of sharps. 		

	S	U
<p>Completed checklist on _____ with a score of satisfactory. Member is proficient in the performance phase of injecting contrast media by venipuncture.</p>		
<p>_____ Signature of Trainer</p>		
<p>I concur that I am proficient in both the cognitive and performance phases of injecting contrast media by venipuncture.</p>		
<p>_____ Signature of Individual</p>		
<p>I have reviewed the member's cognitive and performance results and concur that the member is proficient in injecting contrast media by venipuncture.</p>		
<p>_____ Signature of Certifier</p>		

Figure 2. Locally generated competency documentation checklist (4R0X1X Model)

14.4.2. Part 1, is the first two-pronged section, located inside the front cover. Locally required training and skills competency documentation is to be maintained in Part 1, regardless of grade or training status.

14.4.2.1. *AF Form 55 - Employee Safety and Health Record* is also maintained in Part 1, regardless of grade or training status. AFI 91-301, *Air Force Occupational and Environmental Safety Fire Protection, and Health (AFOSH) Program*, June 1996, authorizes supervisors to file the AF Form 55 with the AF Form 623, On-The-Job Training Record.

14.4.3. Part 2, AF Form 623b and Career Field Education and Training Plan (CFETP): Attach the front cover (containing sections 1-4) of member's current AF Form 623b, onto Part 2 (second two-pronged section) of the 6-part folder. **Note: Maintenance of AF Form 623b is mandatory for Airman in grades, Airman Basic through Technical Sergeant. In addition,**

an AF Form 623b is required for SNCOs, regardless of grade, in retraining status or as directed by the Air Force Career Field Manager, Commanders, or supervisors. Effective as of the date of this publication, the 4R0X1X Career Field Manager has directed that all 4R0X1X SNCOs shall have a current copy of the CFETP or STS maintained in their 6-part folders. Insure all appropriate areas of the form are properly completed before posting in Part 2. This document is formally recognized by the personnel system in contingencies and deployments as the official “cover” of the formal training record.

14.4.3.1. The Specialty Training Standard (STS) contained within the CFETP will be used to record training proficiency in mandatory core tasks and various tasks that are required for an individual to perform duties in a specific work area. A master task listing for the work center is maintained in the master training plan for the duty section. Circle all core tasks and only those other tasks the individual is required to perform in his/her current duty position.

14.4.3.2. AF Form 797, *Job Qualification Standard Continuation/Command JQS*. These forms will be used to document training for tasks that are not otherwise documented in the CFETP or tasks that are waived by the MAJCOM (see AFI 36-2201, para 7.4 and Figure 3 below).

NOTE: Currently the 4R0X1(X) career field **does not** have any MAJCOM JQSCs.

JOB QUALIFICATION STANDARD CONTINUATION/COMMAND JQS								
TASK NUMBER	TASK, KNOWLEDGE AND TECHNICAL REFERENCES	START DATE	CERTIFICATION TYPE	CERTIFICATION			COMPLETION DATE	
				INITIALS	INITIALS	INITIALS		
		MAJCOM DIRECTED USE ONLY						
1	ACCUSON 126/XP ULTRASOUND COLOR DOPPLER							
2	AEGIS DIGITAL IMAGING SYSTEM							
TRAINEE NAME								

AF FORM 797, FEB 1999 (EF)

PREVIOUS EDITION IS OBSOLETE

Figure 3. Sample AF Form 797 documentation

14.4.4. Part 3, AF Form 1098, *Special Task Certification and Recurring Training*. This form is used to document qualification in tasks that require recurring, mandatory, and/or in-service training. Although not mandated, this part can contain separate indexed tabs/tabbed dividers for the documentation of different categories of training. The following subparagraphs provide examples of how Part 3 can be subdivided to document specific types of special or recurring training. Examples from AFSC 4R0X1(X) have been used to illustrate AF Form 1098 documentation options.

14.4.4.1. AF Form 1098s in Part 3, Section A, documents mandatory recurring training (see Figure 4). Examples are annual training, BLS training, patient sensitivity training, and other mandated training as stipulated by JCAHO standards, Air Force, or facility directives. Mandatory training requirements may vary from facility to facility. These requirements should, at a minimum, be reviewed on an annual basis and updated as required.

SPECIAL TASK CERTIFICATION AND RECURRING TRAINING							
TASK OR RECURRING TRAINING AND TECHNICAL REFERENCES A	DATE COMPLETED B	SIGNATURE OF CERTIFYING OFFICIAL C	INITIALS OF TRAINEE D	EVALUATION OF TRAINING			
				SCORE OR HOURS E	TYPE F	FRE-QUENCY G	DUE DATE H
BLS Training	1 Apr 00			4 Hours	C	Bi-enn	1 Apr 02
BLS Training							
Patient Sensitivity	20 Mar 01			P		A	20 Mar 02
Fire Safety	20 Mar 01			P		A	20 Mar 02
Infection Control	20 Mar 01			P		A	20 Mar 02
NAME OF TRAINEE (Last, First, Middle Initial) Jones, William G.			GRADE SrA	UNIT AND OFFICE SYMBOL 10 MDG/SGSAR			

AF FORM 1098, APR 85 (EF)

PREVIOUS EDITION WILL BE USED

Figure 4. Sample mandatory, recurring training documentation (4R0X1X Model)

14.4.4.2. 1098s in Part 3, Section B, document Air National Guard sustainment training. Air Force Reserve sustainment training will be documented on AFRES overprint of AF Form 1098 and filed in this section. The initial completion of a QTP is documented in the CFETP. ***Each QTP required for the duty section will be maintained in the Master Training Plan (MTP) and will be used as a training source document. Locally developed competency packages can be utilized until QTPs are available.***

14.4.4.3. AF Form 1098s in Part 3, Section C will be used to document in-service training (see Figure 5).

NOTE: In-service training programs can be used to accumulate CME credits. Each program submitted and approved by the American Society of Radiologic Technologists (ASRT) will be

Category A CME credit for each individual who attends the in-service. CME units will be determined by the ASRT. Call the ASRT at (505) 298-4500 for more information.

SPECIAL TASK CERTIFICATION AND RECURRING TRAINING							
TASK OR RECURRING TRAINING AND TECHNICAL REFERENCES A	DATE COMPLETED B	SIGNATURE OF CERTIFYING OFFICIAL C	INITIALS OF TRAINEE D	EVALUATION OF TRAINING			
				SCORE OR HOURS E	TYPE F	FRE-QUENCY G	DUE DATE H
INSERVICE REVIEW LOG							
IV Training	12 Jan 01			1 Hour			
Basic Radiation Protection	8 Feb 01			1 Hour			
Intro to Digital Imaging	20 Mar 01			1 Hour			
Mammography Physics	10 Apr 01			1 Hour			
Positioning of the C-spine	20 May 01			1 Hour			
NAME OF TRAINEE (Last, First, Middle Initial) Jones, William G.			GRADE SrA	UNIT AND OFFICE SYMBOL SGSX			

AF FORM 1098, APR 85 (EF)

PREVIOUS EDITION WILL BE USED

Figure 5. Sample In-Service Training Documentation (4R0X1X Model)

14.4.5. Part 4, AF Form 623a, *OJT Training Record Continuation Sheet/Automated product.*

This form will be used to document all progress of individual training to include facility orientation, duty section specific orientation, upgrade/job qualification training progress/status, additional pertinent training, career development course (CDC) failures/corrective actions, skill level/task decertification procedures, and supervisor/trainer/certifier entries. Copies of these original documents must be maintained in the 6-part folder. The entire process must be well documented on this form (see Figures 6.1., 6.2., and 6.3). All individuals involved in the training process must document training progress in this section, as it occurs. Progress/status of members in upgrade training will be documented **at least monthly**.

14.4.5.1. Upgrade Training (5-, 7-, 9- skill levels)

14.4.5.1.1. Document the member's entry into upgrade training and periodic (minimum monthly) evaluations of training progress.

14.4.5.1.2. Information on extensions, waiver requests, or breaks in training should also be clearly documented with copies of any related correspondence.

14.4.5.1.3. Any further training pertinent to the duty section and or unit effectiveness can also be documented on the AF Form 623a (i.e., Job Qualification).

14.4.5.1.4. Document any decertification proceedings to include dates, reasons for decertification and other applicable information on the AF Form 623a.

14.4.5.1.5. Once an individual completes upgrade training commensurate to his/her rank and maintains an appropriate skill level, his/her supervisor should continue to review requirements, progress, and individual training needs. **OJT record reviews should, at a minimum, coincide**

with member's performance feedback to ensure documentation currency and appropriateness.

ON-THE-JOB TRAINING RECORD CONTINUATION SHEET		
14 Feb 2002		
SrA Jones has been assigned to the Diagnostic Imaging flight on this date. SSgt Smith has been assigned as a trainer for SrA Jones. SSgt Smith will orient SrA Jones to the unit using the Diagnostic Imaging orientation checklist located in the Master Training Plan dated 17 March 01. An initial interview was accomplished on this date. SrA Jones completed his hospital orientation and is looking forward to the flight orientation. He expressed his concern about meeting previously scheduled appointments while attending the flight orientation. I informed SrA Jones that time to attend his appointments would be scheduled as needed. SrA Jones stated that his goals during the orientation process were to learn as much as possible and to question the trainers when he was not clear as to the training provided. SrA Jones seems to be very enthusiastic about working in Diagnostic Imaging and has expressed his desire to take on any challenges that the trainers have to offer.		
SrA Jones	SSgt Smith	Diagnostic Imaging Flight
27 Feb 2002		
A mid-orientation progress check was accomplished on this date. SrA Jones has progressed throughout the Diagnostic Imaging orientation checklist dated 17 Mar 01, with little to no difficulty. He completed his review of the flight specific OIs and has begun required reading of applicable hospital OIs. SrA Jones will complete the remainder of his orientation on night shift beginning 28 Feb 02.		
SrA Jones	SSgt Smith	Diagnostic Imaging Flight
12 Mar 2002		
SrA Jones has completed all training on the Diagnostic Imaging Flight Orientation Checklist dated 17 Mar 01. A review of the checklist with SrA Jones indicates that he was knowledgeable of all items discussed. SrA Jones stated that he feels comfortable with the training provided and believes that he is ready to be released from orientation. I recommend SrA Jones be released from orientation on this date.		
SrA Jones	SSgt Smith	Diagnostic Imaging Flight
Concur	Concur	
MSgt I. B. Finish	Capt U. R. Done	
NCOIC, Diagnostic Imaging	OIC, Diagnostic Imaging Flight	
LAST NAME FIRST NAME MIDDLE INITIAL		

AF FORM 623a MAR 79

PREVIOUS EDITION WILL BE USED

Figure 6.1. Sample Orientation Briefing (4R0X1X Model)

**ON-THE-JOB TRAINING RECORD
CONTINUATION SHEET**

**INITIAL BRIEFING
(Trainee Orientation)**

_____ has been briefed on the On-The-Job Training (OJT) Program and how he/she fits into the program while in upgrade training (UGT). Upgrade training was explained as a dual-channel process designed to qualify an airman for skill level upgrade. Dual-channel OJT is a systematic reportable application of self-study and the craftsman/apprentice principle. Trainees acquire job qualification while performing on the job under supervision. This combination, knowledge and job position qualification constitutes the dual-channel concept. Requirements from AFI 36-2101, 36-2108, and 36-2201 were covered. AF Forms 623, 623a, 797, 2096, and the CFETP, STS/JQS or automated JQS, which serves to make up the individual training record, was explained. Responsibilities of the commander, base training, unit education and training manager (ETM), immediate supervisor, trainer, and trainee were discussed. The career development course (CDC) was briefly discussed and will be explained in detail when the CDC arrives, if applicable. Requirements for upgrade in your AFSC _____ are: (1) Satisfactory completion of CDC _____; (2) Supervisor certify job qualifications with adequate hands on training; (3) Meet typing proficiency of _____ WPM per AFI 36-2108, if applicable; (4) Completion of 7-level school, if applicable and; (5) Supervisor recommendation for upgrade. Each airman in grades E1 through E6 (and SNCOs in retraining status) has an AF Form 623 that must contain a CFETP or JQS. The CFETP or JQS may contain 150 or more separate tasks but it should be annotated to show only those tasks the airman is required to perform in his/her current duty position, all AFI 36-2108 mandatory requirements for upgrade, and core task requirements. In the JQS there is a space for both the supervisor and the trainee to initial to certify training is complete. In the CFETP, the trainer, trainee, and certifier have a space to initial when training is completed. After upgrade the CFETP or JQS will continue to be used to document further qualification training.

SUPERVISOR'S SIGNATURE

TRAINEE'S SIGNATURE

DATE

LAST NAME FIRST NAME MIDDLE INITIAL

Figure 6.2. Sample Initial Upgrade Training Briefing

**ON-THE-JOB TRAINING RECORD
CONTINUATION SHEET**

TRAINEE'S RESPONSIBILITIES DURING UPGRADE TRAINING (UGT)

1. Read and understand your Air Force Specialty (AFS) description, training requirements, objectives, and training record (AF Form 623).
2. Budget time (on and off-duty) for timely completion of CDCs and keep all CDC materials for future reference and study.
3. Attain and maintain qualification in your assigned AFS.
4. After CDC briefing trainee will do the following: (Read and initial)
 - _____ a. Read "Your Key to a Successful Course."
 - _____ b. Make all required course corrections and return entire package to your supervisor.
 - _____ c. When you are issued your first volume you will read and study the volume, chapter, and answer chapter review exercise (CRE) and the volume review exercise (VRE) or the self-test questions and the unit review exercises (URE). Questions are to be answered in the space provided when possible. Highlight/reference where answers are found in the most effective manner determined by the supervisor.
 - _____ d. Supervisor will check CRE and self-test questions for accuracy and completeness. You will correct all incorrect responses.
 - _____ e. Supervisor issues the ECI Form 34 (Field Scoring Sheet) for you to transcribe your answers from the URE/VRE. The URE/VREs are teaching devices and must be administered as open book exercises. All scores less than 100 percent require review training.
 - _____ f. Minimum acceptable training consists of correcting incorrect responses, reading the appropriate area from which the question was taken, and a verbal question and answer session.
 - _____ g. Your next volume will be issued by your supervisor. You must work it in the same manner as above for the entire course.
 - _____ h. Upon completion of your last volume, you and your supervisor will immediately start a comprehensive review of the entire CDC to prepare for your course examination.
5. Review and discuss training requirements with your supervisor regularly. Provide input on your training and ask questions.
6. Upon satisfactory completion of your career knowledge training, position qualification, and mandatory requirements listed in AFI 36-2108, your supervisor will initiate upgrade action on you.

SUPERVISOR'S SIGNATURE

TRAINEE'S SIGNATURE

DATE

LAST NAME FIRST NAME MIDDLE INITIAL

Figure 6.3. Sample Upgrade Documentation (4R0X1X Model)

14.4.5.1.6. The Job Description/Performance Standards for each duty position should be maintained in a Master Training Plan (MTP) within individual duty sections. An AF Form 623a reflecting the member's job description/performance expectation (standard) will be maintained in Part 4 of the OJT record. **Note:** An AF Form 623a overprint/automated product may be used to document both supervisor and subordinate reviews (see Figure 7). The following statements will be annotated and jointly reviewed by the supervisor/subordinate:

14.4.5.1.7. "I know where to find a current copy of my Job Description/Performance Standards."

14.4.5.1.8. "I have read, discussed with my supervisor, and understand my Job Description/Expectations (Performance Standards)."

14.4.5.1.9. "I understand the duties and responsibilities for the position that I am currently working in."

14.4.5.1.10. "If I have questions or concerns about my Job Description/Expectations (Performance Standards), I will seek assistance from supervisory personnel in my chain of command."

14.4.5.1.11. "It is my responsibility to review my Job Description/Expectations (Performance Standards) with my supervisor during each feedback session and with each change in supervisor/duty position."

14.4.5.1.12. A signature and date block for both supervisor and subordinate will reflect mutual understanding of above statements. Recommend several signature and date spaces for continual review process when overprint/automated products are used.

ON-THE-JOB TRAINING RECORD CONTINUATION SHEET
<p>23 July 2001</p> <ul style="list-style-type: none"> - I KNOW WHERE TO FIND A CURRENT COPY OF MY JOB DESCRIPTION/PERFORMANCE STANDARDS. - I HAVE READ, DISCUSSED WITH MY SUPERVISOR, AND UNDERSTAND MY JOB DESCRIPTION/PERFORMANCE STANDARDS. - I UNDERSTAND THE DUTIES AND RESPONSIBILITIES FOR THE POSITION THAT I AM CURRENTLY WORKING IN. - IF I HAVE QUESTIONS OR CONCERNS ABOUT MY JOB DESCRIPTION/PERFORMANCE STANDARDS I WILL SEEK ASSISTANCE FROM SUPERVISORY PERSONNEL IN MY CHAIN OF COMMAND. - IT IS MY RESPONSIBILITY TO REVIEW MY JOB DESCRIPTION/PERFORMANCE STANDARDS WITH MY SUPERVISOR DURING EACH FEEDBACK SESSION AND WITH EACH CHANGE IN SUPERVISOR/DUTY POSITION. <p>William Jones, SrA Diagnostic Imaging Flight</p> <p>23 July 01</p> <p>SrA Jones has completed his review of his Job Description/Performance Standards on this date. I am confident that he is thoroughly familiar with standards and expectations. At this time SrA Jones has no questions or concerns.</p> <p>John Smith, TSgt, USAF OJT Trainer Diagnostic Imaging Flight</p>
<p>TRAINEE NAME</p>

Figure 7. Sample job description/performance standards review (4R0X1X Model)

14.4.6. Part 5, AF Form 2096, *Classification On-The-Job Training Action*. This form will be used to document official training actions [e.g., award of skill level, training status changes, decertifications, and award of special experience identifiers (SEIs)]. **NOTE:** A PCIII automated document may be substituted for AF Form 2096.

14.4.7. Part 6, Continuing Education. This part will contain the National Certification/Registration and Continuing Education Reports as applicable to the member's AFSC/current duty position. The form must contain documentation of the individual's current certification card number and expiration date. **Supervisors and individuals should continually monitor CEU status for AFSCs requiring specialty certification to ensure no lapses in certification occur.**

14.4.7.1. Maintenance of certificates of training completion is an individual responsibility and members are encouraged to retain all certificates as verification of formal training. Originals or photocopies should be provided to the supervisor. Certificates of training may be maintained in Part 6 of the OJT record. Certificates of training consist of, but are not limited to: TQM training, computer training, CME, etc.

14.4.7.2. Continuing Medical Education (CME) credit hours may be documented on the CME Accumulation form located in Part 6 of the OJT record. (see Figure 8.)

14.5. Supplemental AFSC-specific documentation instructions. Each Career Field Manager is authorized and encouraged to supplement or revise the general guidance contained in Section F of the CFETP to ensure the documents filed in the 6-part folder accurately reflect the needs of their AFSC/Medical specialties.

14.6. Section F is a mandatory element of the Training Record; however, to prevent “excessive” copying, individual copies of Section F **will not be required** (optional) for filing in Part 6. This does not negate the responsibility to review and comply with Section F by both the supervisor and the trainee. This section will be filed (mandatory) in the MTP, Part 6. Copies of forms from Section F can be made and will be filed into Part 6.

DIAGNOSTIC IMAGING CONTINUING MEDICAL EDUCATION

NAME: _____

SSAN: _____

REGISTRY RENEWAL MONTH: _____

<i>CERTIFICATION DATES/REGISTRY NUMBERS</i>					
Radiology: Date _____ # _____		MRI: Date _____ # _____			
Nuclear Med: Date _____ # _____		CT: Date _____ # _____			
Ultrasound: Date _____ # _____		Mammography: Date _____ # _____			
DATE	Accredited Course/ Program Title	Program/Course or Reference #	Credit Hours A or B	Modality Credit (Rad, Mammo, U/S, Nuc Med, etc.)	Regulatory Requirement

Figure 8. Sample Diagnostic Imaging CME Accumulation Form